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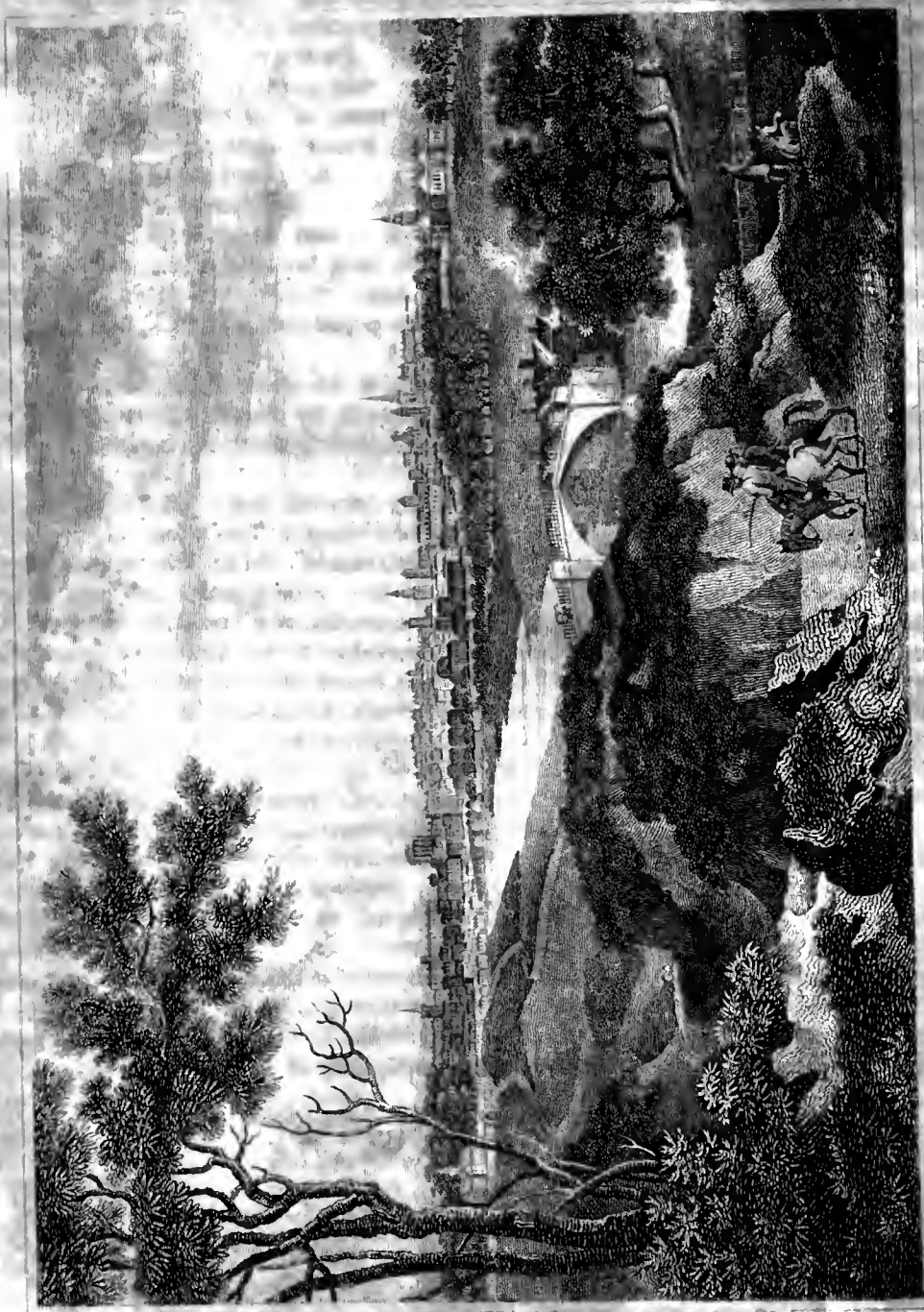




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Engraved by F. Knapton

Dublin, from Phoenix Park.

**A GENERAL COLLECTION**

OF THE

BEST AND MOST INTERESTING

**VOYAGES AND TRAVELS,**

IN ALL PARTS OF THE WORLD;

MANY OF WHICH ARE NOW FIRST TRANSLATED INTO ENGLISH.

DIGESTED ON A NEW PLAN.

---

BY JOHN PINKERTON,  
AUTHOR OF MODERN GEOGRAPHY, &c.

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ILLUSTRATED AND ADORNED WITH NUMEROUS ENGRAVINGS.

VOLUME FOURTH.

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A GENERAL COLLECTION  
OF  
VOYAGES AND TRAVELS.

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A TOUR IN IRELAND ;  
WITH  
GENERAL OBSERVATIONS ON THE PRESENT STATE OF THAT KINGDOM :  
MADE IN

The years 1776, 1777, and 1778, and brought down to the end of 1779. By ARTHUR YOUNG, Esq. F. R. S. Honorary member of the Societies of Dublin, York, and Manchester: the Economical Society of Berne; the Palatine Academy of Agriculture at Manheim; and the Physical Society at Zurich.\*

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JUNE nineteenth, 1776, arrived at Holyhead, after an instructive journey through a part of England and Wales I had not seen before. Found the packet, the Claremont, captain Taylor, would sail very soon. After a tedious passage of twenty-two hours, landed on the twentieth, in the morning, at Dunlary, four miles from Dublin, a city which much exceeded my expectation; the public buildings are magnificent, very many of the streets regularly laid out, and exceedingly well built. The front of the parliament-house is grand, though not so light as a more open finishing of the roof would have made it. The apartments are spacious, elegant, and convenient, much beyond that heap of confusion at Westminster, so inferior to the magnificence to be looked for in the seat of empire. I was so fortunate as to arrive just in time to see lord Harecourt, with the usual ceremonies, prorogue the parliament. Trinity college is a beautiful building, and a numerous society; the library is a very fine room, and well filled. The new exchange will be another edifice to do honour to Ireland; it is elegant, cost forty thousand pounds, but deserves a better situation. From every thing I saw, I was struck with all those appearances of wealth which the capital of a thriving community may be supposed to exhibit. Happy if I find through the country in diffused prosperity the right source of this splendour! The common computation of inhabitants 200,000, but I should suppose exaggerated: others guessed the number 140 or 150,000.

June 21. Introduced by colonel Burton to the lord lieutenant, who was pleased to enter into conversation with me on my intended journey, made many remarks on the agriculture of several Irish counties, and showed himself to be an excellent farmer, particularly in draining. Viewed the duke of Leinster's house, which is a very large stone edifice, the front simple but elegant, the pediment light, there are several good rooms;

\* The Agricultural details are omitted.

but a circumstance unrivalled is the court, which is spacious and magnificent, the opening behind the house is also beautiful. In the evening to the Rotunda, a circular room, ninety feet diameter, an imitation of Ranelagh, provided with a band of music.

The barracks are a vast building, raised in a plain stile, of many divisions, the principal front is of an immense length: they contain every convenience for ten regiments.

June 23. Lord Charlemont's house in Dublin is equally elegant and convenient, the apartments large, handsome, and well disposed, containing some good pictures, particularly one by Rembrandt, of Judas throwing the money on the floor, with a strong expression of guilt and remorse; the whole groupe fine. In the same room is a portrait of Cæsar Borgia, by Titian. The library is a most elegant apartment of about forty by thirty, and of such a height as to form a pleasing proportion; the light is well managed, coming in from the eave of the ceiling, and has an exceeding good effect; at one end is a pretty anti-room, with a fine copy of the Venus de Medicis, and at the other two small rooms, one a cabinet of pictures and antiquities, the other medals. In the collection also of Robert Fitzgerald, esq. in Merion-square, are several pieces which very well deserve a traveller's attention; it was the best I saw in Dublin. Before I quit that city I observe, on the houses in general, that what they call their two-roomed ones are good and convenient. Mr. Latouche's, in Stephen's Green, I was shewn as a model of this sort, and I found it well contrived, and finished elegantly. Drove to lord Charlemont's villa at Marino, near the city, where his lordship has formed a pleasing lawn, margined in the higher part by a well-planted thriving shrubbery, and on a rising ground a banquetting-room, which ranks very high among the most beautiful edifices I have any where seen; it has much elegance, lightness, and effect, and commands a fine prospect; the rising ground on which it stands slopes off to an agreeable accompaniment of wood, beyond which on one side is Dublin harbour, which here has the appearance of a noble river crowded with ships moving to and from the capital. On the other side is a shore spotted with white buildings, and beyond it the hills of Wicklow, presenting an outline extremely various. The other part of the view (it would be more perfect if the city was planted out) is varied, in some places nothing but wood, in others breaks of prospect. The lawn, which is extensive, is new grass, and appears to be excellently laid down, the herbage a fine crop of white clover (*trifolium repens*) trefoil, rib-grass (*plantago lanceolata*) and other good plants. Returned to Dublin, and made inquiries into other points, the prices of provisions, &c. (for which see the tables at the end of the book.) The expences of a family in proportion to those of London are, as five to eight.

Having the year following lived more than two months in Dublin, I am able to speak to a few points, which as a mere traveller I could not have done. The information I before received of the prices of living is correct. Fish and poultry are plentiful and very cheap. Good lodgings almost as dear as they are in London; though we were well accommodated (dirt excepted) for two guineas and an half a week. All the lower ranks in this city have no idea of English cleanliness, either in apartments, persons, or cookery. There is a very good society in Dublin in a parliament winter: a great round of dinners and parties; and balls and suppers every night in the week, some of which are very elegant; but you almost every where meet a company much too numerous for the size of the apartments. They have two assemblies on the plan of those of London, in Fishamble-street, and at the Rotunda; and two gentlemen's clubs, Anthry's and Daly's, very well regulated: I heard some anecdotes of deep play at the latter, though never to the excess common at London. An ill judged and unsuccessful attempt was made to establish the Italian opera, which existed but with scarcely any life for this one winter; of course they could rise no higher than a comic one. La Buona

Figliuola, la Frascatana, and il Geloso in Ciminto, were repeatedly performed, or rather murdered, except the parts of Sestini. The house was generally empty, and miserably cold. So much knowledge of the state of a country is gained by hearing the debates of a parliament, that I often frequented the gallery of the house of commons. Since Mr. Flood has been silenced with the vice-treasurership of Ireland, Mr. Daly, Mr. Grattan, Sir William Osborn, and the prime serjeant Burgh, are reckoned high among the Irish orators. I heard many very eloquent speeches, but I cannot say they struck me like the exertion of the abilities of Irishmen in the English house of commons, owing perhaps to the reflection both on the speaker and auditor, that the attorney-general of England, with a dash of his pen, can reverse, alter, or entirely do away the matured result of all the eloquence, and all the abilities of this whole assembly. Before I conclude with Dublin I shall only remark, that walking in the streets there, from the narrowness and populousness of the principal thoroughfares, as well as from the dirt and wretchedness of the canaille, is a most uneasy and disgusting exercise.

June 24, left Dublin and passed through the Phoenix park, a very pleasing ground, at the bottom of which, to the left, the Liffey forms a variety of landscapes: this is the most beautiful environ of Dublin. Take the road to Luttrell's-town through a various scenery on the banks of the river. That domain is a considerable one in extent, being above four hundred acres within the wall, Irish measure; in the front of the house is a fine lawn bounded by rich woods, through which are many ridings, four miles in extent. From the road towards the house they lead through a very fine glen, by the side of a stream falling over a rocky bed, through the dark woods, with great variety on the sides of steep slopes, at the bottom of which the Liffey is either heard or seen indistinctly; these woods are of great extent, and so near the capital, form a retirement exceedingly beautiful. Lord Inham and colonel Luttrell have brought in the assistance of agriculture to add to the beauties of the place, they have kept a part of the lands in cultivation in order to lay them down the better to grass; one hundred and fifty acres have been done, and above two hundred acres most effectually drained in the covered manner filled with stones. These works are well executed. The drains are also made under the roads in all wet places, with lateral short ones to take off the water instead of leaving it, as is common, to soak against the causeway, which is an excellent method. Great use has been made of lime-stone gravel in the improvements, the effect of which is so considerable, that in several spots where it was laid on ten years ago, the superiority of the grass is now similar to what one would expect from a fresh dunging.

Leaving Luttrell's-town I went to St. Wolstan's, which lord Harcourt had been so obliging as to desire I would make my quarters, from whence to view to the right or left.

June 25, to Mr. Clement's, at Killadon, who has lately built an excellent house, and planted much about it, with the satisfaction of finding that all his trees thrive well; I remarked the beech and larch seemed to get beyond the rest. He is also a good farmer.

June 26, breakfasted with colonel Marlay, at Cellbridge, found he had practised husbandry with much success, and given great attention to it from the peace of 1763, which put a period to a gallant scene of service in Germany; walked through his grounds, which I found in general very well cultivated; his fences excellent; his ditches five by six, and seven by six; the banks well made, and planted with quicks; the borders dug away, covered with lime till perfectly slacked, then mixed with dung and carried into the fields; a practice which Mr. Marlay has found of very great benefit.

Viewed Lucan, the seat of Agmondisham Vesey, esq. on the banks of the Liffey; the house is rebuilding, but the wood on the river, with walks through it, is exceedingly

beautiful. The character of the place is that of a sequestered shade. Distant views are every where shut out, and the objects all correspond perfectly with the impression they were designed to raise: it is a walk on the banks of the river, chiefly under a variety of fine wood, which rises on varied slopes, in some parts gentle, in others steep; spreading here and there into cool meadows, on the opposite shore, rich banks of wood or shrubby ground. The walk is perfectly sequestered, and has that melancholy gloom which should ever dwell in such a place. The river is of a character perfectly suited to the rest of the scenery, in some places breaking over rocks, in other silent, under the thick shade of spreading wood. Leaving Lucan, the next place is Leixlip, a fine one, on the river, with a fall, which in a wet season is considerable. Then St. Wolstan's, belonging to the Dean of Derry, a beautiful villa, which is also on the river; the grounds gay and open, though not without the advantage of much wood, disposed with judgment. A winding shrubbery quits the river, and is made to lead through some dressed ground that is pretty and cheerful.

Mr. Conolly's, at Castle-town, to which all travellers resort, is the finest house in Ireland, and not exceeded by many in England; it is a large handsome edifice, situated in the middle of an extensive lawn, which is quite surrounded with fine plantations disposed to the best advantage: to the north these unite into very large woods, through which many winding walks lead, with the convenience of several ornamented seats, rooms, &c. On the other side of the house, upon the river, is a cottage, with a shrubbery, prettily laid out; the house commands an extensive view, bounded by the Wicklow mountains. It consists of several noble apartments. On the first floor is a beautiful gallery, eighty feet long, elegantly fitted up.

June 27, left lord Harcourt's, and having received an invitation from the duke of Leinster, passed through Mr. Conolly's grounds to his grace's seat at Cartown; the park ranks among the finest in Ireland. It is a vast lawn, which waves over gentle hills, surrounded by plantations of great extent, and which break and divide in places so as to give much variety. A large but gentle vale winds through the whole, in the bottom of which a small stream has been enlarged into a fine river, which throws a cheerfulness through most of the scenes: over it a handsome stone-bridge. There is a great variety on the banks of this vale; part of it consists of mild and gentle slopes, part steep banks of thick wood; in another place they are formed into a large shrubbery, very elegantly laid out, and dressed in the highest order, with a cottage, the scenery about which is uncommonly pleasing: and farther on this vale takes a stronger character, having a rocky bank on one side, and steep slopes scattered irregularly, with wood on the other. On one of the most rising grounds in the park is a tower, from the top of which the whole scenery is beheld; the park spreads on every side in fine sheets of lawn, kept in the highest order by eleven hundred sheep, scattered over with rich plantations, and bounded by a large margin of wood, through which is a riding.

From hence took the road to Summerhill, the seat of the right hon. H. L. Rowley: the country is cheerful and rich; and if the Irish cabins continue like what I have hitherto seen, I shall not hesitate to pronounce their inhabitants as well off as most English cottagers. They are built of mud walls eighteen inches or two feet thick, and well thatched, which are far warmer than the thin clay walls in England. Here are few cottars without a cow, and some of them two. A belly full invariably of potatoes, and generally turf for fuel from a bog. It is true they have not always chimneys to their cabins, the door serving for that and window too: if their eyes are not affected with the smoke, it may be an advantage in warmth. Every cottage swarms with poultry, and most of them have pigs.

Went in the evening to lord Mornington's at Dangan, who is making many improvements, which he shewed me: his plantations are extensive, and he has formed a large

water, having five or six islands much varied, and promontories of high land shoot so far into it as to form almost distant lakes; the effect pleasing. There are above a hundred acres under water, and his lordship has planned a considerable addition to it. Returned to Summerhill.

June 29th, left it, taking the road to Slaine, the country very pleasant all the way; much of it on the banks of the Boyne, variegated with some woods, planted hedge-rows, and gentle hills: the cabins continue much the same, the same plenty of poultry, pigs, and cows. The cattle in the road have their fore legs all tied together with straw to keep them from breaking into the fields; even sheep, and pigs, and goats are all in the same bondage.

Lord Conyngham's seat, Slaine Castle, on the Boyne, is one of the most beautiful places I have seen; the grounds are very bold and various, arising around the castle in noble hills or beautiful inequalities of surface, with an outline of flourishing plantations. Under the castle flows the Boyne, in a reach broken by islands, with a very fine shore of rock on one side, and wood on the other. Through the lower plantations are ridings, which look upon several beautiful scenes formed by the river, and take in the distant country, exhibiting the noblest views of waving Cultinald hills, with the castle finely situated in the midst of the planted domain, through which the Boyne winds its beautiful course.

Under Mr. Lambert's house, on the same river, is a most romantic and beautiful spot; rocks on the side, rising in peculiar forms very boldly; the other steep wood, the river bending short between them like a land-locked basin.

Lord Conyngham's keeping up Slaine Castle, and spending great sums, though he rarely resides there, is an instance of magnificence not often met with; while it is so common for absentees to drain the kingdom of every shilling they can, so contrary a conduct ought to be held in the estimation which it justly deserves.

June 30th, rode out to view the country and some improvements in the neighbourhood: the principal of which are those of lord chief baron Foster, which I saw from Glaston-hill, in the road from Slaine to Dundalk.

In conversation with lord Longford I made many inquiries concerning the state of the lower classes, and found that in some respects they were in good circumstances, in others indifferent; they have, generally speaking, such plenty of potatoes as always to command a belly full; they have flax enough for all their linen, most of them have a cow, and some two, and spin wool enough for their clothes; all a pig, and numbers of poultry, and in general the complete family of cows, calves, hogs, poultry, and children pig together in the cabin; fuel they have in the utmost plenty; great numbers of families are also supported by the neighbouring lakes, which abound prodigiously with fish: a child with a packthread and a crooked pin will catch perch enough in an hour for the family to live on the whole day, and his lordship has seen five hundred children fishing at the same time, there being no tenaciousness in the proprietors of the lands about a right to the fish; besides perch, there is pike upwards of five feet long, bream, tench, trout of ten pounds, and as red as salmon, and fine eels; all these are favourable circumstances, and are very conspicuous in the numerous and healthy families among them.

Reverse the medal: they are ill clothed, and make a wretched appearance, and what is worse are much oppressed by many who make them pay too dear for keeping a cow, horse, &c. They have a practice also of keeping accounts with the labourers, contriving by that means to let the poor wretches have very little cash for their year's work. This is a great oppression, farmers and gentlemen keeping accounts with the poor is a cruel abuse: so many days work for a cabin; so many for a potatoe garden; so many

for keeping a horse, and so many for a cow, are clear accounts which a poor man can understand well, but farther it ought never to go; and when he has worked out what he has of this sort, the rest of his work ought punctually to be paid him every Saturday night. Another circumstance mentioned was the excessive practice they have in general of pilfering. They steal every thing they can lay their hands on, and I should remark, that this is an account which has been very generally given me: all sorts of iron hinges, chains, locks, keys, &c. gates will be cut in pieces, and conveyed away in many places as fast as built; trees as big as a man's body, and that would require ten men to move, gone in a night. Lord Longford has had the new wheels of a car stolen as soon as made. Good stones out of a wall will be taken for a fire-hearth, &c. though a breach is made to get at them. In short, every thing, and even such as are apparently of no use to them; nor is it easy to catch them, for they never carry their stolen goods home, but to some bog-hole. Turnips are stolen by ear loads, and two acres of wheat pluckt off in a night. In short, their pilfering and stealing is a perfect nuisance! How far it is owing to the oppression of laws aimed solely at the religion of these people, how far to the conduct of the gentlemen and farmers, and how far to the mischievous disposition of the people themselves, it is impossible for a passing traveller to ascertain. I am apt to believe that a better system of law and management would have good effects. They are much worse treated than the poor in England, are talked to in more opprobrious terms, and otherwise very much oppressed.

Left Pakenham-hall.

Two or three miles from lord Longford's in the way to Mullingar the road leads up a mountain, and commands an exceeding fine view of Loch Derrevaragh, a noble water eight miles long, and from two miles to half a mile over; a vast reach of it, like a magnificent river, opens as you rise the hill. Afterwards I passed under the principal mountain, which rises abruptly from the lake into the boldest outline imaginable; the water there is very beautiful, filling up the steep vale formed by this and the opposite hills.

Reached Mullingar.

It was one of the fair days. I saw many cows and beasts, and more horses, with some wool: the cattle were of the same breed that I had generally seen in coming through the country.

July 5, left Mullingar, which is a dirty ugly town, and taking the road to Tullamore, stopped at lord Belvidere's, with which place I was as much struck as with any I had ever seen. The house is perched on the crown of a very beautiful little hill, half surrounded with others, variegated and melting into one another. It is one of the most singular places that is any where to be seen, and spreading to the eye a beautiful lawn of undulating ground margined with wood. Single trees are scattered in some places, and clumps in others; the general effect so pleasing that were there nothing further, the place would be beautiful, but the canvas is admirably filled. Lake Ennel, many miles in length, and two or three broad, flows beneath the windows. It is spotted with islets, a promontory of rock fringed with trees shoots into it, and the whole is bounded by distant hills. Greater and more magnificent scenes are often met with, but no where a more beautiful or a more singular one.

From Mullingar to Tullespace I found rents in general at twenty shillings an acre, with much relet at thirty shillings, yet all the crops except bere were very bad, and full of weeds. About the latter named place the farms are generally from one hundred to three hundred acres; and their course, 1. Fallow. 2. Bere. 3. Oats. 4. Oats. 5. Oats. Great quantities of potatoes all the way, crops from forty to eighty barrels.

The road before it comes to Tullamore leads through a part of the bog of Allen,



which seems here extensive, and would make a noble tract of meadow. The way the road was made over it was simply to cut a drain on each side, and then lay on the gravel, which, as fast as it was laid and spread, bore the cars: along the edges is fine white clover.

In conversation upon the subject of a union with Great Britain, I was informed that nothing was so unpopular in Ireland as such an idea; and that the great objection to it was increasing the number of absentees. When it was in agitation, twenty peers and sixty commoners were talked of to sit in the British parliament, which would be the resident of eighty of the best estates in Ireland. Going every year to England would, by degrees, make them residents; they would educate their children there, and in time become mere absentees: becoming so they would be unpopular, others would be elected, who, treading in the same steps, would yield the place still to others; and thus, by degrees, a vast portion of the kingdom now resident would be made absentees; which would, they think, be so great a drain to Ireland, that a free trade would not repay it.

I think the idea is erroneous, were it only for one circumstance, the kingdom would lose; according to this reasoning, an idle race of country gentlemen, and in exchange their ports would fill with ships and commerce, and all the consequences of commerce; an exchange that never yet proved disadvantageous to any country.

Viewed Mount Juliet, lord Carrick's seat, which is beautifully situated on a fine declivity on the banks of the Nore, commanding some extensive plantations that spread over the hills, which rise in a various manner on the other side of the river: a knole of lawn rises among them with artificial ruins upon it, but the situation is not in unison with the idea of a ruin, very rarely placed to effect, unless in retired and melancholy spots.

The river is a very fine one, and has a good accompaniment of well grown wood. From the cottage a more varied scene is viewed, cheering and pleasing; and from the tent in the farther plantation a yet gayer one, which looks down on several bends of the river.

July 11, left Kilfaine: Mr. Bushe accompanied me to Woodstock, the seat of Sir W. Fownes. From Thomastown hither is the finest ride I have yet had in Ireland. The road leaving Thomastown leads on the east side of the river, through some beautiful copse woods, which before they were cut must have had a most noble effect, with the river Nore winding at the bottom; the country then opens somewhat, and you pass most of the way for six or seven miles to Innisteague, on a declivity shelving down to the river, which takes a varied winding course, sometimes lively, breaking over a rocky bottom, at others still and deep under the gloom of some fine woods, which hang down the sides of steep hills. Narrow slips of meadow of a beautiful verdure in some places form the shore, and unite with cultivated fields that spread over the adjoining hills, reaching almost the mountain tops: these are large and bold, and give in general to the scenes features of great magnificence. Passed Sir John Hasler's on the opposite side of the river, finely situated, and Mr. Nicholson's farm on this side, who has very extensive copses which line the river. Coming in sight of Sir W. Fownes's, the scenery is striking, the road mounts the side of the hill, and commands the river at the bottom of the declivity, with groupes of trees prettily scattered about, and the little borough of Innesteague in a most picturesque situation, the whole bounded by mountains. Cross the bridge, and going through the town, take a path that leads to a small building in the woods, called Mount Sandford; it is at the top of a rocky declivity almost perpendicular, but with brush-wood growing from the rocks. At the bottom is the river, which comes from the right from behind a very bold hanging wood, that seems to unite with the hill on the opposite shore: at this pass the river fills the vale, but it

widens by degrees, and presents various reaches, intermixed with little tufts of trees, the bridge we passed over is half hid. Innisteachug is mixed with them, and its buildings backed by a larger wood, give variety to the scene. Opposite to the point of view there are some pretty inclosures, fringed with wood, and a line of cultivated mountain sides, with their bare tops limit the whole.

Taking my leave of Mr. Bushe, I followed the road to Ross. Passed Woodstock, of which there is a very fine view from the top of one of the hills, the house in the centre of a sloping wood of five hundred English acres, and hanging in one noble shade to the river, which flows at the bottom of a winding glen. From the same hill in front it is seen in a winding course for many miles through a great extent of inclosures, bounded by mountains. As I advanced the views of the river Nore were very fine, till I came to Ross, where from the hill before you go down to the ferry is a noble scene of the Barrow, a vast river flowing through bold shores, in some places trees on the bank half obscure it, in others it opens in large reaches, the effect equally grand and beautiful. Ships sailing up to the town, which is built on the side of a hill to the water's edge, enliven the scene not a little. The water is very deep and the navigation secure, so that ships of seven hundred tons may come up to the town; but these noble harbours on the coast of Ireland are only melancholy capabilities of commerce: it is languid and trifling. There are only four or five brigs and sloops that belong to the place.

Having now passed through a considerable extent of country, in which the white boys were common, and committed many outrages, I shall here review the intelligence I received concerning them throughout the county of Kilkenny. I made many inquiries into the origin of those disturbances, and found that no such thing as a leveller or white boy was heard of till 1760, which was long after the landing of Thurot, or the intended expedition of M. Conflans. That no foreign coin was ever seen among them, though reports to the contrary were circulated; and in all the evidence that was taken during ten or twelve years, in which time there appeared a variety of informers, none was ever taken, whose testimony could be relied on, that ever proved any foreign interposition. Those very few who attempted to favour it, were of the most infamous and perjured characters. All the rest whose interest it was to make the discovery, if they had known it, and who concealed nothing else, pretended to no such knowledge. No foreign money appeared, no arms of foreign construction, no presumptive proof whatever of such a connection. They began in Tipperary, and were owing to some inclosures of commons, which they threw down, levelling the ditches, and were first known by the name of levellers. After that, they began with the tythe-proctors (who are men that hire tythes of the rectors) and these proctors either screwed the cottars up to the utmost shilling, or re-let the tythes to such as did it. It was a common practice with them to go in parties about the country, swearing many to be true to them, and forcing them to join by menaces, which they very often carried into execution. At last, they set up to be general redressers of grievances, punished all obnoxious persons who advanced the value of lands, or hired farms over their heads; and, having taken the administration of justice into their hands, were not very exact in the distribution of it. Forced masters to release their apprentices, carried off the daughters of rich farmers, ravished them into marriages, of which four instances happened in a fortnight. They levied sums of money on the middling and lower farmers in order to support their cause, by paying attornies, &c. in defending prosecutions against them; and many of them subsisted for some years without work, supported by these contributions. Sometimes they committed several considerable robberies, breaking into houses and taking the money, under pretence of redressing grievances. In the course of these outrages

they burnt several houses, and destroyed the whole substance of men obnoxious to them. The barbarities they committed were shocking. One of their usual punishments (and by no means the most severe) was taking people out of their beds, carrying them naked in winter on horse-back for some distance, and burying them up to their chin in a hole filled with briars, not forgetting to cut off their ears. In this manner the evil existed for eight or ten years, during which time the gentlemen of the country took some measures to quell them. Many of the magistrates were active in apprehending them; but the want of evidence prevented punishments for many of those who even suffered by them had no spirit to prosecute. The gentlemen of the country had frequent expeditions to discover them in arms; but their intelligence was so uncommonly good by their influence over the common people, that not one party that ever went out in quest of them was successful. Government offered large rewards for informations, which brought a few every year to the gallows, without any radical cure for the evil. The reason why it was not more effective was the necessity of any person that gave evidence against them quitting their houses and country, or remaining exposed to their resentment. At last their violence arose to a height which brought on their suppression. The popish inhabitants of Ballyragget, six miles from Kilkenny, were the first of the lower people who dared openly to associate against them; they threatened destruction to the town, gave notice that they would attack it, were as good as their word, came two hundred strong, drew up before a house in which were fifteen armed men, and fired in at the windows; the fifteen men handled their arms so well, that in a few rounds they killed forty or fifty. They fled immediately, and ever after left Ballyragget in peace; indeed they have never been resisted at all without shewing a great want of both spirit and discipline. It should however be observed, that they had but very few arms, those in bad order, and no cartridges. Soon after this they attacked the house of Mr. Power in Tipperary, the history of which is well known. His murder spirited up the gentlemen to exert themselves in suppressing the evil, especially in raising subscriptions to give private rewards to whoever would give evidence or information concerning them. The private distribution had much more effect than larger sums which required a public declaration; and government giving rewards to those who resisted them, without having previously promised it, had likewise some effect. Laws were passed for punishing all who assembled, and (what may have a great effect) for recompensing, at the expence of the county or barony, all persons who suffered by their outrages. In consequence of this general exertion, above twenty were capitally convicted, and most of them executed; and the jails of this and the three neighbouring counties, Carlow, Tipperary, and Queen's-county, have many in them whose trials are put off till next assizes, and against whom sufficient evidence for conviction, it is supposed, will appear. Since this all has been quiet, and no outrages have been committed: but before I quit the subject, it is proper to remark that what coincided very much to abate the evil, was the fall in the price of lands, which has taken place lately. This is considerable, and has much lessened the evil of hiring farms over the heads of one another; perhaps also the tythe-proctors have not been quite so severe in their extortions: but this observation is by no means general; for in many places tythes yet continue to be levied, with all those circumstances which originally raised the evil.

July 15th, leaving Courtown, took the Arklow road; passed a finely wooded park of Mr. Rams, and a various country with some good corn in it. Flat lands by the coast let very high, and mountain at six shillings or seven shillings an acre, and some at eight shillings, or ten shillings. Passed to Wicklow, prettily situated on the sea, and

from Newrybridge walked to see Mr. Tyc's, which is a neat farm well wooded, with a river running through the fields.

Reached in the evening Mount Kennedy, the seat of general Cunninghame, who fortunately proved to me an instructor as assiduous as he is able. He is in the midst of a country almost his own, for he has 10,000 Irish acres here. His domain, and the grounds about it, are very beautiful, not a level can be seen; every spot is tossed about in a variety of hill and dale. In the middle of the lawn is one of the greatest natural curiosities in the kingdom; an immense arbutus tree unfortunately blown down, but yet vegetating, one branch, which parts from the body near the ground, and afterwards into many large branches, is six feet two inches in circumference. The general buried part of the stem as it laid, and it is from several branches throwing out fine young shoots: it is a most venerable remnant. Killarney, the region of the arbutus, boasts of no such tree as this.

July 16th, rode in the morning to Drum; a large extent of mountains and wood, on the general's estate. It is a very noble scenery; a vast rocky glen; one side bare rocks to an immense height, hanging in a thousand whimsical, yet frightful forms, with vast fragments tumbled from them, and lying in romantic confusion; the other a fine mountain side covered with shrubby wood. This wild pass leads to the bottom of an amphitheatre of mountain, which exhibits a very noble scenery. To the right is an immense sweep of mountain completely wooded; taken as a single object it is a most magnificent one, but its forms are picturesque in the highest degree; great projections of hill, with glens behind all wooded, have a noble effect. Every feature of the whole view is great, and unites to form a scene of natural magnificence. From hence a riding is cut through the hanging wood, which rises to a central spot, where the general has cleared away the rubbish from under the wood, and made a beautiful waving lawn with many oaks and hollies scattered about it; here he has built a cottage, a pretty whimsical oval room, from the windows of which are three views, one of distant rich lands opening to the sea, one upon a great mountain, and a third upon a part of the lawn. It is well plac'd, and forms upon the whole a most agreeable retreat.

July 17th. Took my leave of general Cunninghame, and went through the glen of the downs in my way to Powerscourt. The glen is a pass between two vast ridges of mountains covered with wood, which have a very noble effect, the vale is no wider than to admit the road, a small gurgling river almost by its side, and narrow slips of rocky and shrubby ground which parts them: in the front all escape seems denied by an immense conical mountain which rises out of the glen, and seems to fill it up. The scenery is of a most magnificent character. On the top of the ridge to the right Mr. La Touche has a banqueting room. Passing from this sublime scene, the road leads through cheerful grounds all under corn, rising and falling to the eye, and then to a vale of charming verdure broken into inclosures, and bounded by two rocky mountains, distant darker mountains filling up the scene in front: this whole ride is interesting, for within a mile and a half of Tinnyhinch (the inn to which I was directed) you come to a delicious view on the right, a small vale opening to the sea, bounded by mountains, whose dark shade forms a perfect contrast to the extreme beauty and lively verdure of the lower scene, consisting of gently swelling lawns rising from each other with groups of trees between, and the whole so prettily scattered with white farms, as to add every idea of cheerfulness. Kept on towards Powerscourt, which presently came in view from the edge of a declivity. You look full upon the house, which appears to be in the most beautiful situation in the world, on the side of a mountain, half way between its bare top, and an irriguous vale at its foot. In front and spreading among woods on either side, is a

lawn whose surface is beautifully varied in gentle declivities, hanging to a winding river.

Lowering the hill the scenery is yet more agreeable, the near inclosures are margined with trees, through whose open branches are seen whole fields of the most lively verdure. The trees gather into groups, and the lawn swells into gentle inequalities, while the river winding beneath renders the whole truly pleasing.

Breakfasted at the inn at Tinnyhinch, and then drove to the park to see the water-fall. The park itself is fine; you enter it between two vast masses of mountain, covered with wood, forming a vale scattered with trees, through which flows a river on a broken rocky channel: you follow this vale till it is lost in a most uncommon manner, the ridges of mountain closing, form one great amphitheatre of wood, from the top of which, at the height of many hundred feet, bursts the water from a rock, and tumbling down the side of a very large one, forms a scene singularly beautiful. At the bottom is a spot of velvet turf, from which rises a clump of oaks, and through their stems, branches and leaves, the falling water is seen as a back ground, with an effect more picturesque than can be well imagined; these few trees, and this little lawn, give the finishing to the scene. The water falls behind some large fragments of rock, and turns to the left, down a stony channel, under the shade of a wood.

Returning to Tinnyhinch, I went to Inniskerry, and gained by this detour in my return to go to the Dargle, a beautiful view which I should otherwise have lost; the road runs on the edge of a declivity, from whence there is a most pleasing prospect of the river's course through the vale, and the wood of Powerscourt, which here appear in large masses of dark shade, the whole bounded by mountains. Turn to the left into the private road that leads to the Dargle, and presently gives a specimen of what is to be expected by a romantic glen of wood, where the high lands almost lock into each other, and leave scarce a passage for the river at bottom, which rages, as if with difficulty forcing its way. It is topped by a high mountain, and in front you catch a beautiful plat of inclosures bounded by the sea. Enter the Dargle, which is the name of a glen near a mile long. Come presently to one of the finest ranges of wood I have any where seen: it is a narrow glen or vale formed by the sides of two opposite mountains; the whole thickly spread with oak wood, at the bottom (and the depth is immense) it is narrowed to the mere channel of the river, which rather tumbles from rock to rock than runs. The extent of wood that hangs to the eye in every direction is great, the depth of the precipice on which you stand immense, which with the roar of the water at bottom forms a scene truly interesting. In less than a quarter of a mile, the road passing through the wood leads to another point of view to the right. It is the crown of a vast projecting rock, from which you look down a precipice absolutely perpendicular, and many hundred feet deep upon the torrent at the bottom, which finds its noisy way over large fragments of rock. The point of view is a great projection of the mountain on this side, answered by a concave of the opposite, so that you command the glen both to the right and left: it exhibits on both, immense sheets of forest, which have a most magnificent appearance. Beyond the wood, to the right, are some inclosures hanging on the side of a hill, crowned by a mountain. I knew not how to leave so interesting a spot, the impressions raised by it are strong. The solemnity of such an extent of wood unbroken by any intervening objects, and the whole hanging over declivities is alone great; but to this the addition of a constant roar of falling water, either quite hid, or so far below as to be seen but obscurely united to make those impressions stronger. No contradictory emotions are raised; no ill judged temples appear to enliven a scene that is gloomy rather than gay. Falling or moving water is a lively object; but this being

obscure the noise operates differently. Following the road a little further, there is another bold rocky projection from which also there is a double view to the right and left. In front so immense a sweep of hanging wood, that a nobler scene can hardly be imagined: the river as before, at the bottom of the precipice, which is so steep and the depth so great, as to be quite fearful to look down. This horrid precipice, the pointed bleak mountains in view, with the roar of the water, all conspire to raise one great emotion of the sublime. You advance scarcely twenty yards before a pretty scene opens to the left, a distant landscape of inclosures, with a river winding between the hills to the sea. Passing to the right, fresh scenes of wood appear; half way to the bottom, one different from the preceding is seen; you are almost inclosed in wood, and look to the right through some low oaks on the opposite bank of wood, with an edging of trees through which the sky is seen, which added to an uncommon elegance in the out-line of the hill, has a most pleasing effect. Winding down to a thatched bench on a rocky point, you look upon an uncommon scene. Immediately beneath is a vast chasm in the rock, which seems torn asunder, to let the torrent through that comes tumbling over a rocky bed far sunk into a channel embosomed in wood. Above is a range of gloomy obscure woods, which half over-shadow it, and rising to a vast height, exclude every object. To the left the water rolls away over broken rocks: a scene truly romantic. Followed the path: it led me to the water's edge, at the bottom of the glen, where is a new scene, in which not a single circumstance hurts the principal character. In a hollow formed of rock and wood (every object excluded but those and water) the torrent breaks forth from fragments of rock, and tumbles through the chasm, rocks bulging over it, as if ready to fall into the channel, and stop the impetuous water. The shade is so thick as to exclude the heavens, all is retired and gloomy, a brown horror breathing over the whole. It is a spot for melancholy to muse in.

Return to the carriage, and quit the Dargle, which upon the whole is a very singular place, different from all I have seen in England, and I think preferable to most. Cross a murmuring stream clear as crystal, and rising a hill, look back on a pleasing landscape of inclosures, which waving over hills, end in mountains of a very noble character. Reach Dublin.

July 20. To Drogheda, a well built town, active in trade, the Boyne bringing ships to it. It was market day, and I found the quantity of corn, &c. and the number of people assembled very great; few country markets in England more thronged. The Rev. Mr. Nesbit, to whom recommended, absent, which was a great loss to me, as I had several inquiries which remained unsatisfied.

To the field of battle on the Boyne. The view of the scene from a rising ground which looks down upon it is exceedingly beautiful, being one of the completest landscapes I have seen. It is a vale, losing itself in front between bold declivities, above which are some thick woods, and distant country. Through the vale the river winds and forms an island, the point of which is tufted with trees in the prettiest manner imaginable; on the other side a rich scenery of wood, among which is Doctor Norris's house. To the right on a rising ground on the banks of the river is the obelisk, backed by a very bold declivity; pursued the road till near it, quitted my chaise, and walked to the foot of it. It is founded on a rock which rises boldly from the river. It is a noble pillar and admirably placed. I seated myself on the opposite rock, and indulged the emotions which with a melancholy not displeasing filled my bosom, while I reflected on the consequences that had sprung from the victory here obtained. Liberty was then triumphant. May the virtues of our posterity secure that prize which the bravery of

their ancestors won! Peace to the memory of the prince to whom, whatever might be his failings we owed that day memorable in the annals of Europe!

Returned part of the way, and took the road to Cullen, where the lord chief baron Forster received me in the most obliging manner, and gave me a variety of information uncommonly valuable. He has made the greatest improvements I have any where met with. The whole country twenty-two years ago was a waste sheep walk, covered chiefly with heath, with some dwarf furze and fern. The cabins and people as miserable as can be conceived; not a protestant in the country, nor a road passable for a carriage. In a word, perfectly resembling other mountainous tracts, and the whole yielding a rent of not more than from three shillings to four shillings an acre. Mr. Forster could not bear so barren a property, and determined to attempt the improvement of an estate of five thousand acres till then deemed irreclaimable. He encouraged the tenants by every species of persuasion and expence, but they had so ill an opinion of the land that he was forced to begin with two or three thousand acres in his own hands; he did not, however, turn out the people, but kept them in to see the effects of his operations.

To Dundalk, the view down on this town also very beautiful, swelling hills of a fine verdure, with many rich inclosures backed by a bold outline of mountain that is remarkable. Laid at the Clanbrassil Arms, and found it a very good inn. The place, like most of the Irish towns I have been in, full of new buildings, with every mark of increasing wealth and prosperity. A cambrick manufacture was established here by parliament, but failed; it was, however, the origin of that more to the north.

July 22. Left Dundalk, took the road through Ravensdale to Mr. Fortesque, to whom I had a letter, but unfortunately he was in the South of Ireland. Here I saw many good stone and slate houses, and some bleach greens; and I was much pleased to see the inclosures creeping high up the sides of the mountains stony as they are. Mr. Fortescue's situation is very romantic on the side of a mountain, with fine wood hanging on every side, with the lawn beautifully scattered with trees spreading into them, and a pretty river winding through the vale, beautiful in itself, but trebly so on information, that before he fixed there, it was all a wild waste. Rents in Ravensdale ten shillings, mountain land two shillings and six pence to five shillings. Also large tracts rented by villages, the cottars dividing it among themselves, and making the mountain common for their cattle.

Breakfasted at Newry, the Globe, another good inn. This town appears exceedingly flourishing, and is very well built; yet forty years ago, I was told that there were nothing but mud cabins in it: this great rise has been much owing to the canal to Loch-Neagh. I crossed it twice, it is indeed a noble work. I was amazed to see ships of one hundred and fifty tons and more lying in it, like barges in an English canal. Here is a considerable trade.

Reached Ardmagh in the evening, and waited on the primate.

July 23. His grace rode out with me to Ardmagh, and shewed me some of the noble and spirited works by which he has perfectly changed the face of the neighbourhood. The buildings he has erected in seven years, one would suppose without previous information, to be the work of an active life. A list of them will justify this observation.

He has erected a very elegant palace, ninety feet by sixty, and forty high, in which an unadorned simplicity reigns. It is light and pleasing, without the addition of wings or lesser parts, which too frequently wanting a sufficient uniformity with the body of the edifice, are unconnected with it in effect, and divide the attention. Large and ample offices are conveniently placed behind a plantation at a small distance; around the

palace is a large lawn, which spreads on every side over the hills, and skirted by young plantations, in one of which is a terrace, which commands a most beautiful view of cultivated hill and dale. The view from the palace is much improved by the barracks, the school, and a new church at a distance, all which are so placed as to be exceedingly ornamental to the whole country.

The barracks were erected under his grace's directions, and form a large and handsome edifice. The school is a building of considerable extent, and admirably adapted for the purpose: a more convenient or a better contrived one, is no where to be seen. There are apartments for a master, a school-room fifty-six feet by twenty-eight, a large dining room, and spacious airy dormitories, with every other necessary, and a spacious play-ground walled in; the whole forming a handsome front: and attention being paid to the residence of the master (the salary is four hundred pounds a year) the school flourishes, and must prove one of the greatest advantages to the country of any thing that could have been established. This edifice entirely at the primate's expence. The church is erected of white stone, and having a tall spire makes a very agreeable object, in a country where churches and spires do not abound, at least such as are worth looking at. Three other churches the primate has also built, and done considerable reparations to the cathedral.

He has been the means also of erecting a public infirmary, which was built by subscription, contributing amply to it himself.

A public library he has erected at his own expence, given a large collection of books, and endowed it. The room is excellently adapted, forty-five feet by twenty-five, and twenty high, with a gallery, and apartments for a librarian.

He has further ornamented the city with a market-house and shambles, and been the direct means, by giving leases upon that condition, of almost new building the whole place. He found it a nest of mud cabins, and he will leave it a well built city of stone and slate. I heard it asserted in common conversation, that his grace, in these noble undertakings, had not expended less than thirty thousand pounds besides what he had been the means of doing, though not directly at his own expence.

In the evening reached Mr. Brownlow's at Lurgan, to whom I am indebted for some valuable information. This gentleman has made very great improvements in his domain: he has a lake at the bottom of a slight vale, and around are three walks, at a distance from each other; the center one is the principal, and extends two miles. It is well conducted for leading to the most agreeable parts of the grounds, and for commanding views of Loch-Neagh, and the distant country; there are several buildings, a temple, green-house, &c. The most beautiful scene is from a bench on a gently swelling hill, which rises almost on every side from the water. The wood, the water, and the green slopes; here unite to form a very pleasing landscape. Let me observe one thing much to his honour; he advances his tenants money for all the lime they choose, and takes payment in eight years with rent.

Upon inquiring concerning the emigrations, I found that in 1772 and 1773, they were at the height; that some went from this neighbourhood with property, but not many. They were in general poor and unemployed. They find here, that when provisions are very cheap, the poor spend much of their time in whisky-houses. All the drapers wish that oatmeal was never under one penny a pound. Though farms are exceedingly divided, yet few of the people raise oatmeal enough to feed themselves; all go to market for some. The weavers earn by coarse linen one shilling a day, by fine one shilling and four pence, and it is the same with the spinners, the finer the yarn the more they earn; but in common a woman earns about three-pence. For coarse linens



they do not reckon the flax hurt by standing for seed. Their own flax is much better than the imported.

This country is in general beautiful, but particularly so about the streights that lead into Strangford Loch. From Mr. Savage's door the view has great variety. To the left are tracts of hilly grounds, between which the sea appears, and the vast chain of mountains in the Isle of Man distinctly seen. In front the hills rise in a beautiful outline, and a round hill projects like a promontory into the straight, and under it the town amidst groups of trees; the scene is cheerful of itself, but rendered doubly so by the ships and herring-boats sailing in and out. To the right the view is crowned by the mountains of Mourne, which, wherever seen, are of a character peculiarly bold, and even terrific. The shores of the loch behind Mr. Savage's are bold ground, abounding with numerous pleasing landscapes; the opposite coast, consisting of the woods and improvements of Castle-Ward, is a fine scenery.

Called at lord Bangor's at Castle-Ward, to deliver a letter of recommendation, but unfortunately he was on a sailing party to England; walked through the woods, &c. The house was built by the present lord. It is a very handsome edifice with two principal fronts, but not of the same architecture, for the one is Gothic, and the other Grecian. From the temple is a fine wooded scene; you look down on a glen of wood, with a winding hill quite covered with it, and which breaks the view of a large bay: over it appears the peninsula of Strangford, which consists of inclosures and wood. To the right, the bay is bounded by a fine grove, which projects into it. A ship at anchor added much. The house well situated above several rising woods, the whole scene a fine one. I remarked in lord Bangor's domains, a fine field of turnips, but unhoed. There were some cabbages also.

Belfast, is a very well built town of brick, they having no stone quarry in the neighbourhood. The streets are broad and straight, and the inhabitants, amounting to about fifteen thousand, make it appear lively and busy. The public buildings are not numerous or very striking, but over the exchange lord Donnegal is building an assembly room, sixty feet long, by thirty broad, and twenty-four high; a very elegant room. A card room adjoining, thirty by twenty-two, and twenty-two high; a tea room of the same size. His lordship is also building a new church, which is one of the lightest and most pleasing I have any where seen: it is seventy-four by fifty-four, and thirty high to the cornice; the aisles separated by a double row of columns; nothing can be lighter or more pleasing. The town belongs entirely to his lordship. Rent of it 2000l. a year. His estate extends from Drumbridge, near Lisburne to Larne, twenty miles in a right line, and is ten broad. His royalties are great, containing the whole of Loch-Neagh, which is I suppose the greatest of any subject in Europe. His eel fishery at Tome, and Port-New, on the river Ban, lets for 500l. a year; and all the fisheries are his to the leap at Colrairie. The estate is supposed to be 31,000l. a year, the greatest at present in Ireland. Innishoen in Donnegal is his, and is 11,000l. of it. In Antrim, lord Antrim's is the most extensive property, being four baronies, and one hundred and seventy-three thousand acres. The rent 8000l. a year, but re-let for 64,000l. a year, by tenants that have perpetuities, perhaps the cruelest instance in the world of carelessness for the interests of posterity. The present lord's father granted those leases.

I was informed that Mr. Isaac, near Belfast, had four acres, Irish measure, of strong clay land not broken up for many years, which being amply manured with lime rubbish and sea shells, and fallowed, was sown with wheat, and yielded 87l. 9s. at 9s. to 12s. per cwt. Also that Mr. Whitley, of Ballinderry, near Lisburne, a tenant of lord Hertford's has rarely any wheat that does not yield him eighteen pounds an acre. The tillage of the neighbourhood for ten miles round is doubled in a few years. Shall export

one thousand tons of corn this year from Belfast, most of it to the West Indies, particularly oats.

August 1, to Arthur Buntin's, esq. near Belfast; the soil a stiff clay; lets at old rents 10s. new one 18s. the town parks of that place 30s. to 70s. ten miles round it 10s. to 20s. average 13s. A great deal of flax sown, every countryman having a little, always on potatoe land, and one ploughing: they usually sow each family a bushel of seed. Those who have no land pay the farmers 20s. rent for the land a bushel of seed sows, and always on potatoe land. They plant many more potatoes than they eat, to supply the market at Belfast; manure for them with all their dung, and some of them mix dung, earth, and lime, and this is found to do better. There is much alabaster near the town, which is used for stucco plaister; sells from 1l. 1s. to 25s. a ton.

In my way to Antrim, viewed the bleach-green of Mr. Thomas Sinclair; it is the completest I had seen here. I understood that the bleaching season lasted nine months, and that watering on the grass was quite left off. Mr. Sinclair himself was not at home, or I should probably have gained some intelligence that might have been useful.

Crossed the mountains by the new road to Antrim, and found them to the summits to consist of exceeding good loam, and such as would improve into good meadow. It is all thrown to the little adjoining farms, with very little or any rent paid for it. They make no other use of it than turning their cows on. Pity they do not improve; a work more profitable than any they could undertake. All the way to Antrim lands let at an average at 8s. The linen manufacture spreads over the whole country, consequently the farms are very small, being nothing but patches for the convenience of weavers.

From Antrim to Shane's Castle the road runs at the end of Loch-Neagh, commanding a noble view of it; of such an extent that the eye can see no land over it. It appears like a perfect sea, and the shore is broken sand-banks, which look so much like it, that one can hardly believe the water to be fresh. Upon my arrival at the castle, I was most agreeably saluted with four men hoeing a field of turnips round it, as a preparation for grass. These were the first turnip-hoers I have seen in Ireland, and I was more pleased than if I had seen four emperors.

The castle is beautifully situated on the lake, the windows commanding a very noble view of it; and this has the finer effect, as the woods are considerable, and form a fine accompaniment to this noble inland sea.

Rode from Mr. Lesly's to view the Giant's Causeway. It is certainly a very great curiosity, as an object for speculation upon the manner of its formation; whether it owes its origin to fire, and is a species of lava, or to crystallization, or to whatever cause, is a point that has employed the attention of men much more able to decide upon it than I am; and has been so often treated, that nothing I could say could be new. When two bits of these basaltes are rubbed together quick, they emit a considerable scent like burnt leather. The scenery of the Causeway, nor of the adjacent mountains, is very magnificent, though the cliffs are bold; but for a considerable distance there is a strong disposition in the rocks to run into pentagonal cylinders, and even at bridge, by Mr. Lesly's, is a rock in which the same disposition is plainly visible. I believe the Causeway would have struck me more if I had not seen the prints of Staffa.

Returned to Lesly-hill; and August 5th departed for Coleraine. There the right hon. Mr. Jackson assisted me with the greatest politeness in procuring the intelligence I wished about the salmon-fishery, which is the greatest in the kingdom, and viewed both fisheries above and below the town, very pleasantly situated on the river Ban. The salmon spawn in all the rivers that run into the Ban about the beginning of August, and as soon as they have done swim to the sea, where they stay till January, when they begin

to return to the fresh water, and continue doing it till August, in which voyage they are taken; the nets are set in the middle of January, but by act of parliament no nets nor weirs can be kept down after the 12th of August. All the fisheries on the river Ban let at 6000*l.* a year. From the sea to the rock above Coleraine, where the weirs are built, belongs to the London companies; the greatest part of the rest to lord Donnegal. The eel fisheries let at 1000*l.* a year, and the salmon fisheries at Coleraine 1000*l.* The eels make periodical voyages, as the salmon, but instead of spawning in the fresh water, they go to the sea to spawn, and the young fry return against the stream; to enable them to do which with greater ease at the leap, straw ropes are hung in the water for them; when they return to sea they are taken: many of them weigh nine or ten pounds. The young salmon are called grawls, and grow at a rate which I should suppose scarce any fish commonly known equals; for within the year some of them will come to sixteen and eighteen pounds, but in general ten or twelve pounds: such as escape the first year's fishery are salmon; and at two years old will generally weigh twenty to twenty-five pounds. This year's fishery has proved the greatest that ever was known, and they had the largest haul, taking 1452 salmon at one drag of one net. In the year 1758 they had 882, which was the next greatest haul. I had the pleasure of seeing 370 drawn in at once. They have this year taken four hundred tons of fish; two hundred sold fresh at a penny and three-halfpence a pound, and two hundred salted, at 18*l.* and 20*l.* per ton, which are sent to London, Spain, and Italy. The fishery employs eighty men, and the expences in general calculated to equal the rent.

The linen manufacture is very general about Coleraine, coarse ten hundred linen. It is carried to Dublin in ears, one hundred and ten miles, at 5*s.* per cwt. in summer, and 7*s.* 6*d.* in winter.

From Linnavaddy to Derry there is very little uncultivated land. Within four miles of the latter, rents are from 12*s.* to 20*s.* mountains paid for but in the gross. Reached Derry at night, and waited two hours in the dark before the ferry-boat came over for me.

August 7, in the morning, went to the bishop's palace to leave my letters of recommendation; for I was informed of my misfortune in his being out of the kingdom. He was upon a voyage to Staffa, and had sent home some of the stones of which it consists; they appeared perfectly to resemble in shape, colour, and smell, those of the Giant's Causeway.

August 8, left Derry, and took the road by Raphoe to the Rev. Mr. Golding's, at Clonleigh, who favoured me with much valuable information. The view of Derry, at the distance of a mile or two, is the most picturesque of any place I have seen; it seems to be built on an island of bold land rising from the river, which spreads into a fine basin at the foot of the town; the adjacent country hilly; the scene wants nothing but wood to make it a perfect landscape.

August 11, left Mount Charles, and passing through Donnegal, took the road to Ballyshannon; came presently to several beautiful landscapes, swelling hills, cultivated, with the bay flowing up among them: they want nothing but more wood, and are beautiful without it. Afterwards likewise to the left they rise in various outlines, and die away insensibly into one another. When the road leads to a full view of the bay of Donnegal, these smiling spots, above which the proud mountains rear their heads, are numerous, the hillocks of almost regular circular forms; they are very pleasing, from form, verdure, and the water breaking in their vales.

Before I got to Ballyshannon, remarked a bleach-green, which indicates weaving in the neighbourhood. Viewed the salmon-leap at Ballyshannon, which is let for 400*l.*

a year. The scenery of it is very beautiful; it is a fine fall, and the coast of the river very bold, consisting of perpendicular rocks, with grass of a beautiful verdure to the very edge: it projects in little promontories, which grow longer as they approach the sea, and open to give a fine view of the ocean. Before the fall in the middle of the river is a rocky island, on which is a curing house, instead of the turret of a ruined castle, for which it seems formed. The town prettily situated on the rising ground on each side of the river. To Sir James Caldwell's; crossing the bridge, stopped for a view of the river, which is a very fine one, and was delighted to see the salmon jump, to me an unusual sight: the water was perfectly alive with them. Rising the hill, look back on the town; the situation beautiful; the river presents a noble view. Come to Belleek, a little village, with one of the finest water-falls I remember any where to have seen; viewed it from the bridge. The river in a very broad sheet comes from behind some wood, and breaks over a bed of rocks, not perpendicular, but shelving in various directions, and foams away under the arches; after which it grows more silent, and gives a beautiful bend under a rock, crowned by a fine bank of wood. Reached Castle Caldwell at night, where Sir James Caldwell received me with a politeness and cordiality that will make me long remember it with pleasure.

August 15, to Belleisle, the charming seat of the earl of Ross. It is an island in Loch-Earne, of two hundred Irish acres, every part of it hill, dale, and gentle declivities: it has a great deal of wood, much of which is old, and forms both deep shades and open cheerful groves. The trees hang on the slopes, and consequently shew themselves to the best advantage. All this is exceedingly pretty, but it is rendered trebly so by the situation: a reach of the lake passes before the house, which is situated near the banks among some fine woods, which give both beauty and shelter. This sheet of water, which is three miles over, is bounded in front by an island of thick wood, and by a bold circular hill, which is his lordship's deer park; this hill is backed by a considerable mountain. To the right are four or five fine clumps of dark wood; so many islands which rise boldly from the lake, the water breaks in straits between them, and forms a scene extremely picturesque. On the other side the lake stretches behind wood, in a strait which forms Belleisle. Lord Ross has made walks round the island, from which there is a considerable variety of prospect. A temple is built on a gentle hill, commanding the view of the wooded islands above-mentioned; but the most pleasing prospect of them is coming out from the grotto: they appear in an uncommon beauty; two seem to join, and the water which flows between takes the appearance of a fine bay, projecting deep into a dark wood: nothing can be more beautiful. The park hill rises above them, and the whole is backed with mountains. The home scene at your feet also is pretty; a lawn scattered with trees that forms the margin of the lake, closing gradually in a thick wood of tall trees, above the tops of which is a distant view of Cultiagh mountain, which is there seen in its proudest solemnity.

They plough all with horses three or four in a plough, and all abreast. Here let it be remarked, that they very commonly plough and harrow with their horses drawing by the tail: it is done every season. Nothing can put them beside this; and they insist that take a horse tired in traces, and put him to work by the tail, he will draw better: quite fresh again. Indignant reader! this is no jest of mine, but cruel, stubborn, barbarous truth. It is so all over Cavan.

At Clonells, near Castle-rea, lives O'Conner, the direct descendant of Roderick O'Conner, who was king of Connaught six or seven hundred years ago; there is a monument of him in Roscommon church, with his sceptre, &c. I was told as a certainty, that this family were here long before the coming of the Milesians. The pos-

sessions, formerly so great, are reduced to three or four hundred pounds a year, the family having fared in the revolutions of so many ages, much worse than the O'Neil's and O'Brien's. The common people pay him the greatest respect, and send him presents of cattle, &c. upon various occasions. They consider him as the prince of a people involved in one common ruin.

Another great family in Connaught is Macdermot, who calls himself prince of Coolavin; he lives at Coolavin, in Sligo, and though he has not above one hundred pounds a year, will not admit his children to sit down in his presence. This was certainly the case with his father, and some assured me even with the present chief. Lord Kingsborough, Mr. Ponsonby, Mr. O'Hara, Mr. Sandford, &c. came to see him, and his address was curious: "O'Hara! you are welcome; Sandford, I am glad to see your mother's son (his mother was an O'Brien:) as to the rest of ye, come in as ye can." Mr. O'Hara, of Nymphsfield, is in possession of a considerable estate in Sligo, which is the remains of great possessions they had in that country: he is one of the few descendants of the Milesian race.

To lord Kingston's, to whom I had a letter, but unfortunately for me he was at Spaw. Walked down to Longford Hill, to view the lake; it is one of the most delicious scenes I ever beheld, a lake of five miles by four, which fills the bottom of a gentle valley almost of a circular form, bounded very boldly by the mountains. Those to the left rise in a noble slope; they lower rather in front, and let in a view of Strand mountain, near Sligo, above twenty miles off. To the right, you look over a small part of a bog to a large extent of cultivated hill, with the blue mountains beyond. Were this little piece of bog planted, the view would be more complete; the hill on which you stand has a foliage of well-grown trees, which form the southern shore. You look down on six islands, all wooded, and on a fine promontory to the left, which shoots far into the lake. Nothing can be more pleasing than their uncommon variety; the first is small (Rock island) tufted with trees, under the shade of which is an ancient building, once the residence of Macdermot. The next a mixture of lawn and wood; the third, which appears to join this, is of a darker shade, yet not so thick but you can see the bright lawn under the trees. House island is one fine thick wood, which admits not a gleam of light, a contrast to the silver bosom of the lake. Church island is at a greater distance; this is also a clump, and rises boldly. Rook island is of wood; it opens in the centre, and shews a lawn with a building on it. It is impossible to imagine a more pleasing and cheerful scene. Passed the chapel to Smithfield Hill, which is a fine rising ground, quite surrounded with plantations; from hence the view is changed; here the promontory appears very bold, and over its neck you see another wooded island, in a most picturesque situation. Nothing can be more picturesque than Rock island, its ruin overhung with ivy. The other islands assume fresh and varied outlines, and form upon the whole one of the most luxuriant scenes I have met with.

The views of the lake and environs are very fine as you go to Boyle; the woods unite into a large mass, and contrast the bright sheet of water with their dark shades.

The lands about Kingston are very fine, a rich, dry, yellow, sandy loam, the finest soil that I have seen in Ireland, all grass, and covered with very fine bullocks, cows, and sheep. The farms rise to five hundred acres, and are generally in divisions, parted by stone walls, for oxen, cows, young cattle, and sheep separate. Some of the lands will carry an ox and a wether per acre; rents 15s. to 20s.

Dined at Boyle, and took the road to Ballymoat; crossed an immense mountainy bog, where I stopped and made inquiries; found that it was ten miles long, and three and a half over, containing thirty-five square miles; that lime-stone quarries were around

and in it, and lime-stone gravel in many places to be found, and used in the lands that join it: in addition to this I may add, that there is a great road crossing it; thirty-five miles are twenty-two thousand for hundred acres. What an immense field of improvement! nothing would be easier than to drain it, vast tracts of land have such a fall, that not a drop of water could remain. These hilly bogs are extremely different from any I have seen in England. In the moors in the north, the hills and mountains are all covered with heath, like the Irish bogs, but they are of various soils, gravel, shingle, moor, &c. and boggy only in spots; but the Irish bog hills are all pure bog to a great depth, without the least variation of soil; and the bog being of a hilly form, is a proof that it is a growing vegetable mass, and not owing merely to stagnant water. Sir Lawrence Dundass is the principal proprietor of this.

Reached Ballymoat in the evening, the residence of the hon. Mr. Fitzmaurice, where I expected great pleasure in viewing a manufactory, of which I heard much since I came to Ireland. He was so kind as to give me the following account of it, in the most liberal manner:

“Twenty years ago the late lord Shelburne came to Ballymoat, a wild uncultivated region, without industry or civility, and the people all Roman Catholics, without an atom of manufacture, not even spinning. In order to change this state of things, his lordship contracted with people in the north to bring protestant weavers, and establish a manufactory, as the only means of making the change he wished; this was done, but falling into the hands of rascals, he lost 5000*l.* by the business, with only seventeen protestant families, and twenty-six or twenty-seven looms established for it. Upon his death, lady Shelburne wished to carry his scheme into execution, and to do it, gave much encouragement to Mr. Wakefield, the great Irish factor in London, by granting advantageous leases, under the contract of building and colonizing, by weavers from the north, and carrying on the manufactory. He found about twenty looms, working upon their own account, and made a considerable progress in this for five years, raising several buildings, cottages for the weavers, and was going on as well as the variety of his business would admit, employing sixty looms. He then died, when a stand was made to all the works for a year, in which every thing went much to ruin. Lady Shelburne then employed a new manager to carry on the manufacture upon his own account, giving him very profitable grants of lands, to encourage him to do it with spirit. He continued for five years, employing sixty looms also; but his circumstances failing, a fresh stop was put to the work.

“Then it was that Mr. Fitzmaurice, in the year 1774, determined to exert himself in pushing on a manufactory, which promised to be of such essential service to the whole country. To do this with effect, he saw that it was necessary to take it entirely into his own hands. He could lend money to the manager to enable him to go on, but that would be at best hazardous, and could never do it in the complete manner in which he wished to establish it. In this period of consideration, Mr. Fitzmaurice was advised by his friends never to engage in so complex a business as a manufacture, in which he must of necessity become a merchant; also engage in all the hazard, irksomeness, &c. of commerce, so totally different from his birth, education, ideas, and pursuits; but tired with the inactivity of common life, he determined not only to turn manufacturer, but to carry on the business in the most spirited and vigorous manner that was possible. In the first place, he took every means of making himself a complete master of the business; he went through various manufactures, inquired into the minutiae, and took every measure to know it to the bottom. This he did so repeatedly, and with such attention in the whole progress, from spinning to bleaching, and selling, that he become

as thorough a master of it as an experienced manager; he has wove linen, and done every part of the business with his own hands. As he determined to have the works complete, he took Mr. Stansfield the engineer, so well known for his improved saw-mills, into his pay: he sent him over to Ballymoat, in the winter of 1774, in order to erect the machinery of a bleach-mill, upon the very best construction; he went to all the great mills in the north of Ireland to inspect them, to remark their deficiencies, that they might be improved in the mills he intended to erect. This knowledge being gained, the work was begun, and as water was necessary, a great basin was formed by a dam across a valley, by which means thirty-four acres were floated, to serve as a reservoir for dry seasons to secure plenty at all times."

August 30, rode to Rosshill, four miles off, a headland that projects into the bay of Newport, from which there is a most beautiful view of the bay on both sides; I counted thirty islands very distinctly, all of them cultivated under corn and potatoes, or pastured by cattle. At a distance Clara rises in a very bold and picturesque style; on the left Crow Patrick, and to the right other mountains. It is a view that wants nothing but wood.

September 5, to Drumoland, the seat of Sir Lucius O'Brien, in the county of Clare, a gentleman who had been repeatedly assiduous to procure me every sort of information. I should remark, as I have now left Galway, that that county, from entering it in the road to Tuam till leaving it to-day, has been, upon the whole, inferior to most of the parts I have travelled in Ireland in point of beauty: there are not mountains of a magnitude to make the view striking. It is perfectly free from woods, and even trees, except about gentlemen's houses, nor has it a variety in its face. I do not, however, speak without exception; I passed some tracts which are cheerful. Drumoland has a pleasing variety of grounds about the house; it stands on a hill gently rising from a lake of twenty-four acres, in the middle of a noble wood of oak, ash, poplar, &c. three beautiful hills rise above, over which the plantations spread in a varied manner; and these hills command very fine views of the great rivers Fergus and Shannon at their junction, being each of them a league wide.

There is a view of the Shannon from Limerick to Foynes Island, which is thirty miles, with all its bays, bends, islands, and fertile shores. It is from one to three miles broad, a most noble river, deserving regal navies for its ornament, or, what are better, fleets of merchantmen, the cheerful signs of far extended commerce, instead of a few miserable fishing-boats, the only canvas that swelled upon the scene: but the want of commerce in her ports is the misfortune not the fault of Ireland. Thanks for the deficiency to that illiberal spirit of trading jealousy, which has at times actuated and disgraced so many nations. The prospect has a noble outline in the bold mountains of Tipperary, Cork, Limerick, and Kerry. The whole view magnificent.

At the foot of this hill is the castle of Bunratty, a very large edifice, the seat of the O'Briens, princes of Thomond; it stands on the bank of a river, which falls into the Shannon near it. About this castle and that of Rosmanagher, the land is the best in the county of Clare; it is worth 11. 13s. an acre, and feds a bullock per acre in summer, besides winter feed.

To Limerick, through a cheerful country, on the banks of the river, in a vale surrounded by distant mountains. That city is very finely situated, partly on an island formed by the Shannon. The new part, called Newtown Pery, from Mr. Pery the speaker, who owns a considerable part of the city, and represents it in parliament, is well built. The houses are new ones, of brick, large and in right lines. There is a communication with the rest of the town by a handsome bridge of three large arches,

erected at Mr. Pery's expence. Here are docks, quays, and a custom-house, which is a good building, faces the river, and on the opposite banks is a large quadrangular one, the house of industry. This part of Limerick is very cheerful and agreeable, and carries all the marks of a flourishing place.

The exports of this port are beef, pork, butter, hides, and rape-seed. The imports are rum, sugar, timber, tobacco, wines, coals, bark, salt, &c. The customs and excise, about sixteen years ago, amounted to 16,000*l.* at present 32,000*l.* and rather more four or five years ago.

Whole revenue	1751	—	—	£ 16,000
	1775	—	—	51,000

*Revenue of the Port of Limerick, Year ending*

March 25,	1759	.	.	£ 20,494
	1760	.	.	29,197
	1761	.	.	20,727
	1762	.	.	20,650
	1763	.	.	20,525
	1764	.	.	32,635
	1765	.	.	31,099

*Com. Jour.* vol. xiv. p. 71.

*Price of Provisions.*

Wheat, 1s. 1d. a stone.	Teal, 10d. a couple.
Barley and oats, 5½d. to 6d.	Plover, 6d. a couple.
Scotch coals, 18s. Whitehaven, 20s.	Widgeon, 10d. ditto.
A boat load of turf, 20 tons, 45s.	Hares, 1s. each, commonly sold all the year round.
Salmon, three halfpence.	Woodeocks, 20d. to 2s. 2d. a brace.
Trout, 2d. very fine, per lb.	Oysters, 4d. to 1s. a 100.
Eels, 2d. a pound.	Lobsters, 1s. to 1s. 6d. if good.
Rabbits, 8d. a couple.	
Wild ducks, 20d. to 2s. a couple.	

Land sells at twenty years' purchase. Rents were at the highest in 1765, fell since, but in four years have fallen 8s. to 10s. an acre about Limerick. They are at a stand at present, owing to the high price of provisions from pasture. The number of people in Limerick are computed at thirty-two thousand; it is exceedingly populous for the size, the chief street quite crowded; many sedan chairs in town, and some hackney chaises. Assemblies the year round, in a new assembly-house built for the purpose, and plays and concerts common.

Upon the whole, Limerick must be a very gay place, but when the usual number of troops are in town much more so. To shew the general expences of living, I was told of a person's keeping a carriage, four horses, three men, three maids, a good table, a wife, three children, and a nurse, and all for 500*l.* a year:

	£.	s.	d.		£.	s.	d.
A footman	-	-	-	4	4	0	to 6 6 0
A professed woman-cook	-	-	-	-	-	-	6 6 0
A house maid	-	-	-	-	-	-	3 0 0
A kitchen-maid	-	-	-	-	-	-	2 0 0
A butler	-	-	-	10	0	0	to 12 0 0



A barrel of beef or pork, 200lb. weight. Vessels of 400 tons can come up with spring tides, which rise fourteen feet.

September 9, to Castle Oliver; various country, not so rich to appearance as the corcasses, being fed bare: much hilly sheep-walk, and for a considerable way a full third of it potatoes and corn: no sign of depopulation. Just before I got to the hills a field of ragwort (*sencio jacobæa*) buried the cows. The first hill of Castle Oliver interesting. After rising a mountain so high that no one could think of any house, you come in view of a vale, quite filled with fine woods, fields margined with trees, and hedge plantations climbing up the mountains. Having engaged myself to Mr. Oliver, to return from Killarney by his house, as he was confined to Limerick by the assizes, I shall omit saying any thing of it at present.

September 16, to Cove by water, from Mr. Trent's quay. The view of Lota is charming; a fine rising lawn from the water, with noble spreading woods reaching on each side; the house a very pleasing front, with lawn shooting into the woods. The river forms a creek between two hills, one Lota, the other opening to another hill of inclosures well wooded. As the boat leaves the shore nothing can be finer than the view behind us; the back woods of Lota, the house and lawn, and the high bold inclosures towards Cork, form the finest shore imaginable, leading to Cork, the city appearing in full view, Dunkettle wooded inclosures, a fine sweep of hill, joining Mr. Hoare's at Factory-hill, whose woods have a beautiful effect. Dunkettle-house almost lost in a wood. As we advance, the woods of Lota and Dunkettle unite in one fine mass. The sheet of water, the rising lawns, the house in the most beautiful situation imaginable, with more woods above it than lawns below it, the west shore of Loch-Mahon, a very fine rising hill cut into inclosures, but without wood, land-locked on every side with high lands, scattered with inclosures, woods, seats, &c. with every cheerful circumstance of lively commerce, has altogether a great effect. Advancing to Passage the shores are various, and the scenery enlivened by fourscore sail of large ships; the little port of Passage at the water's edge, with the hills rising boldly above it. The channel narrows between the great island and the hills of Passage. The shores bold, and the ships scattered about them, with the inclosures hanging behind the masts and yards, picturesque. Passing the straits a new basin of the harbour opens, surrounded with high lands. Monk's-town-castle on the hill to the right, and the grounds of Ballybricken, a beautiful intermixed scene of wood and lawn. The high shore of the harbour's mouth opens gradually. The whole scene is land-locked. The first view of Hawl-bowling-island and Spike-island, high rocky lands, with the channel opening to Cove, where are a fleet of ships at anchor, and Rostellan, lord Inchiquin's house, backed with hills, a scenery that wants nothing but the accompaniment of wood. The view of Ballybricken changes; it now appears to be unfortunately cut into right lines. Arrived at the ship at Cove, in the evening returned, leaving Mr. Jefferys and family on board for a voyage to Havre, in their way to Paris.

Dunkettle is one of the most beautiful places I have seen in Ireland. It is a hill of some hundred acres broken into a great variety of ground by gentle declivities, with every where an undulating outline, and the whole varied by a considerable quantity of wood, which in some places is thick enough to take the appearance of close groves, in others spreads into scattered thickets and a variety of single groups. This hill, or rather cluster of hills, is surrounded on one side by a reach of Cork harbour, over which it looks in the most advantageous manner; and on the other by an irriguous vale, through which flows the river Glanmire; the opposite shore of that river has every variety that can unite to form pleasing landscapes for the views from Dunkettle grounds; in some

places narrow glens, the bottoms of which are quite filled with water, and the steep banks covered with thick woods that spread a deep shade; in others the vale opens to form the scite of a pretty cheerful village, overhung by hill and wood: here the shore rises gradually into large inclosures, which spread over the hills, stretching beyond each other; and there the vale melts again into a milder variety of fields. A hill thus situated, and consisting in itself of so much variety of surface, must necessarily command many pleasing views; to enjoy these to the better advantage, Mr. Trent (than whom no one has a better taste, both to discover and describe the beauties of natural scenes) is making a walk around the whole, which is to bend to the inequalities of the ground, so as to take the principal points in view. The whole is so beautiful, that if I was to make the regular detour, the description might be too minute; but there are some points which gave me so much pleasure that I know not how to avoid recommending to others that travel this way to taste the same satisfaction: from the upper part of the orchard you look down a part of the river, where it opens into a regular basin, one corner stretching up to Cork, lost behind the hill of Lota, the lawn of which breaks on the swelling hills among the woods; the house obscured, and therefore seeming a part of your home scene; the losing the river behind the beautiful projection of Lota, is more pleasing than can be expressed. The other reach, leading to the harbour's mouth, is half hidden by the trees, which margin the foot of the hill on which you stand; in front a noble range of cultivated hills, the inclosures broken by slight spots of wood, and prettily varied with houses, without being so crowded as to take off the rural effect. The scene is not only beautiful in those common circumstances which form a landscape, but is alive with the cheerfulness of ships and boats perpetually moving. Upon the whole, it is one of the most luxuriant prospects I have any where seen. Leaving the orchard, pass on the brow of a hill which forms the bank of the river of Glanmire, commanding the opposite woods of Lota in all their beauty. Rise to the top of the high hill which joins the deer-park, and exhibits a scene equally extensive and beautiful; you look down on a vale which winds almost around at your feet, finishing to the left in Cork river, which here takes the appearance of a lake, bounded by wood and hills, and sunk in the bottom of a vale, in a style which painting cannot imitate; the opposite hills of Lota, wood, and lawn, seem formed as objects for this point of view: at your feet a hill rises out of the vale, with higher ones around it, the margins scattered wood; to the right towards Riverstown, a vale; the whole backed by cultivated hills to Kallahan's field. Milder scenes follow: a bird's-eye view of a small vale sunk at your feet, through which the river flows; a bridge of several arches unites two parts of a beautiful village, the meadow grounds of which rise gently, a varied surface of wood and lawn, to the hills of Riverstown, the whole surrounded by delicious sweeps of cultivated hills. To the left a wooded glen rising from the vale to the horizon, the scenery sequestered, but pleasing; the oak wood which hangs on the deer-park hill, an addition. Down to the brow of the hill, where it hangs over the river, a picturesque interesting spot. The inclosures of the opposite bank hang beautifully to the eye, and the wooded glen winds up the hill. Returning to the house I was conducted to the hill, where the grounds slope off to the river of Cork, which opens to view in noble reaches of a magnitude that fills the eye and the imagination: a whole country of a character truly magnificent, and behind the winding vale which leads between a series of hills to Glanmire.

*Pictures at Dunkettle.*

A St. Michael, &c. the subject confused, by Michael Angelo. A St. Francis on wood, a large original of Guido. A St. Cecilia, original of Romanelli. An assumption of the Virgin, by L. Caracci. A quaker's meeting, of above fifty figures, by Egbert Hemskirk. A sea view and rock piece, by Vernet. A small flagellation, by Sebastian del Piombo. A Madonna and Child, small, by Rubens. The crucifixion, many figures in miniature, excellent, though the master is unknown. An excellent copy of the famous Danae of Titian, at Monte Cavallo, near Naples, by Cioffi of Naples. Another of the Venus of Titian, at the Tribuna in Florence. Another of Venus blinding Cupid, by Titian, at the Palazzo Borghese in Rome. Another of great merit of the Madonna Della Sedia of Raphael, at the Palazzo Pitti in Florence, by Stirn, a German, lately at Rome. Another of an holy family, from Raphael, of which there are said to be three originals, one at the king's palace in Naples, one in the palais royal in Paris, and the third in the collection of lord Exeter, lately purchased at Rome. A portrait of Sir Patrick Trent, by Sir P. Lely. An excellent portrait of a person unknown, by Dahl.

September 17, to Castlemartyr, the seat of the earl of Shannon, one of the most distinguished improvers in Ireland; in whom I found the most earnest desire to give me every species of information, with a knowledge and ability which enabled him to do it most effectually. Passed through Middleton, a well built place, which belongs to the noble lord to whom it gives title. Castlemartyr is an old house, but much added to by the present earl; he has built, besides other rooms, a dining one thirty-two feet long by twenty-two broad, and a drawing one, the best rooms I have seen in Ireland, a double cube of twenty-five feet, being fifty long, twenty-five broad, and twenty-five high. The grounds about the house are very well laid out; much wood well grown, considerable lawns, a river made to wind through them in a beautiful manner, an old castle so perfectly covered with ivy as to be a picturesque object. A winding walk leads for a considerable distance along the banks of this river, and presents several pleasing landscapes.

From Rostellan to Lota, the seat of Frederick Rogers, esq. I had before seen it in the highest perfection from the water going from Dunkettle to Cove, and from the grounds of Dunkettle. Mrs. Rogers was so obliging as to shew me the back grounds, which are admirably wooded, and of a fine varied surface.

Got to Corke in the evening, and waited on the dean, who received me with the most flattering attention. Corke is one of the most populous places I have ever been in; it was market-day, and I could scarce drive through the streets, they were so amazingly thronged: on the other days the number is very great. I should suppose it must resemble a Dutch town, for there are many canals in the streets, with quays before the houses. The best built part is Morrison's Island, which promises well; the old part of the town is very close and dirty. As to its commerce, the following particulars I owe to Robert Gordon, esq. the surveyor general:

*Average of nineteen Years' Export, ending March 24, 1773.*

Hides, at 11. each	£ 64,000
Bay and woollen yarn	294,000
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Carry forward	£ 358,000

	Brought over	£ 358,000
Butter, at 30s. per cwt. from 56s. to 72s.		180,000
Beef, at 20s. a barrel		291,970
Camblets, serges, &c.		40,000
Candles		34,220
Soap		20,000
Tallow		20,000
Herrings, 18 to 35,000l. all their own		21,000
Glue, 20 to 25,000		22,000
Pork		64,000
Wool to England		14,000
Small exports, Gottenburgh herrings, horns, hoofs, &c. feather-beds, palliassees, feathers, &c.		35,000
		<hr/>
		£ 1,100,190
		<hr/>

Average prices of the nineteen years on the custom books. All exports on those books are rated at the value of the reign of Charles II; but the imports have always 10 per cent on the sworn price added to them. Seventy to eighty sail of ships belong to Corke. Average of ships that entered that port in those nineteen years, eight hundred and seventy-two per annum. The number of people at Corke mustered by the clergy by hearth-money, and by the number of houses, payments to minister, average of the three, sixty-seven thousand souls, if taken before the first of September, after that twenty thousand increased. There are seven hundred coopers in the town. Barrels all of oak or beech, all from America: the latter for herrings, now from Gottenburgh and Norway. The excise of Corke now no more than in Charles the Second's reign. Ridiculous!

Cork old duties, in 1751, produced	£ 62,000
Now the same	140,000

Bullocks, 16,000 head, 32,000 barrels; 41,000 hogs; 20,000 barrels. Butter, 22,000 firkins of half a hundred weight each, both increase this year, the whole being

240,000 firkins of butter,  
120,000 barrels beef.

Export of woollen yarn from Corke, 300,000l. a year in the Irish market. No wool smuggled, or at least very little. The wool comes to Corke, &c. and is delivered out to combers, who make it into balls. These balls are bought up by the French agents at a vast price, and exported; but even this does not amount to 40,000l. a year.

#### Prices.

Beef, 21s. per cwt. never so high by 2s. 6d.; Pork 30s. never higher than 18s. 6d. owing to the army demand. Slaughter dung, 8d. for a horse load. Country labourer, 6d. about town 10d. Milk, seven pints a penny. Coals, 3s. 8d. to 5s. a barrel, six of which make a ton. Eggs, four a penny.

Corke labourers. Cellar ones, twenty thousand; have 1s. 1d. a day, and as much bread, beef, and beer as they can eat and drink, and seven pounds of offals a week

for their families. Rent for their house, 40s. Mason and carpenters' labourers 10d. a day. Sailors now 3l. a month and provisions: before the American war 28s. Porters and coal-heavers paid by the great. State of the poor people in general incomparably better off than they were twenty years ago. There are imported eighteen thousand barrels annually of Scotch herrings, at 18s. a barrel. The salt for the beef trade comes from Lisbon, St. Ube's, &c. The salt for the fish trade from Rochelle: for butter English and Irish.

Particulars of the woollen fabrics of the county of Cork received from a manufacturer. The woollen trade, serges and camblets, ratteens, frizes, druggets, and narrow cloths, the last they make to 10s. and 12s. a yard; if they might export to 8s. they are very clear that they could get a great trade for the woollen manufactures of Corke; the wool comes from Galway and Roscommon, combed here by combers, who earn 8s. to 10s. a week, into balls of twenty-four ounces, which is spun into worsteds of twelve skeins to the ball, and exported to Yarmouth for Norwich; the export price, 30l. a pack, to 33l. never before so high; average of them 26l. to 30l. Some they work up at home into serges, stuffs, and camblets; the serges at 12d. a yard, thirty-four inches wide; the stuffs sixteen inches, at 18d. the camblets at 9½d. to 13d. the spinners at 9d. a ball, one in a week; or a ball and half 12d. a week, and attend the family besides; this is done most in Waterford and Kerry, particularly near Killarney; the weavers earn 1s. a day on an average. Full three-fourths of the wool is exported in yarn, and only one-fourth worth worked up. Half the wool of Ireland is combed in the county of Corke.

A very great manufacture of ratteens at Carric-on-sure, the bay worsted is for serges, shalloons, &c. Woollen yarn for coarse cloths, which latter have been lost for some years, owing to the high price of wool. The bay export has declined since 1770, which declension is owing to the high price of wool.

No wool smuggled, not even from Kerry, not a sloop's cargo in twenty years, the price too high; the declension has been considerable. For every eighty-six packs that are exported, a licence from the lord lieutenant, for which 20l. is paid.

From the act of the last sessions of Great Britain for exporting woollen goods for the troops in the pay of Ireland, Mr. Abraham Lane, of Corke, established a new manufacture of army clothing for that purpose, which is the first at Corke, and pays 40l. a week in labour only. Upon the whole there has been no increase of woollen manufacture within twenty years. Is clearly of opinion that many fabrics might be worked up here much cheaper than in France, of cloths that the French have beat the English out of; these are, particularly, broad-cloths of one yard and half-yard wide, from 3s. to 6s. 6d. a yard for the Levant trade. Frizes which are now supplied from Carcassone in Languedoc. Frizes, of twenty-four to twenty-seven inches, at 10d. to 13d. a yard. Flannels, twenty-seven to thirty-six, from 7d. to 14d. Serges of twenty-seven to thirty-six inches, at 7d. to 12d. a yard; these would work up the coarse wool. At Ballynasloe fair, in July, 200,000l. a year bought in wool. There is a manufactory of knit-stocking by the common women about Cork, for eight or ten miles around; the yarn from 12d. to 18d. a pair, and the worsted, from 16d. to 20d. and earn from 12d. to 18d. a week. Besides their own consumption, great quantities are sent to the north of Ireland.

All the weavers in the country are confined to towns, have no land, but small gardens. Bandle or narrow linen, for home consumption, is made in the western part of the county. Generally speaking, the circumstances of all the manufacturing poor are better than they were twenty years ago. The manufactures have not declined, though

the exportation has, owing to the increased home consumptions. Bandon was once the seat of the stuff, camblet, and shag manufacture, but has in seven years declined above three-fourths. Have changed it for the manufacture of coarse green linens, for the London market, from 6d. to 9d. a yard, twenty-seven inches wide; but the number of manufacturers in general much lessened.

Rode to the mouth of Cork harbour; the grounds about it are all fine, bold, and varied, but so bare of trees, that there is not a single view but what pains one in the want of wood. Rents of the tract south of the river Caragoline, from 5s. to 30s. average, 10s. Not one man in five has a cow, but generally from one to four acres, upon which they have potatoes, and five or six sheep, which they milk, and spin their wool. Labour 5d. in winter, 6d. in summer; many of them for three months in the year live on potatoes and water, the rest of it they have a good deal of fish. But it is remarked, at Kinsale, that when sprats are most plentiful, diseases are most common. Rent for a mere cabin 10s. Much paring and burning; paring twenty-eight men a day, sow wheat on it and then potatoes; get great crops. The soil a sharp stony land; no lime-stone south of the above river. Manure for potatoes, with sea weed for 26s. which gives good crops, but lasts only one year. Sea sand much used, no shells in it. Farms rise to two or three hundred acres, but are hired in partnership.

Before I quit the environs of Cork, I must remark, that the country on the harbour, I think preferable, in many respects for a residence, to any thing I have seen in Ireland. First, it is the most southerly part of the kingdom. Second, there are very great beauties of prospect. Third, by much the most animated, busy scene of shipping in all Ireland, and consequently, fourth, a ready price for every product. Fifth, great plenty of excellent fish and wild fowl. Sixth, the neighbourhood of a great city for objects of convenience.

September 25. Took the road to Nedeen, through the wildest region of mountains that I remember to have seen; it is a dreary, but an interesting road. The various horrid, grotesque, and unusual forms in which the mountains rise, and the rocks bulge; the immense height of some distant heads, which rear above all the nearer scenes, the torrents roaring in the vales, and breaking down the mountain sides, with here and there a wretched cabin, and a spot of culture yielding surprise to find human beings the inhabitants of such a scene of wildness, altogether keep the traveller's mind in an agitation and suspense. These rocks and mountains are many of them no otherwise improveable than by planting, for which, however, they are exceedingly well adapted.

Sir John Colthurst was so obliging as to send half a dozen labourers with me, to help my chaise up a mountain side, of which he gave a formidable account: in truth it deserved it. The road leads directly against a mountain ridge, and those who made it were so incredibly stupid, that they kept the straight line up the hill, instead of turning aside to the right, to wind around a projection of it. The path of the road is worn by torrents into a channel, which is blocked up in places by huge fragments, so that it would be a horrid road on a level; but on a hill so steep, that the best path would be difficult to ascend, it may be supposed terrible: the labourers, two passing strangers, and my servant, could with difficulty get the chaise up. It is much to be regretted that the direction of the road is not changed, as all the rest from Cork to Nedeen is good enough. For a few miles towards the latter place the country is flat on the river Kenmare, much of it good, and under grass or corn. Passed Mr. Orpine's at Ardtilly, and another of the same name at Killowen.

Nedeen is a little town, very well situated, on the noble river Kenmare, where ships of one hundred and fifty tons may come up: there are but three or four good houses.





*Picture of St. Mary's from Kenmare Park.*



Lord Shelburne, to whom the place belongs, has built one for his agent. There is a vale of good land, which is here from a mile and a half to a mile broad; and to the north and south, great ridges of mountain said to be full of mines.

At Nedeen, lord Shelburne had taken care to have me well informed by his people in that country, which belongs for the greatest part to himself, he has above one hundred and fifty thousand Irish acres in Kerry; the greatest part of the barony of Glanrought belongs to him, most of Dunkerron and Ivragh. The country is all a region of mountains, inclosed by a vale of flat land on the river; the mountains to the south come to the water's edge, with but few variations, the principal of which is Ardee, a farm of lord Shelburne's: to the north of the river, the flat land is one-half to three quarters of a mile broad. The mountains to the south reach to Bear-haven, and those to the north to Dingle-bay; the soil is extremely various; to the south of the river all are sand stones, and the hills loam, stone, gravel, and bog. To the north there is a slip of lime-stone land, from Kilgarvon to Cabbina-cush, that is six miles east of Nedeen, and three to the west, but is not more than a quarter of a mile broad, the rest including the mountains all sand stone. As to its rents, it is very difficult to tell what they are; for land is let by the plough land and gineve, twelve gineves to the plough land; but the latter denomination is not of any particular quantity: for no two plough lands are the same. The size of farms is various; from forty acres to one thousand, less quantities go with cabins, and some farms are taken by labourers in partnership.

Soon entered the wildest and most romantic country I had any where seen; a region of steep rocks and mountains, which continued for nine or ten miles, till I came in view of Mucrass. There is something magnificently wild in this stupendous scenery, formed to impress the mind with a certain species of terror. All this tract has a rude and savage air, but parts of it are strikingly interesting; the mountains are bare and rocky, and of a great magnitude; the vales are rocky glens, where a mountain-stream tumbles along the roughest bed imaginable, and receives many torrents, pouring from clefts, half overhung with shrubby wood; some of these streams are seen, and the roar of others heard, but hid by vast masses of rock. Immense fragments, torn from the precipices by storms and torrents, are tumbled in the wildest confusion, and seem to hang rather than rest upon projecting precipices. Upon some of these fragments of rock, perfectly detached from the soil, except by the side on which they lie, are beds of black turf, with luxuriant crops of heath, &c. which appeared very curious to me, having no where seen the like; and I observed very high in the mountains, much higher than any cultivation is at present, on the right hand, flat and cleared spaces of good grass among the ridges of rock, which had probably been cultivated, and proved that these mountains were not incapable from climate of being applied to useful purposes.

From one of these heights, I looked forward to the lake of Killarney at a considerable distance, and backward to the river Kenmare; came in view of a small part of the upper lake, spotted with several islands, and surrounded by the most tremendous mountains that can be imagined, of an aspect savage and dreadful. From this scene of wild magnificence, I broke at once upon all the glories of Killarney; from an elevated point of view I looked down on a considerable part of the lake, which gave me a specimen of what I might expect. The water you command (which, however, is only a part of the lake) appears a basin of two or three miles round; to the left it is inclosed by the mountains you have passed, particularly by the Turk, whose outline is uncommonly noble, and joins a range of others, that form the most magnificent shore in the world: on the other side is a rising scenery of cultivated hills, and lord Kenmare's park and woods; the end of the lake at your feet is formed by the root of Mangerton,

on whose side the road leads. From hence I looked down on a pretty range of inclosures on the lake, and the woods and lawns of Mucruss, forming a large promontory of thick wood, shooting far into the lake. The most active fancy can sketch nothing in addition. Islands of wood beyond seem to join it, and reaches of the lake, breaking partly between, give the most lively intermixture of water: six or seven isles and islets form an accompaniment, some are rocky, but with a slight vegetation, others contain groups of trees, and the whole thrown into forms, which would furnish new ideas to a painter. Farther is a chain of wooded islands, which also appear to join the main land, with an offspring of lesser ones scattered around.

Arrived at Mr. Herbert's at Mucruss, to whose friendly attention I owed my succeeding pleasure. There have been so many descriptions of Killarney written by gentlemen who have resided some time there, and seen it at every season, that for a passing traveller to attempt the like, would be in vain; for this reason I shall give the mere journal of the remarks I made on the spot, in the order I viewed the lake.

September 27, walked into Mr. Herbert's beautiful grounds, to Oroch's hill, in the lawn that he has cleared from that profusion of stones which lie under the wall; the scene which this point commands is truly delicious; the house is on the edge of the lawn, by a wood which covers the whole peninsula, fringes the slope at your feet, and forms a beautiful shore to the lake. Tomys and Glona are vast mountainous masses of incredible magnificence, the outline soft and easy in its swells, whereas those above the Eagle's Nest are of so broken and abrupt an outline, that nothing can be imagined more savage, an aspect horrid and sublime, that gives all the impressions to be wished to astonish rather than please the mind. The Turk exhibits noble features, and Mangerton's huge body rises above the whole. The cultivated tracts towards Killarney, form a shore in contrast to the terrific scenes I have just mentioned; the distant boundary of the lake, a vast ridge of distant blue mountains towards Dingle. From hence entered the garden, and viewed Mucruss abbey, one of the most interesting scenes I ever saw; it is the ruin of a considerable abbey, built in Henry the Sixth's time, and so entire, that if it were more so, though the building would be more perfect the ruin would be less pleasing; it is half obscured in the shade of some venerable ash trees; ivy has given the picturesque circumstance, which that plant alone can confer, while the broken walls and ruined turrets throw over it

The last mournful graces of decay;

heaps of skulls and bones scattered about, with nettles, briars, and weeds sprouting in tufts from the loose stones, all unite to raise those melancholy impressions, which are the merit of such scenes, and which can scarcely any where be felt more completely. The cloisters form a dismal area, in the center of which grows the most prodigious yew tree I ever beheld, in one great stem, two feet diameter, and fourteen feet high, from whence a vast head of branches spreads on every side, so as to perform a perfect canopy to the whole space; I looked for its fit inhabitant, it is a spot where

The moping owl doth to the moon complain.

This ruin is in the true stile in which all such buildings should appear; there is not an intruding circumstance, the hand of dress has not touched it, melancholy is the impression which such scenes should kindle, and it is here raised most powerfully.

From the abbey we passed to the terrace, a natural one of grass, on the very shore of the lake; it is irregular and winding; a wall of rocks broken into fantastic forms by the waves: on the other side a wood, consisting of all sorts of plants, which the climate

can protect, and through which a variety of walks are traced. The view from this terrace consists of many parts of various characters, but in their different stiles complete; the lake opens a spreading sheet of water; spotted by rocks and islands, all but one or two wooded, the outlines of them are sharp and distinct; nothing can be more smiling than this scene, soft and mild, a perfect contrast of beauty to the sublimity of the mountains which form the shore: these rise in an outline, so varied, and at the same time so magnificent, that nothing greater can be imagined; Tomys and Glena exhibit an immensity in point of magnitude, but from a large hanging wood on the slope, and from the smoothness of the general surface, it has nothing savage, whereas the mountains above and near the Eagle's Nest are of the most broken outlines; the declivities are bulging rocks, of immense size, which seem to impend in horrid forms over the lake, and where an opening among them is caught, others of the same rude character rear their threatening heads. From different parts of the terrace these scenes are viewed in numberless varieties.

Returned to breakfast, and pursued Mr. Herbert's new road, which he has traced through the peninsula to Dyniss island, three miles in length; and it is carried in so judicious a manner through a great variety of ground, rocky woods, lawns, &c. that nothing can be more pleasing; it passes through a remarkable scene of rocks, which are covered with woods; from thence to the marble quarry, which Mr. Herbert is working; and where he gains variety of marbles, green, red, white, and brown, prettily veined; the quarry is a shore of rocks, which surround a bay of the lake, and forms a scene, consisting of but few parts, but those strongly marked; the rocks are bold, and broken into slight caverns; they are fringed with scattered trees, and from many parts of them wood shoots in that romantic manner, so common at Killarney. Full in front, Turk mountain rises with the proudest outline, in that abrupt magnificence which fills up the whole space before one, and closes the scene.

The road leads by a place where copper-mines were worked; many shafts appear; as much ore was raised as sold for twenty-five thousand pounds, but the works were laid aside, more from ignorance in the workmen, than any defects in the mine.

Came to the opening on the great lake, which appears to advantage here, the town of Killarney on the north-east shore. Look full on the mountain Glena, which rises in very bold manner, the hanging woods spread half way, and are of great extent, and uncommonly beautiful. Two very pleasing scenes succeed, that to the left is a small bay, hemmed in by a neck of land in front; the immediate shore rocks, which are in a picturesque stile, and crowned entirely with arbutus, and other wood; a pretty retired scene, where a variety of objects give no fatigue to the eye. The other is an admirable mixture of the beautiful and sublime: a bare rock, of an almost regular figure, projects from a headland into the lake, which, with much wood and highland, forms one side of the scene, the other is wood from a rising ground only; the lake open between, in a sheet of no great extent, but in front is the hanging wood of Glena, which appears in full glory.

Mr. Herbert has built a handsome Gothic bridge, to unite the peninsula to the island of Brickeen, through the arch of which the waters of the north and south lake flow. It is a span of twenty-seven feet, and seventeen high, and over it the road leads to that island. From thence to Brickeen nearly finished, and it is to be thrown across a bottom into Dyniss.

Returned by the northern path through a thick wood for some distance, and caught a very agreeable view of Ash Island, seen through an opening, inclosed on both sides with wood. Pursued the way from these grounds to Keelbeg, and viewed the bay of

the Devil's Island, which is a beautiful one, inclosed by a shore, to the right of very noble rocks in Ledges and other forms, crowned in a striking manner with wood; a little rocky islet rises in front; to the left the water opens, and Turk mountain rises with that proud superiority which attends him in all these scenes.

The view of the promontory of Dindog, near this place, closes this part of the lake, and is indeed singularly beautiful. It is a large rock, which shoots far into the water, of a height sufficient to be interesting, in full relief, fringed with a scanty vegetation; the shore on which you stand bending to the right, as if to meet that rock, presents a circular shade of dark wood: Turk still the back ground, in a character of great sublimity, and Mangerton's loftier summit, but less interesting outline, a part of the scenery. These views, with others of less moment, are connected by a succession of lawns breaking among the wood, pleasing the eye with lively verdure, and relieving it from the fatigue of the stupendous mountain scenes.

September 28. Took boat on the lake, from the promontory of Dindog before mentioned. I had been under a million of apprehensions that I should see no more of Killarney; for it blew a furious storm all night, and in the morning the bosom of the lake heaved with agitation, exhibiting few marks but those of anger. After breakfast it cleared up, the clouds dispersed by degrees, the waves subsided, the sun shone out in all its splendor; every scene was gay, and no ideas but pleasure possessed the breast. With those emotions sallied forth, nor did they disappoint us.

Rowed under the rocky shore of Dindog, which is romantic to a great degree. The base, by the beating of the waves, is worn into caverns, so that the heads of the rocks project considerably beyond the base, and hang over in a manner which makes every part of it interesting. Following the coast, open marble quarry bay, the shore great fragments of rock tumbled about in the wildest manner.

The island of rocks against the copper-mine shore, a remarkable group. The shore near Casemilan is of a different nature; it is wood in some places, in unbroken masses down to the water's edge, in others divided from it by smaller tracts of rock. Come to a beautiful land-locked bay, surrounded by a woody shore, which, opening in places, shews other woods more retired. Tomys is here viewed in a unity of form, which gives it an air of great magnificence. Turk was obscured by the sun shining immediately above him, and casting a stream of burning light on the water, displayed an effect, to describe which the pencil of a Claude alone would be equal. Turn out of the bay, and gain a full view of the Eagle's Nest, the mountains above it, and Glena, they form a perfect contrast, the first are rugged, but Glena mild. Here the shore is a continued wood.

Pass the bridge, and cross to Dyniss, an island Mr. Herbert has improved in the most agreeable manner, by cutting walks through it, that command a variety of views. One of these paths on the banks of the channel to the upper lake, is sketched with great taste; it is on one side walled with natural rocks, from the clefts of which shoot a thousand fine arbutus's, that hang in a rich foliage of flowers and scarlet berries; a turf bench in a delicious spot; the scene close and sequestered, just enough to give every pleasing idea annexed to retirement.

Passing the bridge, by a rapid stream, came presently to the Eagle's Nest: having viewed this rock from places where it appears only a part of an object much greater than itself, I had conceived an idea that it did not deserve the applause given it, but upon coming near I was much surprised; the approach is wonderfully fine, the river leads directly to its foot, and does not give the turn till immediately under, by which means the view is much more grand than it could otherwise be; it is nearly perpendicular,

and rises in such full majesty, with so bold an outline, and such projecting masses in its centre, that the magnificence of the object is complete. The lower part is covered with wood, and scattered trees climb almost to the top, which (if trees can be amiss in Ireland) rather weaken the impression raised by this noble rock; this part is a hanging wood, or an object whose character is perfect beauty; but the upper scene, the broken outline, rugged sides, and bulging masses, all are sublime, and so powerful, the sublimity is the general impression of the whole, by overpowering the idea of beauty raised by the wood. This immense height of the mountains of Killarney may be estimated by this rock; from any distant place that commands it, it appears the lowest crag of a vast chain, and of no account; but on a close approach it is found to command a very different respect.

Pass between the mountains called the Great Range, towards the upper lake. Here Turk, which has so long appeared with a figure perfectly interesting, is become, from a different position, an unmeaning lump. The rest of the mountains, as you pass, assume a varied appearance, and are of a prodigious magnitude. The scenery in this channel is great and wild in all its features; wood is very scarce; vast rocks seem tossed in confusion through the narrow vale, which is opened among the mountains for the river to pass. Its banks are rocks in an hundred forms; the mountain sides are every where scattered with them. There is not a circumstance but is in unison with the wild grandeur of the scene.

Coleman's Eye, a narrow pass, opens a different scenery. Came to a region in which the beautiful and the great are mixed without offence. The islands are most of them thickly wooded; Oak isle in particular rises on a pretty base, and is a most beautiful object: Mac Gilly Cuddy's Reeks, with their broken points; Baum, with his perfect cone; the Purple mountain, with his broad and more regular head; and Turk, having assumed a new and more interesting aspect, unite with the opposite hills, part of which have some wood left on them, to form a scene uncommonly striking. Here you look back on a very peculiar spot; it is a parcel of rocks which cross the lake, and form a gap that opens to distant water, the whole backed by Turk, in a stile of the highest grandeur.

Come to Derry Currily, which is a great sweep of mountain, covered partly with wood, hanging in a very noble manner, but part cut down, much of it mangled, and the rest inhabited by coopers, boat-builders, carpenters, and turners, a sacrilegious tribe, who have turned the Dryades from their ancient habitations. The cascade here is a fine one; but passed quickly from hence to scenes unmixed with pain.

Row to the cluster of the Seven Islands, a little archipelago; they rise very boldly from the water upon rocky bases, and are crowned in the most beautiful manner with wood, among which are a number of arbutus's; the channels among them opening to new scenes, and the great amphitheatre of rock and mountain that surround them, unite to form a noble view.

Into the river, at the very end of the lake, which winds towards Mac Gilly Cuddy's Reeks in fanciful meanders.

Returned by a course somewhat different, through the Seven Islands, and back to the Eagle's Nest, viewing the scenes already mentioned in new positions. At that noble rock fired three cannon for the echo, which indeed is prodigious; the report does not consist of direct reverberations from one rock to another with a pause between, but has an exact resemblance to a peal of thunder rattling behind the rock, as if travelling the whole scenery we had viewed and lost in the immensity of Mac Gilly Cuddy's Reeks.

Returning through the bridge, turn to the left round Dyniss island, under the woods of Glena; open on the cultivated country beyond the town of Killarney, and come gradually in sight of Innisfallen and Ross Island.

Pass near to the wood of Glena, which here takes the appearance of one immense sweep hanging in the most beautiful manner imaginable, on the side of a vast mountain to a point, shooting into the great lake. A more glorious scene is not to be imagined. It is one deep mass of wood, composed of the richest shades perfectly dipping in the water, without rock or strand appearing, not a break in the whole. The eye passing upon the sheet of liquid silver some distance, to meet so entire a sweep of every tint that can compose one vast mass of green, hanging to such an extent as to fill not only the eye but the imagination, unites in the whole to form the most noble scene that is any where to be beheld.

Turn under the north shore of Mucruss; the lake here is one great expanse of water, bounded by the woods described, the islands of Innisfallen, Ross, &c. and the peninsula. The shore of Mucruss has a great variety; it is in some places rocky, huge masses tumbled from their base lie beneath, as in a chaos of ruin. Great caverns worn under them in a variety of strange forms; or else covered with woods of a variety of shades. Meet the point of Ardnagluggen (in English where the water dashes on the rocks) and come under Ornescope, a rocky headland of a most bold projection hanging many yards over its base, with an old weather-beaten yew growing from a little bracket of rock, from which the spot is called Ornescope, or yew broom.

Mucruss gardens presently open among the woods, and relieve the eye, almost fatigued with the immense objects upon which it has so long gazed; these softer scenes of lawn gently swelling among the shrubs and trees, finished the second day.

September 29, rode after breakfast to Mangerton Cascade and Drumarourk Hill, from which the view of Mucruss is uncommonly pleasing.

Pass the other hill, the view of which I described the 27th, and went to colonel Hussy's monument, from whence the scene is different from the rest; the fore ground is a gentle hill, intersected by hedges, forming several small lawns. There are some scattered trees and houses, with Mucruss-abbey half obscured by wood, the whole cheerful and backed by Turk. The lake is of a triangular form, Ross island and Innisfallen its limits, the woods of Mucruss and the islands take a new position.

Returning, took a boat again towards Ross isle, and as Mucruss retires from us, nothing can be more beautiful than the spots of lawn in the terrace opening in the wood; above it the green hills with clumps, and the whole finishing in the noble group of wood about the abbey which here appears a deep shade, and so fine a finishing one, that not a tree should be touched. Rowed to the east point of Ross, which is well wooded, turn to the south coast. Dubbing the point, the most beautiful shore of that island appears; it is the well wooded environs of a bay, except a small opening to the castle; the woods are in deep shades, and rise on the regular slopes of a high range of rocky coast. The part in front of Filekilly point rises in the middle, and sinks towards each end. The woods of Tomys here appear uncommonly fine. Open Innisfallen, which is composed at this distance of the most various shades, within a broken outline, entirely different from the other islands, groups of different masses rising in irregular tufts, and joined by lower trees. No pencil could mix a happier assemblage. Land near a miserable room, where travellers dine. Of the isle of Innisfallen, it is paying no great compliment to say, it is the most beautiful in the king's dominions, and perhaps in Europe. It contains twenty acres of land, and has every variety that the range of beauty, un-

mixed with the sublime, can give. The general feature is that of wood; the surface undulates into swelling hills, and sinks into little vales; the slopes are in every direction, the declivities die gently away, forming those slight inequalities which are the greatest beauty of dressed grounds. The little vallies let in views of the surrounding lake between the hills, while the swells break the regular outline of the water, and give to the whole an agreeable confusion. The wood has all the variety into which nature has thrown the surface; in some parts it is so thick as to appear impenetrable, and secludes all farther view; in others, it breaks into tufts of tall timber, under which cattle feed. Here they open, as if to offer to the spectator the view of the naked lawn; in others close, as if purposely to forbid a more prying examination. Trees of large size, and commanding figure, form in some places natural arches; the ivy mixing with the branches, and hanging across in festoons of foliage, while on one side the lake glitters among the trees, and on the other a thick gloom dwells in the recesses of the wood. The figure of the island renders one part a beautiful object to another: for the coast being broken and indented, forms bays surrounded either with rock or wood: slight promontories shoot into the lake, whose rocky edges are crowned with wood. These are the great features of Innisfallen; the slighter touches are full of beauties easily imagined by the reader. Every circumstance of the wood, the water, the rocks, and lawn, are characteristic, and have a beauty in the assemblage from mere disposition. I must however observe, that this delicious retreat is not kept as one could wish.

Scenes that are great and commanding, from magnitude or wildness, should never be dressed; the rugged, and even the horrible, may add to the effect upon the mind: but in such as Innisfallen, a degree of dress, that is, cleanliness, is even necessary to beauty. I have spoken of lawn, but I should observe, that expression indicates what it ought to be, rather than what it is. It is very rich grass, poached by oxen and cows, the only inhabitants of the island. No spectator of taste but will regret the open grounds not being drained with hollow cuts; the ruggedness of the surface levelled, and the grass kept close shaven by many sheep instead of beasts. The bushes and briars, where they have encroached on what ought to be lawn, cleared away; some parts of the isle more opened; in a word, no ornaments given, for the scene wants them not, but obstructions cleared, ruggedness smoothed, and the whole cleaned. This is what ought to be done; as to what might be made of the island, if its noble proprietor (lord Kenmare) had an inclination, it admits of being converted into a terrestrial paradise, lawning with the intermixture of other shrubs and wood, and a little dress, would make it an example of what ornamented grounds might be, but which not one in a thousand is. Take the island, however, as it is, with its few imperfections, and where are we to find such another? What a delicious retreat! an emperor could not bestow such an one as Innisfallen; with a cottage, a few cows, and a swarm of poultry, is it possible that happiness should refuse to be a guest here?

Row to Ross Castle, in order to coast that island; there is nothing peculiarly striking in it; return the same way around Innisfallen: in this little voyage the shore of Ross is one of the most beautiful of the wooded ones in the lake; it seems to unite with Innisfallen, and projects into the water in thick woods one beyond another. In the middle of the channel a large rock, and from the other shore a little promontory of a few scattered trees; the whole scene pleasing.

The shore of Innisfallen has much variety, but in general it is woody, and of the beautiful character which predominates in that island; one bay, at taking leave of it, is exceedingly pretty, it is a semicircular one, and in the center there is a projecting knole of wood within a bay; this is uncommon, and has an agreeable effect.

The near approach to Tomys exhibits a sweep of wood, so great in extent, and so rich in foliage that no person can see without admiring it. The mountainous part above is soon excluded by the approach; wood alone is seen, and that in such a noble range, as to be greatly striking; it just hollows into a bay, and in the centre of it is a chasm in the wood; this is a bed of a considerable stream, which forms O'Sullivan's cascade, to which all strangers are conducted, as one of the principal beauties of Killarney. Landed to the right of it, and walked under the thick shade of the wood, over a rocky declivity, close to the torrent stream, which breaks impetuously from rock to rock, with a roar that kindles expectation. The picture in your fancy will not exceed the reality; a great stream bursts from the deep bosom of a wooded glen, hollowed into a retired recess of rocks and trees, itself a most pleasing and romantic spot, were there not a drop of water: the first fall is many feet perpendicularly over a rock, to the eye it immediately makes another, the basin into which it pours being concealed; from this basin it forces itself impetuously between two rocks: this second fall is also of a considerable height; but the lower one, the third, is the most considerable, it issues in the same manner from a basin hid from the point of view. These basins being large, there appears a space of several yards between each fall, which adds much to the picturesque scenery; the whole is within an arch of wood, that hangs over it; the quantity of water is so considerable as to make an almost deafening noise, and uniting with the torrent below, where the fragments of rock are large and numerous, throw an air of grandeur over the whole. It is about seventy feet high. Coast from hence the woody shores of Tomys and Glena, they are upon the whole much the most beautiful ones I have any where seen; Glena woods having more oak, and some arbutus's, are the finer and deeper shades; Tomys has a great quantity of birch, whose foliage is not so luxuriant. The reader may figure to himself what these woods are, when he is informed that they fill an unbroken extent of six miles in length, and from half a mile to a mile and a half in breadth, all hanging on the sides of two vast mountains, and coming down with a full robe of rich luxuriance to the very water's edge. The acclivity of these hills is such, that every tree appears full to the eye. The variety of the ground is great; in some places great swells in the mountain side, with corresponding hollows, present concave and convex masses; in others, considerable ridges of land and rock rise from the sweep, and offer to the astonished eye yet other varieties of shade. Smaller mountains rise regularly from the immense bosom of the larger, and hold forth their sylvan heads, backed by yet higher woods. To give all the varieties of this immense scenery of forest is impossible. Above the whole is a prodigious mass of mountain, of a gently swelling outline and soft appearance, varying as the sun or clouds change their position, but never becoming rugged or threatening to the eye.

The variations are best seen by rowing near the shore, when every stroke of the oar gives a new outline, and fresh tints to please the eye: but for one great impression, row about two miles from the shore of Glena; at that distance the inequalities in the surface are no longer seen, but the eye is filled with so immense a range of wood, crowned with a mountain in perfect unison with itself, that objects, whose character is that of beauty, are here, from their magnitude, truly magnificent, and attended with a most forcible expression. Returned to Mucruss.

September 30. This morning I had dedicated to the ascent of Mangerton, but his head was so enshrouded in clouds, and the weather so bad, that I was forced to give up the scheme: Mr. Herbert has measured him with very accurate instruments, of which he has a great collection, and found his height eight hundred and thirty-five yards above the level of the sea. The Devil's Punch-bowl, from the description I had of it, must



be the crater of an exhausted volcano: there are many signs of them about Killarney, particularly vast rocks on the sides of mountains, in streams, as if they had rolled from the top in one direction. Brown stone rocks are also sometimes found on lime-quarries, tossed thither perhaps in some vast eruption.

In my way from Killarney to Castle Island rode into lord Kennare's park, from whence there is another beautiful view of the lake, different from many of the preceding; there is a broad margin of cultivated country at your feet, to lead the eye gradually in the lake, which exhibits her islands to this point more distinctly than to any other, and the back grounds of the mountains of Glenna and Tomys give a bold relief.

Upon the whole, Killarney, among the lakes that I have seen, can scarcely be said to have a rival. The extent of water in Loch Earne is much greater, the islands more numerous, and some scenes near Castle Caldwell of perhaps as great magnificence. The rocks at Keswick are more sublime, and other lakes may have circumstances in which they are superior; but when we consider the prodigious woods of Killarney; the immensity of the mountains; the uncommon beauty of the promontory of Mucruss, and the isle of Innisfallen; the character of the islands; the singular circumstance of the arbutus, and the uncommon echoes, it will appear, upon the whole, to be in reality superior to all comparison.

Before I quit it I have one other observation to make, which is relative to the want of accommodations and extravagant expence of strangers residing at Killarney. I speak it not at all feelingly, thanks to Mr. Herbert's hospitality, but from the accounts given me: the inns are miserable, and the lodgings little better. I am surprised somebody with a good capital does not procure a large well-built inn, to be erected on the immediate shore of the lake, in an agreeable situation, at a distance from the town; there are very few places where such an one would answer better, there ought to be numerous and good apartments. A large rendezvous-room for billiards, cards, dancing, music, &c. to which the company might resort when they chose it; an ordinary for those that liked dining in public; boats of all sorts; nets for fishing, and as great a variety of amusements as could be collected, especially within doors; for the climate being very rainy, travellers wait with great impatience in a dirty common inn, which they would not do if they were in the midst of such accommodations as they meet with at an English Spa. But above all, the prices of every thing, from a room and a dinner to a barge and a band of music, to be reasonable, and hung up in every part of the house: the resort of strangers to Killarney would then be much increased, and their stay would be greatly prolonged; they would not view it post-haste, and fly away the first moment to avoid dirt and imposition. A man with a good capital and some ingenuity would, I think, make a fortune by fixing here upon such principles.

The state of the poor in the whole county of Kerry represented as exceedingly miserable, and owing to the conduct of men of property, who are apt to lay the blame on what they call land pirates, or men who offer the highest rent, and who, in order to pay this rent, must and do re-let all the cabin lands at an extravagant rise, which is assigning over all the cabins to be devoured by one farmer. The cottars on a farm cannot go from one to another, in order to find a good master, as in England; for all the country is in the same system, and no redress to be found: such being the case, the farmers are enabled to charge the price of labour as low as they please, and rate the land as high as they like. This is an evil which oppresses them cruelly, and certainly has its origin in its landlords when they set their farms, setting all the cabins with them, instead of keeping them tenants to themselves. The oppression is, the farmer valuing the labour of the poor at fourpence or fivepence a day, and paying that in land rated

much above its value; owing to this the poor are depressed; they live upon potatoes and sour milk, and the poorest of them only salt and water to them, with now and then a herring. Their milk is bought; for very few keep cows, scarce any pigs, but a few poultry. Their circumstances are incomparably worse than they were twenty years ago, for they had all cows, but then they wore no linen: all now have a little flax. To these evils have been owing emigrations, which have been considerable.

To the west of Tralee are the Mahagree islands, famous for their corn products; they are rock and sand, stocked with rabbits; near them a sandy tract, twelve miles long, and one mile broad, to the north, with the mountains to the south; famous for the best wheat in Kerry: all under the plough.

Arriving at Ardfert, lord Crosby, whose politeness I have every reason to remember, was so obliging as to carry me by one of the finest strands I ever rode upon, to view the mouth of the Shannon at Ballengary, the site of an old fort: it is a vast rock, separated from the country by a chasm of prodigious depth, through which the waves drive. The rocks of the coast here are in the boldest stile, and hollowed by the furious Atlantic waves into caverns in which they roar. It was a dead calm, yet the swell was so heavy, that the great waves rolled in and broke upon the rocks with such violence as to raise an immense foam, and give one an idea of what a storm would be, but fancy rarely falls short in her pictures. The view of the Shannon is exceedingly noble; it is eight miles over, the mouth formed by two headlands of very high and bold cliffs, and the reach of the river in view very extensive: it is an immense scenery: perhaps the noblest mouth of a river in Europe.

Ardfert is very near the sea, so near it that single trees or rows are cut in pieces with the wind, yet about lord Glendour's house there are extensive plantations exceedingly flourishing, many fine ash and beech; about a beautiful Cistercian abbey, and a silver fir of forty-eight years growth, of an immense height and size.

October 3, left Ardfert, accompanying lord Crosby to Listowel. Called in the way to view Lixnaw, the ancient seat of the earls of Kerry, but deserted for ten years past, and now presents so melancholy a scene of desolation, that it shocked me to see it. Every thing around lies in ruin, and the house itself is going fast off by thieving depredations of the neighbourhood. I was told a curious anecdote of this estate, which shews wonderfully the improvement of Ireland: the present earl of Kerry's grandfather, Thomas, agreed to lease the whole estate for 1500*l.* a year to a Mr. Collis for ever, but the bargain went off upon a dispute whether the money should be paid at Cork or Dublin. Those very lands are now let at 20,000*l.* a year. There is yet a good deal of wood, particularly a fine ash grove, planted by the present earl of Shelburne's father.

Proceeded to Woodford, Robert Fitzgerald's, esq. passing Listowel bridge, the vale leading to it is very fine, the river is broad, the lands high, and one side a very extensive hanging wood, opening on those of Woodford in a pleasing stile.

Woodford is an agreeable scene; close to the house is a fine winding river under a bank of thick wood, with the view of an old castle hanging over it.

In 1765, Mr. Fitzgerald was travelling from Constantinople to Warsaw, and a wagon with his baggage heavily laden overset; the country people harnessed two buffaloes by the horns, in order to draw it over, which they did with ease. In some very instructive conversation I had with this gentleman on the subject of his travels, this circumstance particularly struck me.

October 4, from Woodford to Tarbat, the seat of Edward Leslie, esq. through a country rather dreary, till it came upon Tarbat, which is so much the contrary that it

appeared to the highest advantage; the house is on the edge of a beautiful lawn, with a thick margin of full grown wood, hanging on a steep bank to the Shannon, so that the river is seen from the house over the tops of this wood, which being of a broken irregular outline has an effect very striking and uncommon; the river is two or three miles broad here, and the opposite coast forms a promontory which has from Tarbat exactly the appearance of a large island. To the east, the river swells into a triangular lake, with a reach opening at the distant corner of it to Limerick: the union of wood, water, and lawn forms upon the whole a very fine scene; the river is very magnificent. From the hill on the coast above the island, the lawn and wood appear also to great advantage. But the finest point of view is from the higher hill on the other side of the house, which looking down on all these scenes, they appear as a beautiful ornament to the Shannon, which spreads forth its proud course from two to nine miles wide, surrounded by highlands; a scenery truly magnificent.

The state of the poor is something better than it was twenty years ago, particularly their clothing, cattle, and cabins. They live upon potatoes and milk; all have cows, and when they dry them, buy others. They also have butter, and most of them keep pigs, killing them for their own use. They have also herrings. They are in general in the cottar system, of paying for labour by assigning some land to each cabin. The country is greatly more populous than twenty years ago, and is now increasing; and if ever so many cabins were built by a gradual increase, tenants would be found for them. A cabin and five acres of land will let for 4*l.* a year. The industrious cottar, with two, three, or four acres, would be exceedingly glad to have his time to himself, and have such an annual addition of land as he was able to manage, paying a fair rent for it; none would decline it but the idle and worthless.

Tythes are all annually valued by the proctors, and charged very high. There are on the Shannon about one hundred boats employed in bringing turf to Limerick from the coast of Kerry and Clare, and in fishing; the former carry from twenty to twenty-five tons, the latter from five to ten, and are navigated each by two men and a boy.

October 5, passed through a very unentertaining country (except for a few miles on the bank of the Shannon) to Altavilla, but Mr. Bateman being from home, I was disappointed in getting an account of the palatines settled in his neighbourhood. Kept the road to Adair, where Mrs. Quin, with a politeness equalled only by her understanding, procured me every intelligence I wished for.

Palatines were settled here by the late lord Southwell about seventy years ago.

They preserve some of their German customs: sleep between two beds. They appoint a burgomaster, to whom they appeal in case of all disputes: and they yet preserve their language, but that is declining. They are very industrious, and in consequence are much happier and better fed, clothed, and lodged than the Irish peasants. We must not, however, conclude from hence that all is owing to this, their being independent farmers, and having leases, are circumstances which will create industry. Their crops are much better than those of their neighbours. There are three villages of them, about seventy families in all. For some time after they settled they fed upon sour crout, but by degrees left it off, and took to potatoes; but now subsist upon them and butter and milk, but with a great deal of oat bread, and some of wheat, some meat and fowls, of which they raise many. They have all offices to their houses, that is, stables and cow-houses, and a lodge for their ploughs, &c. They keep their cows in the house in winter, feeding them upon hay and oat straw. They are remarkable for the goodness and cleanliness of their houses. The women are very industrious, reap the corn, plough the ground sometimes, and do whatever work may be going on;

they also spin, and make their children do the same. Their wheat is much better than any in the country, insomuch that they get a better price than any body else. Their industry goes so far, that jocular reports of its excess are spread: in a very pinching season, one of them yoked his wife against a horse, and went in that manner to work, and finished a journey at plough. The industry of the women is a perfect contrast to the Irish ladies in the cabins, who cannot be persuaded, on any consideration, even to make hay; it not being the custom of the country; yet they bind corn, and do other works more laborious. Mrs. Quin, who is ever attentive to introduce whatever can contribute to their welfare and happiness, offered many premiums to induce them to make hay, of hats, cloaks, stockings, &c. &c. but all would not do.

Few places have so much wood about them as Adair: Mr. Quin has above one thousand acres in his hands, in which a large proportion is under wood. The deer park of four hundred acres is almost full of old oak and very fine thorns, of a great size: and about the house, the plantations are very extensive, of elm and other wood, but that thrives better than any other sort. I have no where seen finer than vast numbers here. There is a fine river runs under the house, and within view are no less than three ruins of Franciscan friaries, two of them remarkably beautiful, and one has most of the parts perfect, except the roof.

In Mr. Quin's house, there are some very good pictures, particularly an annunciation, by Dominicino, which is a beautiful piece. It was brought lately from Italy by Mr. Quin, junior. The colours are rich and mellow, and the hairs of the heads inimitably pleasing; the group of angels at the top, to the left of the piece, are very natural. It is a piece of great merit. The companion is a Magdalen; the expression of melancholy, or rather misery, remarkably strong. There is a gloom in the whole in full unison with the subject. There are, besides these, some others inferior, yet of merit, and two very good portraits of lord Dartry (Mrs. Quin's brother) and of Mr. Quin, junior, by Pompeo Battoni. A piece in an uncommon stile, done on oak, of Esther and Ahasuerus: the colours tawdry, but the grouping attitudes and effect pleasing.

Castle Oliver is a place almost entirely of Mr. Oliver's creation; from a house, surrounded with cabins and rubbish, he has fixed it in a fine lawn, surrounded by good wood. The park he has very much improved on an excellent plan; by means of seven feet hurdles he fences off part of it that wants to be cleaned or improved, these he cultivates, and leaves for grass, and then takes another spot, which is by much the best way of doing it. In the park is a glen, an English mile long, winding in a pleasing manner, with much wood hanging on the banks. Mr. Oliver has conducted a stream through this vale, and formed many little water-falls in an exceedingly good taste, chiefly overhung with wood, but in some places open with several little rills, trickling over stones down the slopes. A path winds through a large wood and along the brow of the glen; this path leads to an hermitage, a cave of rock, in a good taste, and to some benches, from which the views of the water and wood are in the sequestered stile they ought to be. One of these little views, which catches several falls under the arch of the bridge, is one of the prettiest touches of the kind I have seen. The vale beneath the house, when viewed from the higher grounds, is pleasing; it is very well wooded, there being many inclosures, surrounded by pine trees, and a thick fine mass of wood rises from them up the mountain side, makes a very good figure, and would be better, had not Mr. Oliver's father cut it into vistas for shooting. Upon the whole, the place is highly improved, and when the mountains are planted, in which Mr. Oliver is making a considerable progress, it will be magnificent.

In the house are several fine pictures, particularly five pieces by Seb. Ricci, Venus and Æneas; Apollo and Pan; Venus and Achilles; and Pyrrhus and Andromache, by Lazzarini; and the rape of the Lapithi by the centaurs; the last is by much the finest, and is a very capital piece; the expression is strong, the figures are in bold relief, and the colouring good. Venus and Achilles is a pleasing picture; the continence of Scipio is well grouped, but Scipio, as in every picture I ever saw of him, has no expression. Indeed chastity is in the countenance so passive a virtue as not to be at all suited to the genius of painting; the idea is rather that of insipidity, and accordingly Scipio's expression is generally insipid enough. Two fine pieces, by Lucca Jordano, Hercules and Anteus; Sampson killing the lion: both dark and horrid, but they are highly finished, and striking. Six heads of old men, by Nagori, excellent; and four young women, in the character of the seasons.

October 9, left Castle Oliver. Had I followed my inclination, my stay would have been much longer, for I found it equally the residence of entertainment and instruction. Passed through Kiltfennan and Duntreague, in my way to Tipperary. The road leads every where on the sides of the hills, so as to give a very distinct view of the lower grounds; the soil all the way is the same sort of sandy reddish loam I have already described, incomparable land for tillage; as I advanced it grew something lighter, and in many places free from gravel. Bullocks the stock all the way. Towards Tipperary I saw vast numbers of sheep, and many bullocks. All this line of country is part of the famous golden vale. To Thomas-town, where I was so unfortunate as not to find Mr. Matthew at home; the domain is one thousand five hundred English acres, so well planted, that I could hardly believe myself in Ireland. There is a hill in the park from which the view of it, the country and the Galties, are striking.

October 12, to lord de Montalt's, at Dundrum, a place which his lordship has ornamented in the modern style of improvement: the house was situated in the midst of all the regular exertions of the last age. Parterres, parapets of earth, straight walks, knots and clipped hedges, all which he has thrown down, with an infinite number of hedges and ditches, filled up ponds, &c. and opened one very noble lawn around him, scattered negligently over with trees, and cleared the course of a choaked up river, so that it flows at present in a winding course through the grounds.

October 13, leaving Dundrum, passed through Cashel, wherē is a rock and ruin on it, called the rock of Cashel, supposed to be of the remotest antiquity. Towards Clonmell, the whole way through the same rich vein of red sandy loam I have so often mentioned: I examined it in several fields, and found it to be of an extraordinary fertility, and as fine turnip land as ever I saw. It is much under sheep; but towards Clonmell there is a great deal of tillage.

The first view of that town, backed by a high ridge of mountains, with a beautiful space near it of inclosures, fringed with a scattering of trees, was very pleasing. It is the best situated place in the county of Tipperary, on the Sure, which brings up boats of ten tons burthen. It appears to be a busy populous place, yet I was told that the manufacture of woollens is not considerable. It is noted for being the birth-place of the inimitable Sterne.

To Sir William Osborne's, three miles the other side Clonmell. From a character so remarkable for intelligence and precision, I could not fail of meeting information of the most valuable kind. This gentleman has made a mountain improvement which demands particular attention, being upon a principle very different from common ones.

Twelve years ago he met with a hearty looking fellow of forty, followed by a wife and six children in rags, who begged. Sir William questioned him upon the scandal of a man

in full health and vigour, supporting himself in such a manner: the man said he could get no work: "Come along with me, I will shew you a spot of land upon which I will build a cabin for you, and if you like it you shall fix there." The fellow followed Sir William, who was as good as his word: he built him a cabin, gave him five acres of a heathy mountain, lent him four pounds to stock with, and gave him, when he had prepared his ground, as much lime as he would come for. The fellow flourished; he went on gradually; repaid the four pounds, and presently became a happy little cottar: he has at present twelve acres under cultivation, and a stock in trade worth at least 80l. his name is John Conory.

The success which attended this man in two or three years, brought others who applied for land, and Sir William gave them as they applied. The mountain was under lease to a tenant, who valued it so little, that upon being reproached with not cultivating, or doing something with it, he assured Sir William, that it was utterly impracticable to do any thing with it, and offered it to him without any deduction of rent. Upon this mountain he fixed them; gave them terms as they came determinable with the lease of the farm, so that every one that came in succession had shorter and shorter tenures; yet are they so desirous of settling, that they come at present, though only two years remain for a term.

In this manner Sir William has fixed twenty-two families, who are all upon the improving hand, the meanest growing richer; and find themselves so well off, that no consideration will induce them to work for others, not even in harvest: their industry has no bounds; nor is the day long enough for the revolution of their incessant labour. Some of them bring turf to Clonmell, and Sir William has seen Conory returning loaded with soap ashes.

He found it difficult to persuade them to make a road to their village, but when they had once done it, he found none in getting cross roads to it, they found such benefit in the first. Sir William has continued to give whatever lime they come for; and they have desired one thousand barrels among them for the year 1766, which their landlord has accordingly contracted for with his lime-burner, at 11d. a barrel. Their houses have all been built at his expence, and done by contract at 6l. each, after which they raise what little offices they want for themselves.

October 15, left New Town, and keeping on the banks of the Sure, passed through Carriek to Curraghmore, the seat of the earl of Tyrone. This line of country, in point of soil, inferior to what I have of late gone through: so that I consider the rich country to end at Clonmell.

Emigrations from this part of Ireland principally to Newfoundland; for a season they have 18l. or 20l. for their pay, and are maintained, but they do not bring home more than 7l. to 11l. Some of them stay and settle; three years ago there was an emigration of indented servants to North Carolina of three hundred, but they were stopped by contrary winds, &c. There had been something of this constantly, but not to that amount. The oppression which the poor people have most to complain of, is the not having any tenures in their lands, by which means they are entirely subject to their employers.

Manufactures here are only woollens. Carriek is one of the greatest manufacturing towns in Ireland. Principally for ratteens, but of late they have got into broad-cloths, all for home consumption; the manufacture increases, and is very flourishing. There are between three and four hundred people employed by it, in Carriek and its neighbourhood.

Curraghmore is one of the finest places in Ireland, or indeed that I have any where seen. The house, which is large, is situated upon a rising ground, in a vale surrounded

by very bold hills, which rise in a variety of forms and offer to the eye, in rising through the grounds, very noble and striking scenes. These hills are exceedingly varied, so that the detour of the place is very pleasing. In order to see it to advantage, I would advise a traveller to take the ride which lord Tyrone carried me. Passed through the deer-park wood of old oaks, spread over the side of a bold hill, and of such an extent, that the scene is a truly forest one, without any other boundary in view than what the stems of trees offer from mere extent, retiring one behind another till they thicken so much to the eye, under the shade of their spreading tops, as to form a distant wall of wood. This is a sort of scene not common in Ireland, it is a great extent alone that will give it. From this hill enter an ever-green plantation, a scene which winds up the deer-park hill, and opens on to the brow of it, which commands a most noble view indeed. The lawns round the house appear at one's feet, at the bottom of a great declivity of wood, almost every where surrounded by plantations. The hills on the opposite side of the vale against the house, consist of a large lawn in the center of the two woods, that to the right of an immense extent, which waves over a mountain side in the finest manner imaginable, and lead the eye to the scenery on the left, which is a beautiful vale of rich inclosures, of several miles extent, with the Sure making one great reach through it, and a bold bend just before it enters a gap in the hills towards Waterford, and winds behind them; to the right you look over a large plain backed by the great Cumberagh mountains. For a distinct extent of view, the parts of which are all of a commanding magnitude, and a variety equal to the number, very few prospects are finer than this.

From hence the boundary plantation extends some miles to the west and north-west of the domain, forming a margin to the whole of different growths, having been planted, by degrees, from three to sixteen years. It is in general well grown, and the trees thriven exceedingly, particularly the oak, beech, larch, and firs. It is very well sketched, with much variety given to it.

Pass by the garden across the river which murmurs over a rocky bed, and follow the riding up a steep hill, covered with wood from some breaks, in which the house appears perfectly buried in a deep wood, and come out, after a considerable extent of ride, into the higher lawn, which commands a view of the scenery about the house; and from the brow of the hill the water which is made to imitate a river, has a good effect, and throws a great air of cheerfulness over the scene, for from hence the declivity below it is hid; but the view which is the most pleasing from hence, the finest at Curraghmoor, and indeed one of the most striking that is any where to be seen, is that of the hanging wood to the right of the house, rising in so noble a sweep as perfectly to fill the eye, and leave the fancy scarce any thing to wish: at the bottom is a small semicircular lawn around which flows the river, under the immediate shade of very noble oaks; the whole wood rises boldly from the bottom, tree above tree, to a vast height, of large oak, the masses of shade are but tints of one colour, it is not chequered with a variety, there is a majestic simplicity, a unity in the whole, which is attended with an uncommon impression, and such as none but the most magnificent scenes can raise.

Descending from hence through the roads, the riding crosses the river, passes through the meadow, which has such an effect in the preceding scene, from which also the view is very fine, and leads home through a continued and an extensive range of fine oak, partly on a declivity, at the bottom of which the river murmurs its broken course.

Besides this noble riding, there is a very agreeable walk runs immediately on the banks of the river, which is perfect in its stile; it is a sequestered line of wood, so high on the declivities in some places, and so thick on the very edge in others, overspreading the river, that the character of the scene is gloom and melancholy, heightened by the

noise of the water falling from stone to stone; there is a considerable variety in the banks of it, and in the figures and growth of the wood, but none that hurts the impression, which is well preserved throughout.

October 17, accompanied lord Tyrone to Waterford; made some inquiries into the state of their trade, but found it difficult, from the method in which the custom-house books are kept, to get the details I wished; but in the year following having the pleasure of a long visit at Ballycanvan, the seat of Cornelius Bolton, esq. his son, the member for the city, procured me every information I could wish, and that in so liberal and polite a manner, that it would not be easy to express the obligations I am under to both. In general, I was informed, that the trade of the place had increased considerably in ten years, both the exports and imports. The exports of the products of pasturage, full one-third in twelve years. That the staple trade of the place is the Newfoundland trade; this is very much increased; there is more of it here than any where. The number of people who go passengers in the Newfoundland ships is amazing: from sixty to eighty ships, and from three thousand to five thousand annually. They come from most parts of Ireland, from Corke, Kerry, &c. Experienced men will get 18l. to 25l. for the season, from March to November; a man who never went will have five to seven pounds, and his passage, and others rise to 20l. the passage out they get, but pay home two pounds. An industrious man in a year will bring home twelve to sixteen pounds with him, and some more. A great point for them is to be able to carry out all their slops, for every thing there is exceedingly dear, one or two hundred per cent. dearer than they can get them at home. They are not allowed to take out any woollen goods but for their own use. The ships go loaded with pork, beef, butter, and some salt; and bring home passengers, or get freights where they can: sometimes rum. The Waterford pork comes principally from the barony of Iverk in Kilkenny, where they fatten great numbers of large hogs; for many weeks together they kill here three to four thousand a week, the price fifty shillings to four pounds each; goes chiefly to Newfoundland. One was killed in Mr. Penrose's cellar that weighed five hundred weight and a quarter, and measured from the nose to the end of the tail, nine feet four inches.

There is a foundery at Waterford for pots, kettles, weights and all common utensils; and a manufactory by Messieurs King and Tegen, of anvils to anchors, twenty hundred weight, &c. which employs forty hands. Smiths earn from 6s. to 24s. a week. Nailers from 10s. to 12s. And another less considerable. There are two sugar-houses, and many salt-houses. The salt is boiled over lime-kilns.

There is a fishery upon the coast of Waterford, for a great variety of fish, herrings particularly in the mouth of Waterford harbour, and two years ago in such quantities there, that the tides left the ditches full of them. There are some premium boats both here and at Dungarvon, but the quantity of herrings barrelled is not considerable.

The butter trade of Waterford has increased greatly for seven years past; it comes from Waterford principally, but much from Carlow; for it comes from twenty miles beyond Carlow, for sixpence per hundred. From the first of January 1774 to the first of January 1775, there were exported fifty-nine thousand eight hundred and fifty-six casks of butter, each, on an average, one hundred weight, at the mean price of 50s. Revenue of Waterford, in 1751, 17,000l.; in 1776, 52,000l. The slaughter trade has increased, but not so much as the butter. Price of butter now at Waterford 58s.; twenty years' average, 42s. Beef now to 25s. average, twenty years, 10s. to 18s. Pork now 30s. average, twenty years, 16s. to 22s. Eighty sail of ships now belonging to the port, twenty years ago not thirty. They pay to the captains of ship of two



hundred tons 5l. a month; the mate 3l. 10s. Ten men at 40s. five years ago only 27s. Building ships, 10l. a ton. Wear and tear of such a ship 20l. a month. Ship provisions 20s. a month.

The new church in this city is a very beautiful one; the body of it is in the same stile exactly as that of Belfast already described: the total length one hundred and seventy feet, the breadth fifty-eight. The length of the body of the church ninety-two, the height forty; breadth between the pillars twenty-six. The aisle (which I do not remember at Belfast) is fifty-eight by forty-five. A room on one side the steeple, space for the bishop's court, twenty-four by eighteen; on the other side, a room of the same size for the vestry; and twenty-eight feet square left for a steeple when their funds will permit. The whole is light and beautiful: it was built by subscription, and there is a fine organ bespoke at London. But the finest object in this city is the quay, which is unrivalled by any I have seen; it is an English mile long; the buildings on it are only common houses, but the river is near a mile over, flows up to the town in one noble reach, and the opposite shore a bold hill, which rises immediately from the water to a height that renders the whole magnificent. This is scattered with some wood, and divided into pastures of a beautiful verdure, by hedges. I crossed the water, in order to walk up the rocks on the top of this hill; in one place over against Bilberry quarry, you look immediately down on the river, which flows in noble reaches from Granny castle on the right past Cromwell's rock, the shores on both sides quite steep, especially the rock of Bilberry. You look over the whole town, which here appears in a triangular form; besides the city the Cummeragh mountains, Slein-a-man, &c. come in view. Kilmacow river falls into the Sure, after flowing through a large extent of well planted country; this is the finest view about the city.

From Waterford to Passage, and got my chaise and horses on board the Countess of Tyrone packet, in full expectation of sailing immediately, as the wind was fair, but I soon found the difference of these private vessels and the post-office packets at Holyhead and Dublin. When the wind was fair the tide was foul; and when the tide was with them the wind would not do; in English, there was not a complement of passengers, and so I had the agreeableness of waiting with my horses in the hold, by way of rest, after a journey of above one thousand five hundred miles.

October 18, after a beastly night passed on ship board, and finding no signs of departure, walked to Ballycanvan, the seat of Cornelius Bolton, Esq. rode with Mr. Bolton, jun. to Faithleghill, which commands one of the finest views I have seen in Ireland. There is a rock on the top of a hill, which has a very bold view on every side down on a great extent of country, much of which is grass inclosures of a good verdure. This hill is the center of a circle of about ten miles diameter, beyond which higher lands rise, which, after spreading to a great extent, have on every side a back ground of mountain: in a northerly direction mount Leinster, between Wexford and Wicklow, twenty-six miles off, rises in several heads far above the clouds. A little to the right of this, Sliakeiltha (i. e. the woody mountain) at a less distance, is a fine object. To the left, Tory hill, only five miles, in a regular form varies the outline. To the east, there is the long mountain, eighteen miles distant, and several lesser Wexford hills. To the south-east, the Saltees. To the south, the ocean, and the colines about the bay of Tramore. To the west, Monavollagh rises two thousand one hundred and sixty feet above the level of the sea, eighteen miles off, being part of the great range of the Cummaragh mountains; and to the north-west Slinaman, at the distance of twenty-four miles; so that the outline is every where bold and distinct, though distant. These

circumstances would alone form a great view, but the water part of it, which fills up the canvas, is in a much superior stile. The great river Sure takes a winding course from the city of Waterford, through a rich country, hanging on the sides of hills to its banks, and dividing into a double channel, forms the lesser island, both of which courses you command distinctly; united, it makes a bold reach under the hill on which you stand, and there receives the noble tribute of the united waters of the barrow and Nore, in two great channels, which form the larger island; enlarged by such an accession of water, it winds round the hill in a bending course, of the freest and most graceful outline, every where from one to three miles across, with bold shores, that give a sharp outline to its course to the ocean; twenty sail of ships at Passage gave animation to the scene; upon the whole, the boldness of the mountain outline, the variety of the grounds, the vast extent of river, with the declivity to it from the point of view, altogether form so unrivalled a scenery, every object so commanding, that the general want of wood is almost forgotten.

Two years after this account was written I again visited this enchanting hill, and walked to it, day after day, from Ballycanvan, and with increasing pleasure. Mr. Bolton, jun. has, since I was there before, inclosed forty acres on the top and steep slope to the water, and began to plant them. This will be a prodigious addition; for the slope forming the bold shore for a considerable space, and having projections from which the wood will all be seen in the gentle hollows of the hill, the effect will be amazingly fine. Walks and a riding are tracing out, which will command fresh beauties at every step; the spots from which a variety of beautiful views are seen are numerous. All the way from Ballycanvan to Faithleg, the whole to the amount of one thousand two hundred acres, is the property of Mr. Bolton.

Farms about Ballycanvan, Waterford, &c. are generally small, from twenty and thirty to five hundred acres, generally about two hundred and fifty, all above two hundred acres are in general dairies; some of the dairy ones rise very high. The soil is a reddish stony, or slaty gravel, dry, except low lands, which are clay or turf. Rents vary much, about the town very high, from 5l. 5s. to 9l. but at the distance of a few miles towards Passage, &c. they are from 20s. to 40s. and some higher, but the country in general does not rise so high, usually 10s. to 20s. for dairying land.

The poor people spin their own flax, but not more, and a few of them wool for themselves. Their food is potatoes and milk; but they have a considerable assistance from fish, particularly herrings; part of the year they have also barley, oaten, and rye bread. They are incomparably better off in every respect than twenty years ago. Their increase about Ballycanvan is very great, and tillage all over this neighbourhood is increased. The rent of a cabin 10s. an acre with it, 20s. The grass of a cow a few years ago, 20s. now 25s. or 30s.

An exceeding good practice here in making their fences is, they plant the quick on the side of the bank in the common manner, and then, instead of the dead hedge we use in England on the top of the bank, they plant a row of old thorns, two or three feet high, which readily grow, and form at once a most excellent fence. Their way also of taking in sand-banks from the river deserves notice: they stake down a row of furzes at low water, laying stones on them to the height of one or two feet; these retain the mud, which every tide brings in, so as to fill up all within the furze as high as their tops. I remarked on the strand, that a few boat loads of stones laid carelessly had had this effect, for within them I measured twelve inches deep of rich blue mud left behind them, the same as they use in manuring, full of shells and effervesced strongly with vinegar.

Among the poor people, the fishermen are in much the best circumstances; the fishery is considerable; Waterford and its harbour have fifty boats each, from eight to twelve tons, six men on an average to each, but to one of six tons, five men go. A boat of eight tons costs 40*l.* one of twelve, 60*l.* To each boat there is a train of nets of six pair, which costs from 4*l.* 4*s.* to 6*l.* 6*s.* tan them with bark. Their only net fishery is that of herrings, which is commonly carried on by shares. The division of the fish is, first, one-fourth for the boat; and then the men and nets divide the rest, the latter reckoned as three men. They reckon ten mazes of herrings an indifferent night's work; when there is a good take, forty mazes have been taken, twenty a good night; the price per maze from 1*s.* to 7*s.* average 5*s.* Their take in 1775, the greatest they have known, when they had more than they could dispose of, and the whole town and country stunk of them, they retailed them thirty-two for a penny; 1773 and 1774 good years. They barrelled many; but in general there is an import of Swedish. Besides the common articles I have registered, the following are, pigeons, 1*s.* a couple; a hare, 1*s.* partridges, 9*d.* turbot, fine ones, 4*s.* to 10*s.* soals a pair, large, 1*s.* 6*d.* to 1*s.* lobsters, 3*d.* each; oysters, 6*s.* per hundred; rabbits, 1*s.* to 1*s.* 4*d.* a couple; cod, 1*s.* each, large; salmon, 1½*d.* to 2*d.*

A very extraordinary circumstance I was told, that within five or six years there has been much hay carried from Waterford to Norway, in the Norway ships that bring deals; as hay is dear here, it proves a most backward state of husbandry in that northerly region, since the neighbourhood of sea-ports to which this hay can alone go, is generally the best improved in all countries.

October 19, the wind being fair, took my leave of Mr. Bolton, and went back to the ship; met with a fresh scene of provoking delays, so that it was the next morning, October 20, at eight o'clock, before we sailed, and then it was not wind, but a cargo of passengers that spread our sails. Twelve or fourteen hours are not an uncommon passage; but such was our luck, that after being in sight of the lights on the Smalls, we were by contrary winds blown opposite to Arklow sands: a violent gale arose, which presently blew a storm that lasted thirty-six hours, in which, under a reefed mainsail, the ship drifted up and down wearing, in order to keep clear of the coasts.

No wonder this appeared to me, a fresh-water sailor, as a storm, when the oldest men on board reckoned it a violent one; the wind blew in furious gusts; the waves ran very high; the cabin windows burst open, and the sea pouring in set every thing afloat, and among the rest a poor lady, who had spread her bed on the floor. We had however the satisfaction to find, by trying the pumps every watch, that the ship made little water. I had more time to attend these circumstances than the rest of the passengers, being the only one in seven who escaped without being sick. It pleased God to preserve us, but we did not cast anchor in Milford Haven till Tuesday morning the 22*d.* at one o'clock.

It is much to be wished that there were some means of being secure of packets sailing regularly, instead of waiting till there is such a number of passengers as satisfies the owner and captain; with the post-office packets there is this satisfaction, and a great one it is; the contrary conduct is so perfectly detestable, that I should suppose the scheme of Waterford ones can never succeed.

Two years after, having been assured this conveyance was put on a new footing, I ventured to try it again; but was mortified to find that the Tyrone, the only one that could take a chaise or horses (the Countess being laid up) was repairing, but would sail in five days; I waited, and received assurance after assurance that she would be ready on such a day, and then on another; in a word, I waited twenty-four days before I sailed; moderately speaking, I could by Dublin have reached Turin or Milan as soon

as I did Milford in this conveyance. All this time the papers had constant advertisements of the Tyrone sailing regularly, instead of letting the public know that she was under a repair. Her owner seems to be a fair and worthy man, he will therefore probably give up the scheme entirely, unless assisted by the corporation with at least four ships more, to sail regularly with or without passengers; at present it is a general disappointment: I was fortunate in Mr. Bolton's acquaintance, passing my time very agreeably at his hospitable mansion; but those who, in such a case, should find a Waterford inn their resource, would curse the Tyrone, and set off for Dublin. The expences of this passage are higher than those from Dublin to Holyhead: I paid,

	£	s.	d.
A four-wheel chaise . . . . .	3	3	0
Three horses . . . . .	3	3	0
Self . . . . .	1	1	0
Two servants . . . . .	1	1	0
Custom-house at Waterford, hay, oats, &c. . . . .	2	1	7
Ditto at Pembroke and Hubberston . . . . .	3	0	0
Sailors, boats, and sundry small charges . . . . .	1	15	5
	<hr/>		
	£15	5	0
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1777. Upon a second journey to Ireland this year, I took the opportunity of going from Dublin to Mitchelstown, by a rout through the central part of the kingdom which I had not before sufficiently viewed.

Left Dublin the 24th of September, and taking the road to Naas, I was again struck with the great population of the country, the cabins being so much poorer in the vicinity of the capital than in the more distant parts of the kingdom.

To Kildare, crossing the Curragh, so famous for its turf. It is a sheep walk of above four thousand English acres, forming a more beautiful lawn than the hand of art ever made. Nothing can exceed the extreme softness of the turf, which is of a verdure that charms the eye, and highly set off by the gentle inequality of surface. The soil is a fine dry loam on a stony bottom; it is fed by many large flocks, turned on it by the occupiers of the adjacent farms, who alone have the right, and pay very great rents on that account. It is the only considerable common in the kingdom. The sheep yield very little wool, not more than 3lb. per fleece, but of a very fine quality.

From Furness to Shaen Castle, in the Queen's county, Dean Coote's; but as the husbandry, &c. of this neighbourhood is already registered, I have only to observe, that Mr. Coote was so kind as to shew me the improved grounds of Dawson's Court, the seat of lord Carlow, which I had not seen before. The principal beauties of the place are the well grown and extensive plantations, which form a shade not often met with in Ireland. There is in the back grounds a lake well accompanied with wood, broken by several islands that are covered with underwood, and an ornamented walk passing on the banks which leads from the house. This lake is in the season perfectly alive with wild-fowl; near it is a very beautiful spot, which commands a view of both woods and water, a situation either for a house or a temple. Mr. Dawson is adding to the plantations, an employment of all others the most meritorious in Ireland. Another work, scarcely less so, was the erecting a large handsome inn, wherein the same gentle-

man intends establishing a person who shall be able to supply travellers, post, with either chaises or horses.

From Shaen Castle to Gloster, in the King's County, the seat of John Lloyd, esq. member for that county, to whose attention I owe the following particulars, in which he took every means to have me well and accurately informed. But first let me observe, that I was much pleased to remark, all the way from Naas quite to Rosserca, that the country was amongst the finest I had seen in Ireland, and consequently that I was fortunate in having an opportunity of seeing it after the involuntary omission of last year. The cabins, though many of them are very bad, yet are better than in some other counties, and chimneys generally a part of them. The people too have no very miserable appearance; the breed of cattle and sheep good, and the hogs much the best I have any where seen in Ireland. Turf is every where at hand, and in plenty; yet are the bogs not so general as to affect the beauty of the country, which is very great in many tracts, with a scattering of wood, which makes it pleasing. Shaen Castle stands in the midst of a very fine tract. From Mountrath to Gloster, Mr. Lloyd's, I could have imagined myself in a very pleasing part of England; the country breaks into a variety of inequalities of hill and dale: it is all well inclosed with fine hedges; there is a plenty of wood, not so monopolised as in many parts of the kingdom by here and there a solitary seat, but spread over the whole face of the prospect: look which way you will, it is cultivated and cheerful.

The Shannon adds not a little to the conveniency and agreeableness of a residence so near it. Besides affording these sorts of wild fowl, the quantity and size of its fish are amazing: pikes swarm in it, and rise in weight to fifty pounds. In the little flat spaces on its banks are small but deep loeks, which are covered in winter and in floods; when the river withdraws, it leaves plenty of fish in them, which are caught to put into stews. Mr. Holmes has a small one before his door at Johnstown, with a little stream which feeds it; a trowling-rod here gets you a bite in a moment, of a pike from twenty to forty pounds. I eat of one of twenty-seven pounds so taken; I had also the pleasure of seeing a fisherman bring three trouts, weighing fourteen pounds, and sell them for sixpence-halfpenny a piece. A couple of boats lying at anchor, with lines extended from one to the other, and hooks in plenty from them, have been known to catch an incredible quantity of trout. Colonel Prittie, in one morning, caught four stone odd pounds, thirty-two trouts: in general they rise from three to nine pounds. Perch swarm; they appeared in the Shannon for the first time about ten years ago, in such plenty that the poor lived on them; bream of six pounds; eels very plentiful. There are many gillaroos in the river, one of twelve pounds weight was sent to Mr. Jenkinson. Upon the whole, these circumstances, with the pleasure of shooting and boating on the river, added to the glorious view it yields, and which is enough at any time to cheer the mind, render this neighbourhood one of the most enviable situations to live in that I have seen in Ireland. The face of the country gives every circumstance of beauty. From Killodeeman hill, behind the new house building by Mr. Holmes, the whole is seen to great advantage. The spreading part of the Shannon, called Loeh Derg, is commanded distinctly for many miles; it is in two grand divisions of great variety: that to the north is a reach of five miles leading to Portumna. The whole hither shone a scenery of hills, checkered by inclosures and little woods, and retiring from the eye into a rich distant prospect. The woods of Doras, belonging to lord Clanriekard, form a part of the opposite shore, and the river itself presents an island of one hundred and twenty acres. Inclining to the left, a vale of rough ground, with an old castle in it, is backed by a bold hill, which intercepts the river there, and then the great reach of fifteen miles, the bay

of Sheriff, spreads to the eye, with a magnificence not a little added to by the boundary, a sharp outline of the county of Clare mountains, between which and the Duharrow hills the Shannon finds its way. These hills lead the eye still more to the left, till the Keeper meets it, presenting a very beautiful outline that sinks into other ranges of hill, uniting with the Devil's Bit. The home scenery of the grounds, woods, hills, and lake of Johnstown, is beautiful.

Dancing is very general among the poor people, almost universal in every cabin. Dancing-masters of their own rank travel through the country from cabin to cabin, with a piper or blind fiddler, and the pay is sixpence a quarter. It is an absolute system of education. Weddings are always celebrated with much dancing; and a Sunday rarely passes without a dance; there are very few among them who will not, after a hard day's work, gladly walk seven miles to have a dance. John is not so lively, but then a hard day's work with him is certainly a different affair from what it is with Paddy. Other branches of education are likewise much attended to, every child of the poorest family learning to read, write, and cast accounts.

There is a very ancient custom here, for a number of country neighbours among the poor people, to fix upon some young woman that ought, as they think, to be married; they also agree upon a young fellow as a proper husband for her; this determined, they send to the fair one's cabin to inform her that on the Sunday following "she is to be horsed," that is, carried on men's backs. She must then provide whisky and cyder for a treat, as all will pay her a visit after mass for a hurling match. As soon as she is horsed, the hurling begins, in which the young fellow appointed for her husband has the eyes of all the company fixed on him: if he comes off conqueror, he is certainly married to the girl; but if another is victorious, he as certainly loses her, for she is the prize of the victor. These trials are not always finished in one Sunday, they take sometimes two or three, and the common expression when they are over is, that "such a girl was goal'd." Sometimes one barony hurls against another, but a marriageable girl is always the prize. Hurling is a sort of cricket, but instead of throwing the ball in order to knock down a wicket, the aim is to pass it through a bent stick, the ends stuck in the ground. In these matches they perform such feats of activity, as ought to evidence the food they live on to be far from deficient in nourishment.

In the hills above Derry are some very fine slate quarries, that employ sixty men. The quarrymen are paid 3s. a thousand for the slates, and the labourers 5d. a day. They are very fine, and sent by the Shannon to distant parts of the kingdom; the price at the quarry 6s. a thousand, and at the shore 6s. 8d. Four hundred thousand slates are raised to pay the rent only, from which some estimate may be made of the quantity.

Mr. Head has a practice in his fences which deserves universal imitation; it is planting trees for gate-posts. Stone piers are expensive, and always tumbling down; trees are beautiful, and never want repairing. Within fifteen years this gentleman has improved Derry so much, that those who had only seen it before would find it almost a new creation. He has built a handsome stone house, on the slope of a hill rising from the Shannon, and backed by some fine woods, which unite with many old hedges well planted to form a woodland scene, beautiful in the contrast to the bright expanse of the noble river below: the declivity on which these woods are, finishes in a mountain, which rises above the whole. The Shannon gives a bend around the adjoining lands, so as to be seen from the house both to the west and north, the lawn falling gradually to a margin of wood on the shore, which varies the outline. The river is two miles broad, and on the opposite shore cultivated inclosures rise in some places almost to the mountain top, which is very bold.

It is a very singular demesne; a stripe of very beautiful ground, reaching two miles along the banks of the river, which forms his fence on one side, with a wall on the other. There is so much wood as to render it very pleasing, adding to every day by planting all the fences made or repaired. From several little hills, which rise in different parts of it, extensive views of the river are commanded quite to Portumna; but these are much eclipsed by that from the top of the hill above the slate quarry. From thence you see the river for at least forty miles, from Portumna to twenty miles beyond Limerick. It has the appearance of a fine basin, two miles over, into which three great rivers lead, being the north and south course and the bay of Skeriff. The reaches of it one beyond another to Portumna are fine. At the foot of the mountain Mr. Head's demesne extends in a shore of rich woodland.

October 7th, took my leave of Mr. Head, after passing four days very agreeably. Through Killaloe, over the Shannon, a very long bridge of many arches; went out of the road to see a fall of that river at Castle Connel, where there is such an accompaniment of wood as to form a very pleasing scenery; the river takes a very rapid rocky course around a projecting rock, on which a gentleman has built a summer-house, and formed a terrace: it is a striking spot. To Limerick. Laid at Bennis's, the first inn we had slept in from Dublin. God preserve us this journey from another!

It is not uncommon, especially in mountainous countries, to find objects that much deserve the attention of travellers entirely neglected by them. There are a few instances of this upon lord Kingsborough's estate, in the neighbourhood of Mitchelstown; the first I shall mention is a cave at Skehecinkry, on the road between Cahir and that place: the opening to it is a cleft of rock in a lime-stone hill, so narrow as to be difficult to get into it. I descended by a ladder of about twenty steps, and then found myself in a vault of a hundred feet long, and fifty or sixty high: a small hole on the left leads from this a winding course of I believe not less than half an Irish mile, exhibiting a variety that struck me much. In some places the cavity in the rock is so large, that when well lighted up with candles (not flambeaux, lord Kingsborough once shewed it me with them, and we found their smoke troublesome) it takes the appearance of a vaulted cathedral, supported by massy columns. The walls, ceiling, floor, and pillars, are by turns composed of every fantastic form; and often of very beautiful incrustations of spar, some of which glitters so much, that it seems powdered with diamonds; and in others the ceiling is formed of that sort which has so near a resemblance to a cauliflower. The spar formed into columns by the dropping of water has taken some very regular forms; but others are different, folded in plates of light drapery, which hang from their support in a very pleasing manner. The angles of the walls seem fringed with icicles. One very long branch of the cave, which turns to the north, is in some places so narrow and low, that one crawls into it, when it suddenly breaks into large vaulted spaces, in a thousand forms. The spar in all this cave is very brilliant, and almost equal to Bristol stone. For several hundred yards in the larger branch, there is a deep water at the bottom of the declivity to the right, which the common people call the river. A part of the way is over a sort of potter's clay, which moulds into any form, and is of a brown colour; a very different soil from any in the neighbouring country. I have seen the famous cave in the Peak, but think it very much inferior to this; and lord Kingsborough, who has viewed the Grot d'Aueel in Burgundy, says that it is not to be compared with it.

But the commanding region of the Galties deserves more attention. Those who are fond of scenes in which nature reigns in all her wild magnificence, should visit this stupendous chain. It consists of many vast mountains, thrown together in an assemblage

of the most interesting features, from boldness and height of the declivities, freedom of outline, and variety of parts, filling a space of about six miles by three or four. Galtymore is the highest point, and rises like the lord and father of the surrounding progeny. From the top you look down upon a great extent of mountain, which shelves away from him to the south, east, and west; but to the north the ridge is almost a perpendicular declivity. On that side the famous golden vale of Limrick and Tipperary spreads a rich level to the eye, bounded by the mountains of Clare, King's and Queen's counties, with the course of the Shannon, for many miles below Limerick. To the south you look over alternate ridges of mountains, which rise one beyond another, till in a clear day the eye meets the ocean near Dungarvon. The mountains of Waterford and Knockmaldown fill up the space to the south-east. The western is the most extensive view; for nothing stops the eye till Mangerton and Mac Gilly Cuddy's Reeks point out the spot where Killarney's lake calls for a farther excursion. The prospect extends into eight counties, Cork, Kerry, Waterford, Limerick, Clare, Queen's, Tipperary, King's.

A little to the west of this proud summit, below it in a very extraordinary hollow, is a circular lake of two acres, reported to be unfathomable. The descriptions which I have read of the craters of exhausted volcanoes, leave very little doubt of this being one; and the conical regularity of the summit of Galtymore speaks the same language. East of this respectable hill, to use Sir William Hamilton's language, is a declivity of about one quarter of a mile, and there Galtybeg rises in a yet more regular cone, and between the two hills is another lake, which from position seems to have been once the crater which threw up Galtybeg, as the first mentioned was the origin of Galtymore. Beyond the former hill is a third lake, and east of that another hill; I was told of a fourth, with another corresponding mountain. It is only the mere summit of these mountains which rise above the lakes. Speaking of them below, they may be said to be on the tops of the hills: they are all of them at the bottom of an almost regularly circular hollow. On the side next the mountain top are walls of perpendicular rocks, in regular strata, and some of them piled on each other, with an appearance of art rather than nature. In these rocks the eagles, which are seen in numbers on the Galties, have their nests. Supposing the mountains to be of volcanic origin, and these lakes the craters, of which I have not a doubt; they are objects of the greatest curiosity, for there is an unusual regularity in every considerable summit, having its corresponding crater; but without this circumstance the scenery is interesting in a very great degree. The mountain summits, which are often wrapped in the clouds, at other times exhibit the freest outline; the immense scooped hollows which sink at your feet, declivities of so vast a depth as to give one terror to look down; with the unusual forms of the lower region of hills, particularly Bull hill, and Round hill, each a mile over, yet rising out of circular vales, with the regularity of semi-globes, unite upon the whole to exhibit a scenery to the eye, in which the parts are of a magnitude so commanding; a character so interesting, and a variety so striking, that they well deserve to be examined by every curious traveller.

Nor are these immense outlines the whole of what is to be seen in this great range of mountains. Every glen has its beauties; there is a considerable mountain river, or rather torrent, in every one of them; but the greatest are the Funcheon, between Seefang and Galtymore; the Limestone river, between Galtymore and Round hill, and the Grouse river, between Coolegarranroe, and Mr. O'Callaghan's mountain; these present to the eye, for a tract of about three miles, every variety that rock, water, and mountain can give, thrown into all the fantastic forms which art may attempt in orna-



mented grounds, but always fails in. Nothing can exceed the beauty of the water, when not discoloured by rain, its lucid transparency shews, at considerable depths, every pebble no bigger than a pin, every rocky basin alive with trout and eels, that play and dash among the rocks, as if endowed with that native vigour which animates, in a superior degree, every inhabitant of the mountains, from the bounding red deer, and the soaring eagle, down even to the fishes of the brook. Every five minutes you have a waterfall in these glens, which in any other region, would stop every traveller to admire it. Sometimes the vale takes a gentle declivity, and presents to the eye at one stroke, twenty or thirty falls, which render the scenery all alive with motion; the rocks are tossed about in the wildest confusion, and the torrent bursts by turns from above, beneath, and under them; while the back ground is always filled up with the mountains which stretch around.

In the western Glen is the finest cascade in all the Galties; there are two falls, with a basin in the rock between, but from some points of view they appear one; the rock over which the water tumbles is about sixty feet high. A good line in which to view these objects is either to take the Killarney and Mallow road, to Mitchelstown, and from thence by lord Kingsborough's new one, to Skeheenrinky, there to take one of the Glens, to Galtybeg, and Galtymore, and return to Mitchelstown by the Wolf's track, Temple hill, and the Waterfall: or, if the Cork road is travelling, to make Dobbin's inn, at Ballyporeen, the head quarters, and view them from thence.

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Having heard much of the beauties of a part of the Queen's County, I had not before seen, I took that line of country in my way on a journey to Dublin.

From Mitchelstown to Cashel, the road leads as far as Galbally in the route already travelled from Cullen; towards Cashel the country is various. The only object deserving attention, are the plantations of Thomastown, the seat of Francis Mathew, esq. they consist chiefly of hedge-row trees in double and treble rows, are well grown, and of such extent as to form an uncommon woodland scenc in Ireland. Found the widow Holland's inn, at Cashel, clean and very civil. Take the road to Urlingford. The rich sheep pastures, part of the famous golden vale, reach between three and four miles from Cashel to the great bog by Botany Hill, noted for producing a greater variety of plants than common. That bog is separated by only small tracts of land, from the string of bogs which extend through the Queen's County, from the great bog of Allen; it is here of considerable extent, and exceedingly improveable. Then enter a low marshy bad country, which grows worse after passing the sixty-sixth mile stone, and successive bogs in it. Breakfast at Johnstown, a regular village on a slight eminence, built by Mr. Hayley; it is near the spaw of Ballyspellin. Rows of trees are planted; but their heads all cut off, I suppose from their not thriving, being planted too old. Immediately on leaving these planted avenues, enter a row of eight or ten new cabins, at a distance from each other, which appear to be a new undertaking, the land about them all pared and burnt, and the ashes in heaps.

Enter a fine planted country, with much corn and good thriving quick hedges for many miles. The road leads through a large wood, which joins lord Ashbrook's plantations, whose house is situated in the midst of more wood than almost any one I have seen in Ireland. Pass Durrow; the country for two or three miles continues all inclosed with fine quick hedges, is beautiful, and has some resemblance to the best parts of Essex. Sir Robert Staple's improvements join this fine tract; they are completed

in a most perfect manner, the hedges well-grown, cut, and in such excellent order, that I can scarcely believe myself to be in Ireland. His gates are all of iron. These sylvan scenes continue through other seats beautifully situated, amidst gentle declivities of the finest verdure, full grown woods, excellent hedges, and a pretty river winding by the house. The whole environs of several would be admired in the best parts of England.

Cross a great bog, within sight of lord de Vescey's plantations. The road leads over it, being drained for that purpose by deep cuts on either side. I should apprehend this bog to be among the most improveable in the country.

Slept at Ballyroan, at an inn kept by three animals, who call themselves women; met with more impertinence than at any other in Ireland. It is an execrable hole. In three or four miles pass Sir John Parnel's, prettily situated in a neatly dressed lawn, with much wood about it, and a lake quite alive with wild fowl.

Pass Monstereven, and cross directly a large bog, drained and partly improved; but all of it bearing grass, and seems in a state that might easily be reduced to rich meadow, with only a dressing of lime. Here I got again into the road I had travelled before.

I must in general remark, that from near Urlingford to Dawson Court, near Monstereven, which is completely across the Queen's County, is a line of above thirty English miles, and is for that extent by much the most improved of any I have seen in Ireland. It is generally well planted, has many woods, and not consisting of patches of plantation just by gentlemen's houses, but spreading over the whole face of the country, so as to give it the richness of an English woodland scene. What a country would Ireland be, had the inhabitants of the rest of it improved the whole like this!

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## PART II.

### SECTION I.....SOIL, FACE OF THE COUNTRY, AND CLIMATE.

TO judge of Ireland by the conversation one sometimes hears in England, it would be supposed that one half of it was covered with bogs, and the other with mountains filled with Irish ready to fly at the sight of a civilized being. There are people who will smile when they hear that, in proportion to the size of the two countries, Ireland is more cultivated than England, having much less waste land of all sorts. Of uncultivated mountains there are no such tracts as are found in our four northern counties, and the North Riding of Yorkshire, with the eastern line of Lancaster, nearly down to the Peak of Derby, which form an extent of above a hundred miles of waste. The most considerable of this sort in Ireland are in Kerry, Galway, and Mayo, and some in Sligo and Donnegal. But all these together will not make the quantity we have in the four northern counties; the vallies in the Irish mountains are also more inhabited, I think, than those of England, except where there are mines, and consequently some sort of cultivation creeping up the sides. Natural fertility, acre for acre over the two kingdoms, is certainly in favour of Ireland; of this I believe there can scarcely be a doubt entertained, when it is considered that some of the more beautiful, and even best cultivated counties in England, owe almost every thing to the capital art and industry of the inhabitants.

The circumstance which strikes me as the greatest singularity of Ireland, is the rockiness of the soil, which should seem at first sight against that degree of fertility; but the

contrary is the fact. Stone is so general, that I have great reason to believe the whole island is one vast rock of different strata and kinds rising out of the sea. I have rarely heard of any great depths being sunk without meeting with it. In general it appears on the surface in every part of the kingdom, the flattest and most fertile parts, as Limerick, Tipperary, and Meath, have it at no great depth, almost as much as the more barren ones. May we not recognize in this the hand of bounteous Providence, which has given, perhaps the most stony soil in Europe to the moistest climate in it? If as much rain fell upon the clays of England (a soil very rarely met with in Ireland, and never without much stone) as falls upon the rocks of her sister island, those lands could not be cultivated. But the rocks are here clothed with verdure; those of lime-stone with only a thin covering of mould, have the softest and most beautiful turf imaginable.

Of the great advantages resulting from the general plenty of lime-stone and lime-stone gravel, and the nature of the bogs, I shall have occasion to speak more particularly hereafter.

The rockiness of the soil in Ireland is so universal, that it predominates in every sort. One cannot use with propriety the terms clay, loam, sand, &c. it must be a stony clay, a stony loam, a gravelly sand. Clay, especially the yellow, is much talked of in Ireland, but it is for want of proper discrimination. I have once or twice seen almost a pure clay upon the surface, but it is extremely rare. The true yellow clay is usually found in a thin stratum under the surface mould, and over a rock; harsh, tenacious, stony, strong loams, difficult to work, are not uncommon; but they are quite different from English clays.

Friable sandy loams, dry but fertile, are very common, and they form the best soils in the kingdom for tillage and sheep. Tipperary and Roscommon abound particularly in them. The most fertile of all, are the bullock pastures of Limerick, and the banks of the Shannon in Clare, called the Corcasses. These are a mellow, putrid, friable loam.

Sand which is so common in England, and yet more common through Spain, France, Germany, and Poland, quite from Gibraltar to Petersburg, is no where met with in Ireland, except for narrow slips of hillocks, upon the sea coast. Nor did I ever meet with, or hear of a chalky soil.

The bogs, of which foreigners have heard so much, are very extensive in Ireland; that of Allen extends eighty miles, and is computed to contain three hundred thousand acres. There are others also, very extensive, and smaller ones scattered over the whole kingdom; but these are not in general more than are wanted for fuel. When I come to speak of the improvement of waste lands, I shall describe them particularly.

Besides the great fertility of the soil, there are other circumstances which come within my sphere to mention. Few countries can be better watered, by large and beautiful rivers; and it is remarkable, that by much the finest parts of the kingdom are on the banks of these rivers. Witness the Sure, Blackwater, the Liffy, the Boyne, the Nore, the Barrow, and part of the Shannon, they wash a scenery that can hardly be exceeded. From the rockiness of the country, however, there are few of them that have not obstructions, which are great impediments to inland navigation.

The mountains of Ireland give to travelling that interesting variety, which a flat country can never abound with it. And at the same time, they are not in such number as to confer the usual character of poverty, which attends them. I was either upon or very near the most considerable in the kingdom. Mangerton, and the Reeks, in Kerry; the Galties in Corke; those of Mourne in Down; Crow Patrick, and Nephin in Mayo,

these are the principal in Ireland, and they are of a character, in height and sublimity, which should render them the objects of every traveller's attention.

Relative to the climate of Ireland, a short residence cannot enable a man to speak much from his own experience; the observations I have made myself confirm the idea of its being vastly wetter than England; from the 20th of June to the 20th of October, I kept a register, and there were, in one hundred and twenty-two days, seventy-five of rain, and very many of them incessant and heavy. I have examined similar registers I kept in England, and can find no year that even approaches to such a moisture as this. But there is a register of an accurate diary published, which compares London and Corke. The result is, that the quantity at the latter place was double to that at London. See Smith's Hist. of Corke.

From the information I received, I have reason to believe, that the rainy season sets in usually about the first of July, and continues very wet till September or October, when there is usually a dry fine season of a month or six weeks. I resided in the county of Corke, &c. from October till March, and found the winter much more soft and mild, than ever I experienced one in England. I was also a whole summer there (1778) and it is fair to mention, that it was as fine a one as ever I knew in England, though by no means so hot. I think hardly so wet as very many I have known in England. The tops of the Galty mountains exhibited the only snow we saw; and as to frosts, they were so slight and rare that I believe myrtles, and yet tenderer plants, would have survived without any covering. But when I say that the winter was not remarkable for being wet, I do not mean that we had a dry atmosphere. The inches of rain which fell in the winter I speak of, would not mark the moisture of the climate. As many inches will fall in a single tropical shower, as in a whole year in England. See Mitchel's Present State of Great Britain and North America. But if the clouds presently disperse, and a bright sun shines, the air may soon be dry. The worst circumstance of the climate of Ireland, is the constant moisture without rain. Wet a piece of leather, and lay it in a room where there is neither sun nor fire, and it will not in summer even be dry in a month. I have known gentlemen in Ireland deny their climate being moister than England, but if they have eyes let them open them, and see the verdure that clothes their rocks, and compare it with ours in England where rocky soils are of a russet brown however sweet the food for sheep. Does not their island lie more exposed to the great Atlantic; and does not the west wind blow three fourths of a year? If there was another island yet more westward, would not the climate of Ireland be improved. Such persons speak equally against fact, reason, and philosophy. That the moisture of a climate does not depend on the quantity of rain that falls, but on the powers of ærial evaporation, Dr. Dobson has clearly proved. Phil. Trans. vol. lxxvii. part 1. p. 244.

### OPPRESSION.

BEFORE I conclude this article of the common labouring poor in Ireland, I must observe, that their happiness depends not merely upon the payment of their labour, their clothes, or their food; the subordination of the lower classes, degenerating into oppression, is not to be overlooked. The poor in all countries, and under all governments, are both paid and fed, yet there is an infinite difference between them in different ones. This inquiry will by no means turn out so favourable as the preceding articles. It must be very apparent to every traveller through that country, that the labouring poor are treated with harshness, and are in all respects so little considered,

that their want of importance seems a perfect contrast to their situation in England, of which country, comparatively speaking, they reign the sovereigns. The age has improved so much in humanity, that even the poor Irish have experienced its influence, and are every day treated better and better; but still the remnant of the old manners, the abominable distinction of religion, united with the oppressive conduct of the little country gentlemen, or rather vermin of the kingdom, who never were out of it, altogether bear still very heavy on the poor people, and subject them to situations more mortifying than we ever behold in England. The landlord of an Irish estate, inhabited by Roman Catholics, is a sort of despot who yields obedience, in whatever concerns the poor, to no law but that of his will. To discover what the liberty of the people is, we must live among them, and not look for it in the statutes of the realm: the language of written law may be that of liberty, but the situation of the poor may speak no language but that of slavery; there is too much of this contradiction in Ireland; a long series of oppressions, aided by many very ill-judged laws, have brought landlords into a habit of exerting a very lofty superiority, and their vassals into that of an almost unlimited submission; speaking a language that is despised, professing a religion that is abhorred, and being disarmed, the poor find themselves in many cases slaves even in the bosom of *written* liberty. Landlords that have resided much abroad are usually humane in their ideas, but the habit of tyranny naturally contracts the mind, so that even in this polished age there are instances of a severe carriage towards the poor, which is quite unknown in England.

A landlord in Ireland can scarcely invent an order which a servant, labourer, or cottar dares to refuse to execute. Nothing satisfies him but an unlimited submission. Disrespect, or any thing tending towards sauisness, he may punish with his cane or his horse-whip with the most perfect security, a poor man would have his bones broke, if he offered to lift his hands in his own defence. Knocking down is spoken of in the country in a manner that makes an Englishman stare. Landlords of consequence have assured me that many of their cottars would think themselves honoured by having their wives and daughters sent for to the bed of their master; a mark of slavery that proves the oppression under which such people must live. Nay, I have heard anecdotes of the lives of people being made free with without any apprehension of the justice of a jury. But let it not be imagined that this is common; formerly it happened every day, but law gains ground. It must strike the most careless traveller to see whole strings of ears whipt into a ditch by a gentleman's footman to make way for his carriage; if they are overturned or broken in pieces, no matter, it is taken in patience; were they to complain they would perhaps be horse-whipped. The execution of the laws lies very much in the hands of justices of the peace, many of whom are drawn from the most illiberal class in the kingdom. If a poor man lodges a complaint against a gentleman, or any animal that chooses to call itself a gentleman, and the justice issues out a summons for his appearance, it is a fixed affront, and he will infallibly be *called out*. Where manners are in conspiracy against law, to whom are the oppressed people to have recourse? It is a fact, that a poor man having a contest with a gentleman must—but I am talking nonsense, they know their situation too well to think of it; they can have no defence but by means of protection from one gentleman against another, who probably protects his vassal as he would the sheep he intends to eat.

The colours of this picture are not charged. To assert that all these cases are common, would be an exaggeration, but to say that an unfeeling landlord will do all this with impunity is to keep strictly to truth: and what is liberty but a farce and a jest, if

its blessings are received as the favour of kindness and humanity, instead of being the inheritance of Right ?

Consequences have flowed from these oppressions which ought long ago to have put a stop to them. In England we have heard much of White-boys, Steel-boys, Oak-boys, Peep-of-day-boys, &c. But these various insurgents are not to be confounded, for they are very different. The proper distinction in the discontents of the people is into Protestant and Catholic. All but the White-boys were among the manufacturing Protestants in the north. The White-boys Catholic labourers in the south: from the best intelligence I could gain, the riots of the manufacturers had no other foundation but such variations in the manufacture as all fabrics experience, and which they had themselves known and submitted to before. The case, however, was different with the White-boys; who being labouring Catholics met with all those oppressions I have described, and would probably have continued in full submission had not very severe treatment in respect of tythes, united with a great speculative rise of rent about the same time, blown up the flame of resistance; the atrocious acts they were guilty of made them the object of general indignation, acts were passed for their punishment which seemed calculated for the meridian of Barbary; this arose to such a height that by one they were to be hanged under circumstances without the common formalities of a trial, which though repealed the following session, marks the spirit of punishment; while others remain yet the law of the land, that would if executed tend more to raise than quell an insurrection. From all which it is manifest that the gentlemen of Ireland never thought of a radical cure from overlooking the real cause of the disease, which in fact lay in themselves, and not in the wretches they doomed to the gallows. Let them change their own conduct entirely, and the poor will not long riot. Treat them like men who ought to be as free as yourselves: put an end to that system of religious persecution which for seventy years has divided the kingdom against itself; in these two circumstances lies the cure of insurrection, perform them completely, and you will have an affectionate poor, instead of oppressed and discontented vassals.

A better treatment of the poor in Ireland is a very material point of the welfare of the whole British Empire. Events may happen which may convince us fatally of this truth; if not, oppression must have broken all the spirit and resentment of men. By what policy the government of England can for so many years have permitted such an absurd system to be matured in Ireland, is beyond the power of plain sense to discover.

### EMIGRATIONS.

BEFORE the American war broke out, the Irish and Scotch emigrations were a constant subject of conversation in England, and occasioned much discourse even in parliament. The common observation was, that if they were not stopped, those countries would be ruined, and they were generally attributed to a great rise of rents. Upon going over to Ireland I determined to omit no opportunities of discovering the cause and extent of this emigration, and my information as may be seen in the minutes of the journey, was very regular. I have only a few general remarks to make on it here.

The spirit of emigrating in Ireland appeared to be confined to two circumstances, the presbyterian religion, and the linen manufacture. I heard of very few emigrants except among manufacturers of that persuasion. The Catholics never went, they seem not only tied to the country but almost to the parish in which their ancestors lived. As to the emigration in the north it was an error in England to suppose it a novelty which

arose with the increase in rents. The contrary was the fact, it had subsisted perhaps forty years, insomuch that at the ports of Belfast, Derry, &c. the passenger trade, as they called it, had long been a regular branch of commerce, which employed several ships, and consisted in carrying people to America. The increasing population of the country made it an increasing trade, but when the linen trade was low, the passenger trade was always high. At the time of lord Donnegall's letting his estate in the north the linen business suffered a temporary decline, which sent great numbers to America, and gave rise to the error that it was occasioned by the increase of his rents: the fact, however, was otherwise, for great numbers of those who went from his lands actually sold those leases for considerable sums, the hardship of which was supposed to have driven them to America. Some emigration, therefore, always existed, and its increase depended on the fluctuations of linen; but as to the effect there was as much error in the conclusions drawn in England as before in the cause.

It is the misfortune of all manufactures worked for a foreign market to be upon an insecure footing, periods of declension will come, and when in consequence of them great numbers of people are out of employment, the best circumstance is their enlisting in the army or navy; and it is the common result; but unfortunately the manufacture in Ireland (of which I shall have occasion to speak more hereafter) is not confined as it ought to be to towns, but spreads into all cabins of the country. Being half farmers, half manufacturers, they have too much property in cattle, &c. to enlist when idle; if they convert it into cash it will enable them to pay their passage to America, an alternative always chosen in preference to the military life. The consequence is, that they must live without work till their substance is quite consumed before they will enlist. Men who are in such a situation that from various causes they cannot work, and won't enlist, should emigrate, if they stay at home they must remain a burthen upon the community; emigration should not, therefore, be condemned in states so ill governed as to possess many people willing to work, but without employment.

#### SECTION II.....ROADS....CARS.

FOR a country, so very far behind us as Ireland, to have got suddenly so much the start of us in the article of roads, is a spectacle that cannot fail to strike the English traveller exceedingly. But from this commendation the turnpikes in general must be excluded, they are as bad as the bye-roads are admirable. It is a common complaint, that the tolls of the turnpikes are so many jobs, and the roads left in a state that disgrace the kingdom.

The following is the system on which the cross-roads are made. Any person, wishing to make or mend a road, has it measured by two persons, who swear to the measurement before a justice of the peace. It is described as leading from one market-town to another (it matters not in what direction) that it will be a public good, and that it will require such a sum per perch of twenty-one feet, to make or repair the same; a certificate to this purpose (of which printed forms are sold) with the blanks filled up, is signed by the measurers, and also by two persons called overseers, one of whom is usually the person applying for the road, the other the labourer he intends to employ as an overseer of the work, which overseer swears also before the justice the truth of the valuation. The certificate thus prepared, is given by any person to some one of the grand jury, at either of the assizes, but usually in the spring. When all the common business of trials is over, the jury meets on that of roads; the chairman reads the certificates, and they are all put to the vote, whether to be granted or not. If re-

jected, they are torn in pieces and no further notice taken; if granted, they are put on the file.

This vote of approbation, without any farther form, enables the person who applied for the presentment immediately to construct or repair the road in question, which he must do at his own expence; he must finish it by the following assizes, when he is to send a certificate of his having expended the money pursuant to the application; this certificate is signed by the foreman, who also signs an order on the treasurer of the county to pay him, which is done immediately. In like manner are bridges, houses of correction, jails, &c. &c. built and repaired. If a bridge over a river which parts two counties, half is done by one and the other half by the other county.

The expence of these works is raised by a tax on the lands, paid by the tenant; in some counties it is acreable, but in others it is on the plough land, and as no two plough lands are of the same size is a very unequal tax. In the county of Meath it is acreable, and amounts to one shilling per acre, being the highest in Ireland; but in general it is from three-pence to six-pence per acre, and amounts of late years through the whole kingdom to one hundred and forty thousand pounds a year.

The juries will very rarely grant a presentment for a road which amounts to above fifty pounds, or for more than six or seven shillings a perch, so that if a person wants more to be made than such a sum will do, he divides it into two or three different measurements or presentments. By the act of parliament all presentment-roads must be twenty-one feet wide at least from fence to fence, and fourteen feet of it formed with stone or gravel.

As the power of the grand jury extends in this manner to the cutting new roads where none ever were before, as well as to the repairing and widening old ones, exclusive, however, of parks, gardens, &c. it was necessary to put a restriction against the wanton expence of it. Any presentment may be traversed that is opposed, by denying the allegations of the certificate; this is sure of delaying it until another assizes, and in the mean time persons are appointed to view the line of road demanded, and report on the necessity or hardship of the case. The payment of the money may also be traversed after the certificate of its being laid out; for if any person views and finds it a manifest imposition and job, he has that power to delay payment until the cause is cleared up and proved. But this traverse is not common. Any persons are eligible for asking presentments; but it is usually done only by resident gentlemen, agents, clergy, or respectable tenantry. It follows necessarily, that every person is desirous of making the roads leading to his own house, and that private interest alone is considered in it, which I have heard objected to the measure; but this I must own appears to me the great merit of it. Whenever individuals act for the public alone, the public is very badly served; but when the pursuit of their own interest is the way to benefit the public, then is the public good sure to be promoted; such is the case of presentment of roads: for a few years the good roads were all found leading from houses like rays from a center, with a surrounding space, without any communication; but every year brought the remedy, until a short time, those rays pointing from so many centers met, and then the communication was complete. The original act passed but seventeen years ago, and the effect of it in all parts of the kingdom is so great, that I found it perfectly practicable to travel upon wheels by a map; I will go here; I will go there; I could trace a route upon paper as wild as fancy could dictate, and every where I found beautiful roads without break or hindrance, to enable me to realize my design. What a figure would a person make in England, who should attempt to move in that manner, where the roads, as Dr. Burn has well observed, are almost in as bad a state as in the time of Philip and



Mary. In a few years there will not be a piece of bad road except turnpikes in all Ireland. The money raised for this first and most important of all national purposes, is expended among the people who pay it, employs themselves and their teams, encourages their agriculture, and facilitates so greatly the improvement of waste lands, that it ought always to be considered as the first step to any undertaking of that sort.

At first, roads, in common with bridges, were paid out of the general treasure of the county, but by a subsequent act the road tax is now on baronies; each barony pays for its own roads. By another act juries were enabled to grant presentments of narrow mountain roads, at two shillings and sixpence a perch. By another, they were empowered to grant presentments of footpaths, by the side of roads, to one shilling a perch. By a very late act, they are also enabled to contract at three halfpence per perch per annum from the first making of a road, for keeping it in repair, which before could not be done without a fresh presentment. Arthur King, esq. of Moniva, whose agriculture is described in the preceding minutes, and who at that time represented the county of Galway, was the worthy citizen who first brought this excellent measure into parliament: Ireland, and every traveller that ever visits it ought, to the latest time, to revere the memory of such a distinguished benefactor to the public. Before that time the roads, like those of England, remained impassable, under the miserable police of the six days' labour. Similar good effects would here flow from adopting the measure, which would ease the kingdom of a great burthen in its public effect absolutely contemptible; and the tax here, as in Ireland, ought to be so laid, as to be borne by the tenant, whose business it is at present to repair.

Upon the imperfections of the Irish system I have only to remark, that juries should, in some cases, be more ready than they are to grant these presentments. In general, they are extremely liberal, but sometimes they take silly freaks of giving none, or very few. Experience having proved, from the general goodness of the roads, that abuses cannot be very great, they should go on with spirit to perfect the great work throughout the kingdom; and as a check upon those who lay out the money, it might perhaps be advisable to print county maps of the presentment roads, with corresponding lists and tables of the names of all persons who have obtained presentments, the sums they received, and for what roads. These should be given freely by the jurymen, to all their acquaintance, that every man might know, to whose carelessness or jobbing the public was indebted for bad roads, when they had paid for good ones. Such a practice would certainly deter many.

At eleven million forty-two thousand six hundred and forty-two acres in the kingdom, 140,000l. a year amounts to just three-pence an acre for the whole territory: a very trifling tax for such an improvement, and which almost ranks in public ease and benefit with that of the post-office.

### SECTION III.....MANNERS AND CUSTOMS.

*Quid leges sine moribus,  
Vana proficiunt!*

IT is but an illiberal business for a traveller, who designs to publish remarks upon a country to sit down coolly in his closet and write a satire on the inhabitants. Severity of that sort must be enlivened with an uncommon share of wit and ridicule, to please. Where very gross absurdities are found, it is fair and manly to note them; but to enter into character and disposition is generally uncandid, since they are no people but might

be better than they are found ; and none but have virtues which deserve attention, at least as much as their failings ; for these reasons this section would not have found a place in my observations, had not some persons, of much more flippancy than wisdom, given very gross misrepresentations of the Irish nation. It is with pleasure, therefore, that I take up the pen on the present occasion ; as a much longer residence there enables me to exhibit a very different picture ; in doing this, I shall be free to remark, wherein I think the conduct of certain classes may have given rise to general and consequently injurious condemnation.

There are three races of people in Ireland, so distinct, as to strike the least attentive traveller : these are the Spanish which are found in Kerry, and a part of Limerick and Corke, tall and thin, but well made, a long visage, dark eyes, and long black lank hair. The time is not remote when the Spaniards had a kind of settlement on the coast of Kerry, which seemed to be overlooked by government. There were many of them in queen Elizabeth's reign, nor were they entirely driven out till the time of Cromwell. There is an island of Valentia on that coast, with various other names, certainly Spanish. The Scotch race is in the north where are to be found the features which are supposed to mark that people, their accent and many of their customs. In a district near Dublin, but more particularly in the baronies of Bargie and Forth in the county of Wexford, the Saxon tongue is spoken without any mixture of the Irish, and the people have a variety of customs mentioned in the minutes, which distinguish them from their neighbours. The rest of the kingdom is made up of mongrels. The Milesian race of Irish, which may be called *native*, are scattered over the kingdom, but chiefly found in Connaught and Munster ; a few considerable families, whose genealogy is undoubted, remain, but none of them with considerable possessions except the O'Briens and Mr. O'Neil ; the former have near twenty thousand pounds a year in the family, the latter half as much, the remnant of a property once his ancestors, which now forms six or seven of the greatest estates in the kingdom. O'Hara and M'Dermot are great names in Connaught, and O'Donnohue a considerable one in Kerry ; but I heard of a family of O'Drischal's in Corke, who claim an origin prior in Ireland to any of the Milesian race.

The only divisions which a traveller, who passed through the kingdom without making any residence could make, would be into people of considerable fortune and mob. The intermediate division of the scale, so numerous and respectable in England, would hardly attract the least notice in Ireland. A residence in the kingdom convinces one, however, that there is another class in general of small fortune—country gentlemen and renters of land. The manners, habits, and customs of people of considerable fortune are much the same every where, at least there is very little difference between England and Ireland, it is among the common people one must look for those traits by which we discriminate a national character. The circumstances which struck me most in the common Irish were, vivacity and a great and eloquent volubility of speech : one would think they could take snuff and talk without tiring till doomsday. They are infinitely more cheerful and lively than any thing we commonly see in England, having nothing of that incivility of sullen silence with which so many Englishmen seem to wrap themselves up, as if retiring within their own importance. Lazy to an excess at work, but so spiritedly active at play, that at hurling, which is the cricket of savages, they shew the greatest feats of agility. Their love of society is as remarkable as their curiosity is insatiable ; and their hospitality to all comers, be their own poverty ever so pinching, has too much merit to be forgotten. Pleased to enjoyment with a joke, or witty repartee, they will repeat it with such expression, that the laugh will be universal. Warm friends and revengeful

enemies; they are inviolable in their secrecy, and inevitable in their resentment; with such a notion of honour, that neither threat nor reward would induce them to betray the secret or person of a man, though an oppressor, whose property they would plunder without ceremony. Hard drinkers and quarrelsome: great liars, but civil, submissive, and obedient. Dancing is so universal among them, that there are every where itinerant dancing-masters, to whom the cottars pay sixpence a quarter for teaching their families. Besides the Irish jig, which they can dance with a most luxuriant expression, minuets and country-dances are taught; and I even heard some talk of cotillions coming in.

Some degree of education is also general, hedge schools, as they are called (they might as well be termed ditch ones, for I have seen many a ditch full of scholars) are every where to be met with where reading and writing are taught; schools are also common for men; I have seen a dozen great fellows at school and was told they were educating with an intention of being priests. Many strokes in their character are evidently to be ascribed to the extreme oppression under which they live. If they are as great thieves and liars as they are reported, it is certainly owing to this cause.

If from the lowest class we rise to the highest, all there is gaiety, pleasure, luxury, and extravagance; the town life at Dublin is formed on the model of that of London. Every night in the winter there is a ball or a party, where the polite circle meet, not to enjoy but to sweat each other; a great crowd crammed into twenty feet square gives a zest to the agreements of small talk and whist. There are four or five houses large enough to receive a company commodiously, but the rest are so small as to make parties detestable. There is however an agreeable society in Dublin, in which a man of large fortune will not find his time heavy. The stile of living may be guessed from the fortunes of the resident nobility and great commoners; there are about thirty that possess incomes from seven to twenty thousand pounds a year. The court has nothing remarkable or splendid in it, but varies very much, according to the private fortune or liberality of disposition in the lord lieutenant.

In the country their life has some circumstances which are not commonly seen in England. Large tracts of land are kept in hand by every body to supply the deficiencies of markets; this gives such a plenty, that, united with the lowness of taxes and prices, one would suppose it difficult for them to spend their incomes, if Dublin in the winter did not lend assistance. Let it be considered that the prices of meat are much lower than in England; poultry only a fourth of the price; wild fowl and fish in vastly greater plenty; rum and brandy not half the price; coffee, tea, and wines far cheaper; labour not above a third; servants' wages upon an average thirty per cent. cheaper. That taxes are inconsiderable, for there is no land-tax, no poor-rates, no window-tax, no candle or soap-tax, only half a wheel-tax, no servants-tax, and a variety of other articles heavily burthened in England, but not in Ireland. Considering all this, one would think they could not spend their incomes; they do contrive it however. In this business they are assisted by two customs that have an admirable tendency to it, great numbers of horses and servants.

In England such extensive demesnes would be parks around the seats for beauty as much as use, but it is not so in Ireland; the words deer-park and demesne are to be distinguished; there are great demesnes without any parks, but a want of taste, too common in Ireland, is having a deer-park at a distance from the house; the residence surrounded by walls, or hedges, or cabins; and the lawn inclosure scattered with animals of various sorts, perhaps three miles off. The small quantity of corn proportioned to the total acres, shews how little tillage is attended to even by those who are the best able to carry it on; and the column of turnips proves in the clearest manner, what

the progress of improvement is in that kingdom. The number of horses may almost be esteemed a satire upon common sense; were they well fed enough to be useful, they would not be so numerous, but I have found a good hack for a common ride scarce in a house where there were a hundred. Upon an average, the horses in gentlemen's stables throughout the kingdom are not fed half so well as they are in England by men of equal fortune; yet the number makes the expence of them very heavy.

Another circumstance to be remarked in the country life is the miserableness of many of their houses; there are men of five thousand a year in Ireland, who live in habitations that a man of seven hundred a year in England would disdain; an air of neatness, order, dress, and properte, is wanting to a surprising degree around the mansion; even new and excellent houses have often nothing of this about them. But the badness of the houses is remedying every hour throughout the whole kingdom, for the number of new ones just built, or building, is prodigiously great. I should suppose there were not ten dwellings in the kingdom thirty years ago that were fit for an English pig to live in. Gardens were equally bad, but now they are running into the contrary extreme, and wall in five, six, ten, and even twenty Irish acres for a garden, but generally double or treble what is necessary.

The tables of people of fortune are very plentifully spread; many elegantly, differing in nothing from those of England. I think I remarked that venison wants the flavour it has with us, probably for the same reason, that the produce of rich parks is never equal to that of poor ones; the moisture of the climate, and the richness of the soil, give fat but not flavour. Another reason is the smallness of the parks, a man who has three or four thousand acres in his hands, has not perhaps above three or four hundred in his deer-park, and range is a great point for good venison. Nor do I think that garden vegetables have the flavour found in those of England, certainly owing to the climate; green peas I found every where perfectly insipid, and lettucc, &c. not good. Claret is the common wine of all tables, and so much inferior to what is drank in England, that it does not appear to be the same wine; but their port is incomparable, so much better than the English, as to prove, if proof was wanting, the abominable adulterations it must undergo with us. Drinking and duelling are two charges which have long been alledged against the gentlemen of Ireland, but the change of manners which has taken place in that kingdom is not generally known in England. Drunkenness ought no longer to be a reproach, for at every table I was at in Ireland I saw a perfect freedom reign, every person drank just as little as they pleased, nor have I ever been asked to drink a single glass more than I had an inclination for; I may go farther and assert that hard drinking is very rare among people of fortune; yet it is certain that they sit much longer at table than in England. I was much surprised at first going over to find no summons to coffee, the company often sitting till eight, nine, or ten o'clock before they went to the ladies. If a gentleman likes tea or coffee, he retires without saying any thing; a stranger of rank may propose it to the master of the house, who from custom contrary to that of England, will not stir till he receives such a hint, as they think it would imply a desire to save their wine. If the gentlemen were generally desirous of tea, I take it for granted they would have it, but their slighting is one inconvenience to such as desire it, not knowing when it is provided, conversation may carry them beyond the time, and then if they do trifle over the coffee it will certainly be cold. There is a want of attention in this, which the ladies should remedy, if they will not break the old custom and send to the gentlemen, which is what they ought to do, they certainly should have a salver fresh. I must however remark, that at the politest tables, which are those of people who have resided much out of Ireland, this point is conducted exactly as it is in England.

Duelling was once carried to an excess, which was a real reproach and scandal to the kingdom; it of course proceeded from excessive drinking; as the cause has disappeared, the effect has nearly followed; not however entirely, for it is yet far more common among people of fashion than in England. Of all practices a man who felt for the honour of his country, would wish soonest to banish this, for there is not one favourable conclusion to be drawn from it: as to courage nobody can question that of a polite and enlightened nation, entitled to a share of the reputation of the age; but it implies uncivilized manners, an ignorance of those forms which govern polite societies, or else a brutal drunkenness; the latter is no longer the cause or the pretence. As to the former, they would place the national character so backward, would take from it so much of its pretence to civilization, elegance and politeness of manners, that no true Irishman would be pleased with the imputation. Certain it is, that none are so captious as those who think themselves neglected or despised; and none are so ready to believe themselves either one or the other, as persons unused to good company. Captious people, therefore, who are ready to take an affront, must inevitably have been accustomed to ill company, unless there should be something uncommonly crooked in their natural dispositions, which is not to be supposed. Let every man that fights his one, two, three, or half a dozen duels, receive it as a maxim, that every one he adds to the number is but an additional proof of his being ill educated, and having vitiated his manners by the contagion of bad company; who is it that can reckon the most numerous rencontres? who but the bucks, bloods, landjobbers, and little drunken country gentlemen? Ought not people of fashion to blush at a practice which will very soon be the distinction only of the most contemptible of the people? the point of honour will and must remain for the decision of certain affronts, but it will rarely be had recourse to in polite, sensible, and well-bred company. The practice among real gentlemen in Ireland every day declining is a strong proof that a knowledge of the world corrects the old manners, and consequently its having ever been prevalent was owing to the causes to which I have attributed it.

There is another point of manners somewhat connected with the present subject, which partly induced me to place a motto at the head of this section. It is the conduct of juries; the criminal law of Ireland is the same as that of England, but in the execution it is so different, as scarcely to be known. I believe it is a fact, at least I have been assured so, that no man was ever hanged in Ireland for killing another in a duel: the security is such that nobody ever thought of removing out of the way of justice, yet there have been deaths of that sort, which had no more to do with honour than stabbing in the dark. I believe Ireland is the only country in Europe, I am sure it is the only part of the British dominions where associations among men of fortune are necessary for apprehending ravishers. It is scarcely credible how many young women have even of late years been ravished, and carried off in order (as they generally have fortunes) to gain to appearance a voluntary marriage. These actions, it is true, are not committed by the class I am considering at present; but they are tried by them, and acquitted. I think there has been only one man executed for that crime, which is so common as to occasion the associations I mentioned; it is to this supine execution of the law that such enormities are owing. Another circumstance which has the effect of screening all sorts of offenders, is men of fortune protecting them, and making interest for their acquittal, which is attended with a variety of evil consequences. I heard it boasted in the county of Fermanagh, that there had not been a man hanged in it for two and twenty years; all I concluded from this was, that there had been many a jury who deserved it richly.

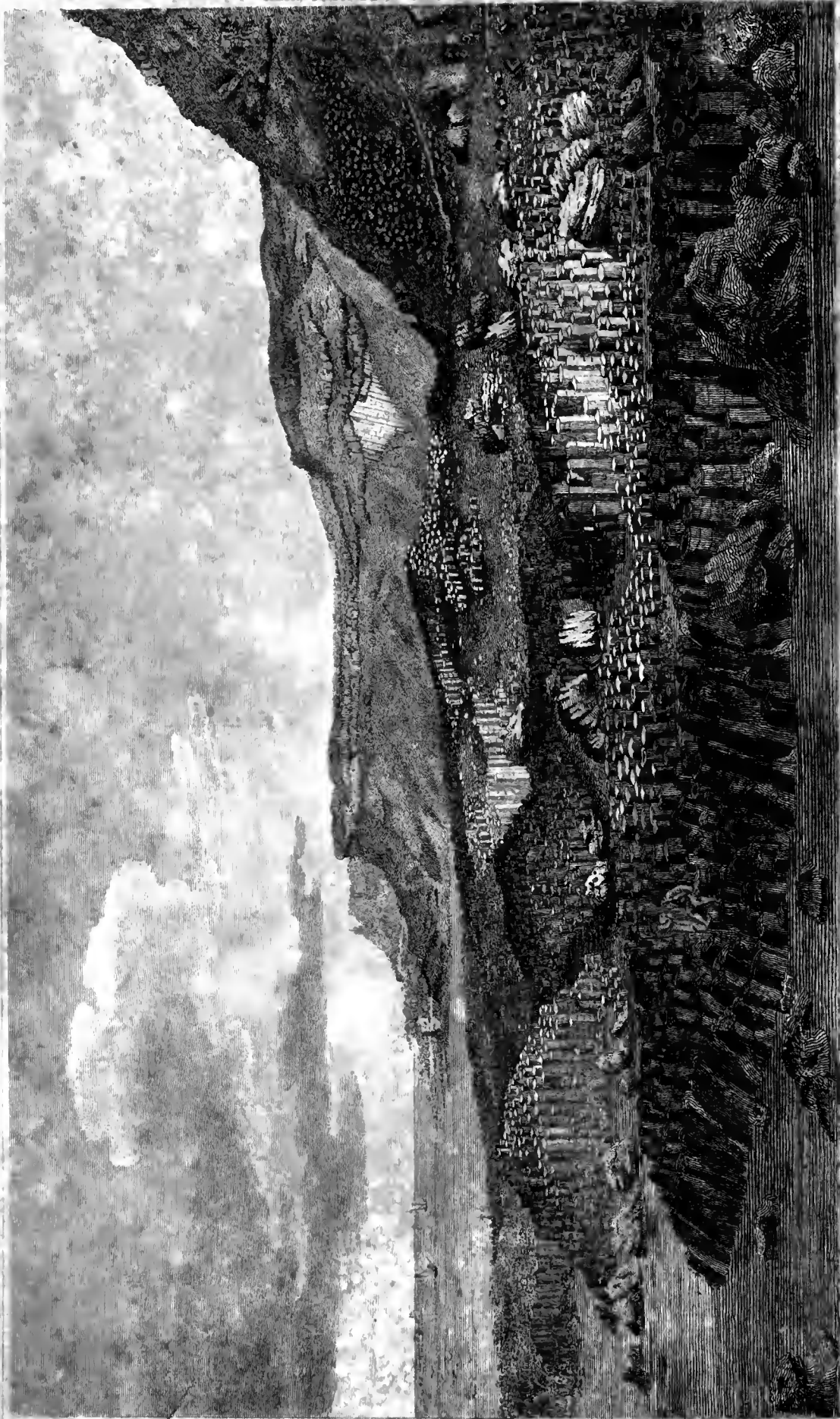
Let me, however, conclude what I have to observe on the conduct of the principal people residing in Ireland, that there are great numbers among them who are as liberal in all their ideas as any people in Europe; that they have seen the errors which have given an ill character to the manners of their country, and done every thing that example could effect to produce a change: that that happy change has been partly effected, and is effecting every hour, insomuch that a man may go into a vast variety of families which he will find actuated by no other principles than those of the most cultivated politeness, and the most liberal urbanity.

But I must now come to another class of people, to whose conduct it is almost entirely owing, that the character of the nation has not that lustre abroad, which I dare assert it will soon very generally merit: this is the class of little country gentlemen;\* tenants, who drink their claret by means of profit rents; jobbers in farms; bucks; your fellows with round hats, edged with gold, who hunt in the day, get drunk in the evening, and fight the next morning. I shall not dwell on a subject so perfectly disagreeable, but remark that these are the men among whom drinking, wrangling, quarrelling, fighting, ravishing, &c. &c. &c. are found as in their native soil; once to a degree that made them the pest of society; they are growing better, but even now, one or two of them got by accident (where they have no business) into better company are sufficient very much to derange the pleasures that result from a liberal conversation. A new spirit; new fashions; new modes of politeness exhibited by the higher ranks are imitated by the lower, which will, it is to be hoped, put an end to this race of beings; and either drive their sons and cousins into the army or navy, or sink them into plain farmers like those we have in England, where it is common to see men with much greater property without pretending to be gentlemen. I repeat it from the intelligence I received, that even this class are very different from what they were twenty years ago, and improve so fast that the time will soon come when the national character will not be degraded by any set.

That character is upon the whole respectable: it would be unfair to attribute to the nation at large the vices and follies of only one class of individuals. Those persons from whom it is candid to take a general estimate do credit to their country. That they are a people learned, lively, and ingenious, the admirable authors they have produced will be an eternal monument; witness their Swift, Sterne, Congreve, Boyle, Berkeley, Steele, Farquhar, Southerne, and Goldsmith. Their talent for eloquence is felt, and acknowledged in the parliaments of both the kingdoms. Our own service both by sea and land, as well as that (unfortunately for us) of the principal monarchies of Europe speak their steady and determined courage. Every unprejudiced traveller who visits them will be as much pleased with their cheerfulness, as obliged by their hospitality; and will find them a brave, polite, and liberal people.

\* This expression is not to be taken in a general sense. God forbid I should give this character of all country gentlemen of small fortunes in Ireland: I have myself been acquainted with exceptions—I mean only that in general they are not the most liberal people in the kingdom.





*West Prospect of the Granite Causeway.*







*Castle & Prospect of the Gibraltars & Casemates*

**LETTERS**  
CONCERNING THE NATURAL HISTORY OF THE BASALTES  
OF THE  
NORTHERN COAST OF THE COUNTY OF ANTRIM;  
WITH  
AN ACCOUNT OF ITS ANTIQUITIES, MANNERS, AND CUSTOMS.

BY THE REV. WILLIAM HAMILTON, A. M. F. T. C. D.

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**LETTER I.**

DEAR SIR,

*Portrush, July 20, 1784.*

MY natural curiosity, and the wish I had to trace the whole extent of the Basaltes of this country, induced me to make a short voyage, some days ago, to the island of Raghery,\* which lies six or seven miles off the north coast of Antrim, opposite to Ballycastle bay.

I enjoyed a good deal of pleasure in examining that little spot, which to me was almost a new kingdom; and if an account of it can at all contribute to amuse an idle hour of yours, I shall more than double my own gratification.

Though the island be not very remote, yet its situation, so much exposed to the northern ocean, and the turbulence of its irregular tides, have thrown such difficulties in the way of landsmen, that few have visited it but from necessity; and some curious arrangements of the columnar basaltes, with which it abounds, have never been noticed, except by the inhabitants.

The chalky † cliffs of Raghery, crowned by a venerable covering of brown rock, form a very beautiful and picturesque appearance as one sails towards them; and if the turbulence of the sea do not restrain the eyes and fancy from expatiating around, such a striking similitude appears between this and the opposite coast, as readily suggests an idea that the island might once have formed a part of the adjoining country, from whence it has been disunited by some violent shock of nature.

You, to whom demonstration is familiar, will naturally wonder to see two shores, seven or eight miles asunder, so expeditiously connected by such a slender and fanciful middle term as apparent similitude; and yet the likeness is so strong, and attended with such peculiar circumstances, that I do not entirely despair of prevailing even on you to acknowledge my opinion as a probable one.

It does not appear unreasonable to conclude, that if two pieces of land, separated from each other by a chasm, be composed of the same kind of materials, similarly arranged at equal elevations, these different lands might have been originally connected, and the chasm be only accidental. For let us conceive the materials to be deposited by any of the elements of fire, air, earth, or water, or by any cause whatever, and it is not likely that this cause, otherwise general, should in all its operations regularly stop short at the chasm.

\* Raghlin, Raghria.

† White lime-stone.

The materials of which the island of Raghery is composed, are accurately the same as those of the opposite shore, and the arrangement answers so closely, as almost to demonstrate at first view their former union. But to explain this more clearly, it will be necessary to give you a general sketch of this whole line of coast.

The northern coast of Antrim seems to have been originally a compact body of limestone rock, considerably higher than the present level of the sea; over which, at some later period, extensive bodies of vitrifiable stone have been superinduced in a state of softness. The original calcareous stratum appears to be very much deranged and interrupted by these incumbent masses. In some places it is depressed greatly below its ancient level—shortly after it is borne down to the water's edge, and can be traced under its surface—by and by it dips entirely, and seems irreticvably lost under the superior mass—in a short space, however, it begins to emerge, and after a similar variation recovers its original height.

In this manner, and with such repeated vicissitudes of elevation and depression, it pursues a course of forty miles along the coast, from Lough Foyle to Lough Larne.

It naturally becomes an object of curiosity to inquire what the substance is from which the lime-stone seems thus to have shrunk, burying itself (as it were in terror) under the covering of the ocean: and on examination it appears to be the columnar basalt, under which the lime-stone stratum is never found, nor indeed does it ever approach nearer to it without evident signs of derangement.

Thus for example: The chalky cliffs may be discovered a little eastward from Portrush; after a short course, they are suddenly depressed to the water's edge under Dunluce castle, and soon after lost entirely in passing near the basalt hill of Dunluce, whose crags near the sea are all columnar. At the river Bush the lime-stone recovers, and skims for a moment along the level of the sea, but immediately vanishes on approaching toward the great basalt promontory of Bengore, under which it is completely lost for the space of more than three miles.

Eastward from thence, beyond Dunseverick castle, it again emerges, and rising to a considerable height, forms a beautiful barrier to White Park bay and the Ballintoy shore. After this it suffers a temporary depression near the basalt hill of Knocksoghy, and then ranges along the coast as far as Ballycastle bay.

Fairhead, standing with magnificence on its massy columns of basalt, again exterminates it; and once again it rises to the eastward, and pursues its devious course, forming, on the Glenarm shores, a line of coast the most fantastically beautiful that can be imagined.

If this tedious expedition has not entirely worn out your patience, let us now take a view of the coast of Raghery itself, from the lofty summit of Fairhead, which overlooks it. Westward, we see its white cliffs rising abruptly from the ocean, corresponding accurately in materials and elevation with those of the opposite shore, and like them crowned with a venerable load of the same vitrifiable rock. Eastward, we behold it dip to the level of the sea, and soon give place to many beautiful arrangements of basalt pillars, which form the eastern end of the island, and lie opposite to the basalt of Fairhead, affording in every part a reasonable presumption that the two coasts were formerly connected, and that each was created and deranged by the same causes extensively operating over both.

But it is not in these larger features alone that the similitude may be traced; the more minute and accidental circumstances serve equally well to ascertain it.

Thus an heterogenous mass of freestone, coals, iron ore, &c. which forms the east side of Ballycastle bay, and appears quite different from the common fossils of the coun-

try, may be traced also directly opposite, running into Raghery, with circumstances which almost demonstrably ascertain it to be the same vein.

What I would infer from hence is, that this whole coast has undergone considerable changes in the course of successive ages; that those abrupt promontories, which now run wildly into the ocean, in proud defiance of its boisterous waves, have been rendered broken and irregular by some violent convulsion of nature; and that the island of Raghery, standing as it were in the midst between this and the Scottish coast, may be the surviving fragment of a large tract of country which at some period of time has been buried in the deep.

But I shall wave this tedious subject for the present, and endeavour to compensate for the dryness of this letter by some account of the state and singularities of this little island.

In the mean time, I must intreat you will be so candid as to give me timely notice whenever my letters become dull and unentertaining—I shall otherwise lose my labour to very bad purpose, as the chief object of them is to amuse you.

I am, dear Sir, with the greatest respect, your affectionate, &c.

## LETTER II.

DEAR SIR,

*Portrush, July 27.*

THE remarkable haziness which has prevailed in our atmosphere, during the whole of this summer, both by sea and land, has been very unfavourable to views along the coast, and even in the short trip I made to Raghery, gave me reason to be apprehensive of missing our course, as the rapidity of the tide soon carries a vessel clear of the island. However, with the assistance of a gleam from the meridian sun, we got safely across the channel in the space of two or three hours.

Raghery is near five miles in length, and about three quarters of a mile in breadth; toward the middle it is bent in an angle opposite to Ballycastle, and forms a tolerable bay, affording good anchorage, in deep water with a stiff clay bottom; but a westerly wind raises such a heavy swell all along this coast, that few vessels can ride out a gale from that quarter.

Its tides are very remarkable. Here it is that the great body of water which flows from the ocean during the flood tide, to supply the north part of the Irish channel, is first confined and broken in its course; and a large portion of it is returned near the west end of the island, in a counter tide, which supplies all the loughs and bays for the space of thirty miles, running toward the west, along the counties of Antrim, Derry, and Donegall; while in the mean time the true tide of flood runs toward the east, at the distance of a few miles from the coast, parallel to the former.

From such eddies as this, many singular irregularities arise, and in several places the tide from the westward (or the flood tide, as they denominate it) appears to flow nine hours, while the ebb continues only three.

Seamen, who are accustomed to navigate along this coast, know well how to use these different streams to good purpose. For example: a ship leaving Dublin with the flood tide (which comes into the Irish channel from the southward) may with a leading wind reach the county of Down; there the vessel will fall in with the northern tide of ebb, just then beginning to return to the ocean. With the assistance of this current, and the same leading breeze, the ship may fetch the isle of Raghery; where a judicious pilot, instead of opposing the returning tide of flood, may drop into a northern eddy, which

will carry him as far as Lough Swilly; where the true tide of ebb will again receive him, and bear his ship out of the western ocean.

Thus by prudent management may he enjoy the advantage of four different successive tides, all favourable to his voyage.

The western winds (which prevail here during far the greater part of the year) sweeping with an uninterrupted blast over the Atlantic Ocean, roll a most formidable wave along this coast, of which I had some experience in crossing to the island. The day was uncommonly still, not a breath of wind to ruffle the water, and yet a heavy majestic swell, ever heaving forward seemed to threaten ruin to our boat, and frequently hid from view even the lofty promontory of Fairhead. From this unruffled surface, however, there was not the slightest danger to be apprehended, and our vessel rose and descended on the glassy wave with entire security. How changed was this scene in the course of a few hours! The moment that the ebb began to return to the ocean, rushing in opposition to this western swell, all was confusion and tumult. The long wave which had just before rolled forward in silent majesty, was now fretted and broken into a tempestuous sea, which the stoutest boats dare not encounter, and even the best ships wish to avoid.

This alternate scene of peace and war takes place twice every day, and it is by attention to this circumstance that the passage is made with tolerable security.

The little skiff in which I navigated was built of very slight materials, and did not seem to me well calculated to buffet these stormy seas. I observed that we had received a good deal of water into it; and on my expressing my uneasiness that there was no visible means of throwing it out, one of the men instantly took off his brogue, with which he soon cleared the vessel of water, and put it on his foot again without seeming to feel the slightest inconvenience from the wetness of it; leaving me quite at ease on the subject of pumping the vessel.

Raghery contains about twelve hundred inhabitants, and is rather over peopled, as there is no considerable manufacture which might give employment to any superfluous hands.\*

The cultivated land is kindly enough, and produces excellent barley. In a plentiful year six hundred pounds worth of this grain has been exported from it. The craggy pasturage fattens a small, but delicious breed of sheep. Even its inhospitable rocks supply to the hand of industry a rich source of wealth, in the sea-weed it affords for the manufacture of kelp, which, under an indulgent landlord, often goes near to pay the whole rent of the island.†

\* From a census since held by the priest of the island, in order to lay a tax of one shilling on each person above the age of sixteen years, for the purpose of erecting a mass-house, it appears that the numbers amount to eleven hundred; there are one hundred and forty families, which almost average at the rate of eight persons to each family. The census has produced a great deal of uneasiness in the island, from an opinion that one person will die during the year in each family so numbered.

† This year an hundred tons of kelp have been exported from Raghery, which was bought by the linen bleachers of the north of Ireland, at 5l. 5s. per ton, the whole amounting to more than 525l. The annual rent of the island is but 600l. This entire manufacture is carried on by women and children, while the men are employed in more hazardous services. At low water the sea-weed is cut from the rocks, and spread out before the sun to dry; at night it is made up in little parcels, which are opened and shaken out again whenever the weather permits; this process is continued till the weed becomes dry enough to be burnt. A hole is then made in the ground, and a little temporary kiln erected, of loose stones, in which the weed is cautiously and gradually burned. During this process the vegetable salt, and every thing not capable of being easily dissipated by the fire, melts, and coalesces in one mass at the bottom of the kiln. In this state it is exported, no means having been yet established here, or in any part of the adjoining coast, to purify the alkaline salt from the various mixtures of marine salt, &c. with which it abounds.

The horses, as well as the sheep, are small in kind, but extremely serviceable, and sure footed beyond conception. Of this I had a strong proof in a little expedition which I made through the island with Mr. Gage, the hospitable proprietor of it. You must know it was but the other day the people of Raghery recollected that a road might be some convenience to them, so that in our excursion we were obliged to follow the old custom of riding over precipices, which would not appear contemptible, even to a man that enjoyed the full use of his legs.

It seems my horse, though fifteen or sixteen years old, had never before felt a bridle in his mouth, and after many attempts to shake it off, in a very critical situation, on the top of a very rugged precipice, he refused to proceed one step further, while this incumbrance impeded him. Having no other resource I was obliged to comply, and was carried over an exceeding dangerous heap of rocks, with a degree of caution which amazed me in the midst of my terrors.

It is somewhat singular that this island should not contain any native quadruped, except those universal travellers the rats,\* and the little shrew mouse which is sometimes found. But the various tribes of foxes, hares, rabbits, badgers, &c. for which it might afford excellent shelter, and which abound on the opposite shore, are here unknown. A few brace of hares indeed were lately introduced by the proprietor, which bid fair to produce a large increase.

A good many years ago, lord Antrim gave orders to his huntsman to transport a couple of foxes into the island, for the purpose of propagating that precious breed of animals. But the inhabitants assembled in consternation, and having subscribed each a hank of yarn, prevailed on the huntsman to disobey orders. However he was sharp enough to take the hint, and for some years paid his annual visit to Raghery, for the purpose of raising a regular tribute, to save the poor islanders from those desolating invaders.

The inhabitants are a simple, laborious and honest race of people, and possess a degree of affection for their island which may very much surprise a stranger. In conversation they always talk of Ireland as a foreign kingdom, and really have scarcely any intercourse with it except in the way of their little trade. A common and heavy curse among them is—"May Ireland be your hinder end."

From this amor patriæ arises their great population, notwithstanding the perils which attend their turbulent coast, as they never entertain a thought of trying to better their fortune, by settling in any of the neighbouring towns of Antrim.

The tedious processes of civil law are little known in Raghery; and indeed the affection which they bear to their landlord, whom they always speak of by the endearing name of master, together with their own simplicity of manners, renders the interference of the civil magistrate very unnecessary. The seizure of a cow or a horse, for a few days, to bring the defaulter to a sense of duty; or a copious draught of salt-water from the surrounding ocean in criminal cases, forms the greater part of the sanctions and punishments of the island. If the offender be wicked beyond hope, banishment to Ireland is the dernier resort, and soon frees the community from this pestilential member.

In a sequestered island like this, one would expect to find bigoted superstition flourish successfully under the auspices of the Romish Church; but the simplicity of the islanders does not foster any uncharitable tenets, and contrary to one's expectation, they are

\* I had some hope that the native black rat of this kingdom, might have secured a retreat in this sequestered island, but in vain, their powerful northern enemies, with the cruelty of the old Danes, but with more success, have utterly exterminated the natives, and the rat of Norway has completely extended his wasteful dominion over Raghery.

neither grossly superstitious, nor rank bigots, but have been known to hold the unchristian doctrines of their late Spanish priest in great contempt; nay, in cases of necessity they do not scruple to apply for assistance to the Protestant minister. Of their good will to the established church, they give an annual proof which one rarely finds in any other part of Ireland: the minister's tythe amounts to about 100*l.* per annum, and when the islanders have got in their own harvest, they give the parson a day with their horses and cars, and bring the entire tythe home to his farm yard.

The chief desideratum of the islanders is a physician, the want of whom they seem to consider as their greatest misfortune, though their master appears to be of a very different sentiment; and indeed the remarkable population of Raghery makes much in favour of his opinion.

Small as this spot is, one can nevertheless trace two different characters among its inhabitants. The Kenramer, or western end, is craggy and mountainous, the land in the vallies is rich and well cultivated, but the coast destitute of harbours. A single native is here known to fix his rope to a stake driven into the summit of a precipice, and from thence, alone, and unassisted, to swing down the face of a rock in quest of the nests of sea fowl. From hence activity, bodily strength, and self-dependence, are eminent among the Kenramer men. Want of intercourse with strangers has preserved many peculiarities, and their native Irish seems to be the universal language.

The Ushet end, on the contrary, is barren in its soil, but more open and well supplied with little harbours; hence its inhabitants are become fishermen, are accustomed to make short voyages, and to barter. Intercourse with strangers has rubbed off many of their peculiarities, and the English language is well understood and generally spoken among them.

This distinction I fear may seem foolishly speculative, considering the diminutive object of it, and yet I assure you it is a matter of fact; and the inhabitants themselves are so well aware of it, that in perilous situations different offices and stations are appointed to each, according as he is an Ushet or Kenramer man.

Raghery has formerly been as it were a stepping-stone between the Irish and Scottish coasts, which the natives of each country alternately used in their various expeditions, and for which they frequently fought.

A number of small tumuli were lately opened in a little plain about the middle of the island, probably the monuments of so many heroes who in former ages had fallen honourably in this very field of battle. The chief himself lay in a stone coffin, and beside him an earthen vessel stood, which, by the residuum still visible, seemed formerly to have contained an offering of blood, or some perishable animal substance. Within the tumuli lay a considerable number of human bones, the remains of more ignoble men, who might have fallen by the like fate of war.

Brazen swords, and spear heads of the same metal, found in this plain, bear strong evidence of the bloody scenes which have been transacted here in remote ages. A large silver fibula was found in one of the tumuli, which is deposited in the museum of Trinity college, Dublin; the workmanship is good, and argues considerable skill in the artist.

The traditions of the country do not go beyond the obscure period of Scottish and Danish incursions, which have alternately ravaged and depopulated the island. The memory of a cruel massacre, perpetrated by a Scottish clan (I think the Campbells) remains so strongly impressed on the minds of the present inhabitants, that no person of that name is allowed to settle in the island.



During the disturbances in Scotland, which succeeded the appointment of Baliol to the crown of that kingdom, Robert Bruce was driven out and obliged to take shelter, with a friend of his, in the isle of Raghery.\* However his enemies pursued him even to this remote spot and forced him to embark in a little skiff, and seek refuge on the ocean. The remains of a fortress are yet visible on the northern angle of the island, celebrated for the defence which this hero made in it, and still known by the name of Robert Bruce's castle. The antiquity of this building is therefore not much less than five hundred years; it may indeed be considerably older, as the time which Bruce spent in Raghery was scarcely sufficient for the purpose of erecting it.

One thing concerning this castle is worth remarking, that the lime of which it is built has been burned with sea coal, the cinders of which are still visible in it, and bear so strong a resemblance to the cinder of the Ballycastle coal, as makes it extremely probable that our information concerning the collieries of that place were far from being an original discovery. Indeed there is reason to believe that they were both well known, and extensively wrought at a period of time when few people imagine the civilization or finances of the kingdom were equal to so expensive an undertaking.†

But this is a curious subject, and I shall take some other opportunity of giving you more information when you may not be fatigued with so large, and I fear so tedious a letter.

## LETTER III.

DEAR SIR,

*Portrush, July 30.*

IN my return from Raghery, I spent a few days at Ballycastle, a town pretty considerable in this part of the world, which has been almost entirely the creation of one man, a Mr. Boyd, who died some years ago.

According to the Persian system of moral duties,‡ it is likely Ireland cannot boast of an individual who has more fully discharged his trust than old Mr. Boyd;—not possessed of any considerable fortune, not supported by powerful natural connexions, nor endowed with any very superior talents, this man opened public roads, formed a harbour, built a town, established manufactures, and lived to see a wild and lawless country become populous, cultivated, and civilized. In the most literal sense his soul seems to have animated this little colony; in him it enjoyed life and strength, and with him all vigour and animation perished. By an ill-judged distribution of his fortune, and various untoward and unforeseen accidents, the manufactures of glass were neglected, the breweries and taneries were mismanaged, the harbour became choaked with sand, and even the collieries (from particular circumstances) are not wrought with such spirit as the present

\* "Rex ipse cum uno plerumque comite, interim solus, per loca maxime inculta pererrabat, et cum ne sic quidem sibi tutus a civium perfidia et hostium crudelitate videretur, in Æbudas, ad veterem quandam amicam transmisit." It is probable this was the time when Bruce came to Raghery. Buchannan's Hist. Scot.

Fordun, Barbour, &c. specially mention his residence in Rachlin. J. P.

† It may perhaps be imagined that the coals have been brought from Britain; but a little reflection will shew that to be extremely improbable, even so late as the time of Robert Bruce. It was but just then that the English themselves had discovered the use of sea-coal as a fuel; and we find in the time of Edward I, that, after being tried in London, they were immediately prohibited on a hasty opinion, that the vapour was noxious to the health of the inhabitants. It is not therefore to be readily believed, that at this early period England could have had any extensive export trade in coals: or, if so, it must have been to some populous and civilized country, to some safe harbour, to a great and commercial town; but, at the time we speak of, the British charts do not lay down a single village in all this line of coast.

‡ "Faire un enfant, et labourer un champ." Vide Montesquieu's Persian Letters.

proprietor would wish to exert. In short, this gentleman constructed a most excellent machine, but unfortunately left it without any permanent principle of motion.

The eastern side of Ballyeastle terminates in the bold promontory of Fairhead. Between this and the town lies the collieries, in an abrupt bank which overhangs the sea. Ships, however, cannot derive much advantage from this circumstance, as the unsheltered situation of the place, and the prevailing western winds, make a delay on the coast extremely dangerous, and renders it difficult to embark the coals.

The different fossils which generally lie above the coal, are till, or slate-coal, iron ore, and freestone.\*

It unfortunately happens that these beds (like most of the fossils of this kingdom which are formed in layers) dip, or underlie, to the southward; hence it follows, that when an horizontal adit, or level, has been pushed forward to the bed of coal, from the steep bank which faces towards the north, the men, in following the mine, are obliged to work downward, and have no means of carrying off the water; whereas if the dip of the beds were in the contrary direction (that is, towards the north) the work must be all up hill, by which the loaded waggons would have an easy descent outward, and all the water must constantly flow off toward the sea.

In my last letter I mentioned some reasons which might induce one to think that these collieries were wrought at a very remote period of time; but an accidental discovery has lately put that matter beyond doubt, and has laid open a very curious circumstance in the ancient history of this country.

About twelve years ago the workmen, in pushing forward a new adit toward the coal, unexpectedly broke through the rock † into a cavern. The hole which they opened was not large, and two young lads were made to creep in with candles, to explore this new region. They accordingly went forward, and entered an extensive labyrinth branching off into numerous apartments, in the mazes and windings of which they were at last completely lost. After various vain attempts to return, their lights were extinguished, and they sat down together in utter despair of an escape from this dreary dungeon. In the mean time, the people without in the drift were alarmed for their safety; fresh hands were employed, a passage was at last made for the workmen, and the two unfortunate adventurers extricated after a whole night's imprisonment.

On examining this subterranean wonder, it was found to be a complete gallery which had been driven forward many hundred yards to the bed of coal;—that it branched off into various chambers where the miners had carried on their different works;—that pillars were left at proper intervals, to support the roof; in short it was found to be an extensive mine, wrought by a set of people, at least as expert in the business as the present generation. Some remains of the tools, and even the baskets used in the works, were discovered, but in such a state, that on being touched they immediately fell to powder.

\* I was very much pleased with the discovery of a natural process among the fossils, not very unlike our artificial one for making crystals of artificial vitriol. You know that martial or green vitriol is a salt formed from the calx of iron united to the vitriolic acid, and that the component parts of sulphur are phlogiston, or the principle of inflammability, united to the vitriolic acid. It so happens that a thin layer of iron ore lies immediately over a bed of coal; in the places where this is exposed to the air and weather, the sulphur of the coal becomes decomposed, losing its phlogiston, while its other principle, namely the vitriolic acid, uniting with the calx of the iron, forms crystals of green vitriol, which lie in considerable quantity between the two layers.

† The adit is carried along the side of a course of hard rock, which cuts all the layers of coal, running north and south in a direction perpendicular to the horizon. It is called here a Gaur or March, and I apprehend is the same as what the Cornish miners call a Cross Gossan.

The antiquity of this work is pretty evident from hence, that there does not remain the most remote tradition of it in the country; but it is still more strongly demonstrable from a natural process which has taken place since its formation, for stalactitic pillars had been generated, reaching from the roof of the pit to the floor; and the sides and supports were found covered with sparry incrustations, which the present workmen do not observe to be deposited in any definite portion of time.

The people of this place attribute these works to the Danes; but a very slight consideration of the matter must satisfy any one that this opinion is ill founded. The Danes were never peaceable possessors of Ireland, but always engaged in bloody wars with the natives, in which they were alternately victors and vanquished. Like the eastern descendants of Ishmael, they stood at perpetual bay with all the world, their hand against every man, and every man's hand against them.

It is not surely to the tumultuary and barbarous armies of the ninth and tenth centuries, whose harvest of wealth and power could only be expected from the rapid and hazardous ravages of war, that we are to attribute the slow and toilsome operations of peace which are carried on only where population, civilization, and trade flourish in an extreme degree.

While Ireland lay yet prostrate and gasping under the fatal wounds received in a bloody struggle of two hundred years, against those northern invaders, the English, under Henry II, made their successful inroad, and easily established themselves in a feeble and distracted country; from which time, till the beginning of the present century, this island presents nothing to our view but a wasteful scene of misery and desolation. That these collieries could have been wrought during this period seems extremely improbable. We are all along execrated by the English writers as a nation of barbarians, and our country cursed as a wilderness of forests and bogs. It is not then to be supposed that a savage people should ransack the bowels of the earth for coal, while their woods and bogs afforded such abundant fuel to their hand.

Upon the whole, during the dreary interval of near a thousand years, from the eighth to the eighteenth century, it is in vain to look for the laboured works of industry and peace, in a kingdom where war was the only trade, and where all property turned on the edge of the sword.\*

#### LETTER IV.

DEAR SIR,

*Portrush, August 3.*

IN riding from Ballycastle to Portrush, I went a short way off the beaten road, to see a whimsical little fishing rock, connected to the main land by a very extraordinary flying bridge; it is called Carrick-a-rede (or the rock in the road) and lies somewhat eastward from Ballintoy, on a most romantic shore. I was quite delighted with the picturesque appearance of this little fanciful fishery, of which I must beg leave to give you a short account; however, as I am a great advocate in favour of Mr. Locke's system of a dictionary of pictures, in preference to a dictionary of tedious descriptions, I shall enclose you a drawing of Carrick-a-rede, from a sketch which my draftsman made on the spot.

At a particular season of the year the salmon fish come along the coast in quest of the different rivers in which they annually cast their spawn. In this expedition the fish ge-

\* Some extraneous remarks on Irish antiquities are omitted.

nerally swim pretty close to the shore, that they may not miss their port; and the fishermen, who are well aware of this coasting voyage of the salmon, take care to project their nets at such places as may be most convenient for intercepting them in their course.

It so happens that Carrick-a-rede is the only place on this abrupt coast which is suited for the purpose. Here then, or no where, must be the fishery; but how to get at the rock is the question. A chasm full sixty feet in breadth, and of a depth frightful to look at, separates it from the adjacent land, in the bottom of which the sea breaks with an uninterrupted roar over the rocks; the island itself is inaccessible on every side except one spot, where under the shelter of an impending rock, a luxuriant herbage flourishes; but the wildness of the coast, and the turbulence of the sea, make it very difficult to land here.

In this perplexity there is really no resource, except in attempting to throw a bridge of ropes from the main land to the island, which accordingly the fishermen every year accomplish\* in a very singular manner: two strong cables are extended across the gulf by an expert climber, and fastened firmly into iron rings mortised into the rock on both sides; between these ropes a number of boards, about a foot in breadth, are laid in succession, supported at intervals by cross cords; and thus the pathway is formed, which, though broad enough to bear a man's foot with tolerable convenience, does by no means hide from view the pointed rocks, and raging sea beneath, which in this situation exhibit the fatal effects of a fall, in very strong colouring: while the swingings and undulations of the bridge itself, and of the hand rope, which no degree of tension can prevent in so great a length, suggest no very comfortable feelings to persons of weak nerves. Upon the whole, it is a beautiful bridge in the scenery of a landscape, but a frightful one in real life.

The mode of fishing on this coast is different from any I have seen, perhaps it may be new to you:

The net is projected directly outward from the shore, with a slight bend, forming a bosom in that direction in which the salmon come: from the remote extremity a rope is brought obliquely to another part of the shore, by which the net may be swept round at pleasure, and drawn to the land; a heap of small stones is then prepared for each person: all things being ready, soon as the watchman perceives the fish advancing to the net, he gives the watch-word: † immediately some of the fishermen seize the oblique rope, by which the net is bent round to inclose the salmon, while the rest keep up an incessant cannonade with their ammunition of stones, to prevent the retreat of the fish till the net has been completely pulled round them; after which they all join forces, and drag the net and fish quietly to the rocks.

The salmon fisheries on the sea-coast, and in the rivers of the north of Ireland, have sometimes been very productive, affording a valuable cargo for the Italian markets during the time of Lent: the abundance of fish may in some measure be inferred from hence, that fourteen hundred salmon (as I am informed) have been taken in the river Bann at once hauling the net; and what is almost equally remarkable, near one thousand were caught at the succeeding haul. At present, however, the fisheries are but scanty, and it is the prevailing opinion, that too great success of the river fisheries has undone them, by destroying the mother salmon, which should be allowed free passage through the rivers to cast their spawn.

\* This bridge is only thrown across during the time of the salmon fishery, which is carried on in the summer months.

† At Portrush the word is TARRYING.

Now that I am got upon the subject of fishing, let me tell you of an amusing instance of sagacity which I had an opportunity of seeing a short time ago, in a water-dog of this country, who had become a most excellent fisher :

In riding from Portrush to the Giant's Causeway with some company, we had occasion to ford the river Bush, near the sea ; and as the fishermen were going to haul their net, we stopped to see their success : As soon as the dog perceived the men to move, he instantly ran down the river of his own accord, and took post in the middle of it, on some shallows where he could occasionally run or swim, and in this position he placed himself, with all the eagerness and attention so strongly observable in a pointer dog, who sets his game : We were for some time at a loss to apprehend his scheme, but the event satisfied us, and amply justified the prudence of the animal ; for the fish, when they feel the net, always endeavour to make directly out to sea. Accordingly one of the salmon, escaping from the net, rushed down the stream with great velocity, toward the ford, where the dog stood to receive him at an advantage. A very diverting chase now commenced, in which, from the shallowness of the water, we could discern the whole track of the fish, with all its rapid turnings and windings. After a smart pursuit the dog found himself left considerably behind, in consequence of the water deepening, by which he had been reduced to the necessity of swimming. But instead of following this desperate game any longer, he readily gave it over, and ran with all his speed directly down the river, till he was sure of being again sea-ward of the salmon, where he took post as before in his pointer's attitude. Here the fish a second time met him, and a fresh pursuit ensued, in which, after various attempts the salmon at last made its way out to the sea, notwithstanding all the ingenious and vigorous exertions of its pursuer.

Though the dog did not succeed at this time, yet I was informed that it was no unusual thing for him to run down his game ; and the fishermen assured me that he was of very great advantage to them ; by turning the salmon toward the net ; in which point of view his efforts in some measure corresponded with the cannonade of stones which I mentioned at Carrick-a-rede.

During the whole of the chase this sagacious animal seemed plainly to have two objects in view ; one to seize his game, if possible, and the other, to drive it toward the net when the former failed ; each of which he managed with a degree of address and ingenuity extremely interesting and amazing.

It is somewhat unaccountable that mankind should look with so much horror and disgust on any remote similitude, which some of the brute creation bear to the human person and features, and yet dwell with pleasure on much nearer approaches toward their prerogative faculty of reason. At least thus much I am certain of, that we saw the exertions of this creature with infinite delight, and our regard for him seemed to increase in proportion as our idea of his excellence increased. Perhaps it may be, that a consciousness of decided superiority in the latter case, makes us observe the ingenuity of lower animals, without the alloy of any uneasiness from an apprehension of rivalry.

## LETTER V.

DEAR SIR,

*Portrush, August 6.*

YOU would hardly believe how little remains of Irish history, language, or customs, are to be traced in this part of the country : the revolutions which it has undergone, in consequence of forfeitures to the English, and the encroachments of the Scots, have overturned every remnant of its original state.

During the time that the English were endeavouring to extend their pale, in every direction from the metropolis of the kingdom, over a desperate but disunited enemy, the Scottish clan of Mac Donalds, who by an intermarriage had got footing in Ireland, began their ravages on the northern coast of Antrim; and by the powerful support which they received from Cantire, and the western isles of Scotland, established their dominion over a tract of country nearly forty miles in length.

As the people of those days generally followed the fortune of their chief, the greater part of the native Irish who survived these bloody scenes, transplanted themselves elsewhere, while the Scots remained peaceable possessors of the field: hence the old traditions and customs of the country were entirely lost; and the few who speak the Celtic language at all use a kind of mixed dialect, called here Scotch Irish, which is but imperfectly understood by the natives of either country.

The present possessors are in general an industrious thrifty race of people. They have a great deal of substantial civility, without much courtesy to relieve it, and set it off to the best advantage. The bold ideas of rights and privileges, which seem inseparable from their Presbyterian church, renders them apt to be ungracious and litigious in their dealings. On the whole, the middling and lower ranks of people in this quarter of the kingdom, are a valuable part of the community: but one must estimate their worth as a miner does his ore, rather by its weight than its splendor.

There are three or four old castles along the coast, situated in places extremely difficult of access, but their early histories are for the greater part lost. The most remarkable of these is the castle of Dunluce, which is at present in the possession of the Antrim family. It is situated in a singular manner on an isolated abrupt rock, which projects into the sea, and seems as it were split off from the terra firma. Over the intermediate chasm lies the only approach to the castle, along a narrow wall, which has been built somewhat like a bridge, from the rock to the adjoining land; and this circumstance must have rendered it almost impregnable before the invention of artillery. It appears, however, that there was originally another narrow wall, which ran across the chasm, parallel to the former, and that by laying boards over these, an easy passage might occasionally be made for the benefit of the garrison.

The walls of this castle are built of columnar basaltes, many joints of which are placed in such a manner as to shew their polygon sections; and in one of the windows of the north side, the architect has contrived to splay off the wall neatly enough, by making use of the joints of a pillar whose angle was sufficiently obtuse to suit his purpose.

The original lord of this castle and its territories, was an Irish chief, called Mac Quillan, of whom little is known, except that, like most of his countrymen, he was hospitable, brave, and improvident; unwarily allowing the Scots to grow in strength, until they contrived to beat him out of all his possessions.

In the course of my expeditions through this country, I met with an old manuscript account of the settlement of the Scotch here, of which I shall give you a short extract. It will serve in a good measure to shew the barbarous state of the inhabitants in the sixteenth century, and the manner in which property was so readily transferred from one master to another.

The manuscript is in the hands of the Mac Donalds, and therefore most likely speaks rather in their favour.

“About the year 1580, col. Mac Donald came with a parcel of men from Cantire to Ireland, to assist Tyrconnel against great O’Neal, with whom he was then at war.

“ In passing through the Root \* of the county of Antrim, he was civilly received and hospitably entertained by Mac Quillan, who was then lord and master of the Root.

“ At that time there was a war between Mac Quillan and the men beyond the river Bann ; for the custom of this people was to rob from every one, and the strongest party carried it, be it right or wrong.

“ On the day when col. Mac Donald was taking his departure to proceed on his journey to Tyrconnell, Mac Quillan, who was not equal in war to his savage neighbours, called together his militia, or gallogloghs, to revenge his affronts over the Bann ; and Mac Donald, thinking it uncivil not to offer his service that day to Mac Quillan, after having been so kindly treated, sent one of his gentlemen with an offer of his service in the field.

“ Mac Quillan was right well pleased with the offer, and declared it to be a perpetual obligation to him and his posterity. So Mac Quillan and the Highlanders went against the enemy, and where there was a cow taken from Mac Quillan’s people before, there were two restored back : after which Mac Quillan and col. Mac Donald returned back with a great prey, and without the loss of a man.

“ Winter then drawing nigh, Mac Quillan gave col. Mac Donald an invitation to stay with him at his castle, advising him to settle himself until the spring, and quarter his men up and down the Root. This col. Mac Donald gladly accepted ; and in the mean time seduced Mac Quillan’s daughter, and privately married her ; on which ground the Scots afterward founded their claim to Mac Quillan’s territories.

“ The men were quartered two and two through the Root ; that is to say, one of Mac Quillan’s gallogloghs and a Highlander in every tenant’s house.

“ It so happened that the galloglogh, according to custom, besides his ordinary, was entitled to a meather † of milk as a privilege : this the Highlanders esteemed to be a great affront ; and at last one of them asked his landlord, ‘ Why do you not give me milk as you give to the other ? ’ The galloglogh immediately made answer, ‘ Would you, a Highland beggar as you are, compare yourself to me, or any of Mac Quillan’s gallogloghs ? ’

“ The poor honest tenant (who was heartily tired of them both) said ‘ Pray, gentlemen, I’ll open the two doors, and you may go and fight it out in the fair fields, and he that has the victory let him take milk and all to himself.’

“ The combat ended in the death of the galloglogh ; after which (as my manuscript says) the Highlander came in again and dined heartily.

“ Mac Quillan’s gallogloghs immediately assembled to demand satisfaction ; and in a council which was held, where the conduct of the Scots was debated, their great and dangerous power, and the disgrace arising from the seduction of Mac Quillan’s daughter, it was agreed that each galloglogh should kill his comrade Highlander by night, and their lord and master with them ; but col. Mac Donald’s wife discovered the plot, and told it to her husband. So the Highlanders fled in the night time, and escaped to the island of Raghery.

“ From this beginning, the Mac Donalds and Mac Quillans entered on a war, and continued to worry each other for half a century, till the English power became so superior in Ireland, that both parties made an appeal to James I, who had just then ascended the throne of England.

\* A term by which this north-west part of the county of Antrim is always denominated.

† A vessel commonly used by the old Irish, formed out of one solid piece of wood, and most commonly of a triangular shape.

“James had a predilection for his Scotch countryman, the Mac Donald, to whom he made over by patent four great baronies, including, along with other lands, all poor Mac Quillan's possessions. However, to save some appearance of justice, he gave to Mac Quillan a grant of the great barony of Enishowen, the old territory of O'Dogherty, and sent to him an account of the whole decision by Sir John Chichester.

“Mac Quillan was extremely mortified at his ill success, and very disconsolate at the difficulties which attended the transporting his poor people over the river Bann, and the Lough Foyle, which lay between him and his new territory. The crafty Englishman, taking advantage of his situation, by an offer of some lands which lay nearer his old dominions, persuaded him to cede his title to the barony of Enishowen. And thus the Chichesters, who afterwards obtained the title of earls of Donegall, became possessed of this great estate; and honest Mac Quillan settled himself in one far inferior to Enishowen.

“One story more (says the manuscript) of Mac Quillan. The estate he got in exchange for the barony of Enishowen was called *Cianreaghurkie*,\* which was far inadequate to support the old hospitality of the Mac Quillans. Bury Oge Mac Quillan sold this land to one of Chichester's relations, and having got his new-granted estate into one bag, was very generous and hospitable as long as the bag lasted. And so (continues the manuscript) was the worthy Mac Quillan soon extinguished.”

I should not have obtruded the account of the downfall of this Irish chief, but that it affords so good a reason for the utter obliteration of every ancient record and monument in this part of the country; and will plead my excuse for not adding somewhat to our collection of Irish antiquities.

## LETTER VI.

DEAR SIR,

*Portrush, August 13.*

A FEW days ago, as I rode across the head-land of Bengore, a sudden shower of rain falling very heavily, compelled me to take shelter in a little cabin, which stands on a wild spot in the middle of that promontory, on a piece of land called in the Irish language *Aird*, from the loftiness of its situation. A well-looking young woman sat by the fire-side spinning at her wheel, with a parcel of children playing round her; but, notwithstanding her industrious employment, the house bore evident marks of poverty and distress about it.

As the rain still continued, I had an opportunity of asking several questions concerning the fortunes of this poor family, the history of which forms such a simple, melancholy tale, that I cannot help repeating it to you, though methinks you will accuse me of having brought it forward very *mal a-propos*.

The original adventurer who settled in this solitary spot was called *Adam Morning*, a name which he got from some accidental circumstance, and is described by the peasants of the neighbouring hamlet as a clever fellow, and an honest man. He held his little farm, which had never before been cultivated, at the small rent of five pounds per annum, hoping soon to make it a valuable tenure by the probable effects of his industry; and on this he built the cottage which I have just mentioned, suited to his infant powers, but so contrived as to admit of an addition, whenever his success in improving this barren soil should entitle him to encrease his comforts.

\* It is in another place called *Claneaghguikie*.



By hard labour he soon reclaimed so much of the land as enabled him to sow a moderate quantity of grain; but when the toils of the year were almost over, and a plentiful harvest promised to reward his industry, a violent storm, which was severely felt over the whole kingdom, blasted his golden hopes, and the entire produce of his farm was only sixteen barrels of oats, out of twenty-four which he had sowed.

This was a severe blow to our enterprising farmer, but his resolution was not thus hastily to be vanquished; means were found to pay his rent, a second crop was sowed the ensuing year, and his land again presented the cheering prospect of approaching plenty. Once more an inclement season, bearing heavily on the unsheltered situation of his new fields, mocked his expectation, and the entire reward of the year's labour amounted only to a small increase of grain, little exceeding what he had sowed.

Few men in this lowly sphere of life would have borne up against such rude and repeated shocks of adverse fortune; but the spirit of our humble adventurer disdained to yield to misfortunes which were merely casual, and which no degree of prudence could have guarded against. His perseverance was still unshaken, his health continued vigorous, and the land yet promised to repay him, would Providence but smile on his endeavours. New ways were therefore devised to save his sinking credit; every nerve was exerted to pay his rent, and try the fortune of another year.

There is a small bay in the promontory of Bengore, called Port na Spania,\* from the wreck of one of the celebrated Spanish armada, which was here dashed to pieces. It is entirely surrounded by a monstrous precipice between three and four hundred feet high, and is accessible only by one narrow approach, which is far the most frightful of all the hazardous paths on this whole coast.

By the tenure of this farm the possessor was entitled to a quarter of this little bay, amounting to about twenty or thirty square yards of wild inhospitable rock.†

Here Adam and his family, struggling against their distresses, laboured hard to supply their wants by cutting the sea-weed from the rocks, and manufacturing it into kelp, which the linen bleachers of the country bought up at a good price; while in the mean time the farm was rising fast, and Ceres began again to smile propitious.

One morning, as Adam and his wife were descending down the dangerous path, to pursue their daily toil, while they were talking of their growing hopes, even while the cheerful prospect was smiling in their view, a sudden slip tumbled him headlong from the precipice, and dashed him to pieces on the rocks below.‡

His son David, the heir of his humble fortunes, had just then returned from the West Indies, still crippled under a wound which he received in the service of his country, on board of a man of war, but prepared to assist the distresses of his father with the little prize-money which had fallen to his share during his voyages.

The tar had married a pretty young woman before he went to sea (the same whom I saw busied in spinning) but instead of returning to a quiet happy family, he found nothing at home but misery and distress, and saw himself almost entirely adrift in the world, with a mother, a wife and children to maintain. The death of his father had brought all the hungry creditors forward, so that he became heir only to the poor cot-

\* The path of descent to Port na Spania lies in the land of a peasant who is not entitled to any part of the sea coast, but he receives, as a toll, on his high way, every third hundred of kelp manufactured below; and this path, dangerous as it is, yet being the only one, makes it necessary to comply with the demand.

† The whole bay generally produces about four tons of kelp, which is sold at the rate of from five to six pounds per ton.

‡ This melancholy accident happened in the summer of 1783, when I was in this neighbourhood.

tage itself, and the naked land which surrounded it. However, it was his inheritance, and as such he would not part with it.

The prize-money which he had got on his cruize was, for the convenience of carriage (as his wife told me) mostly converted into plate, that is, he returned home with a silver watch, a large pair of silver knee and shoe-buckles, and such other little matters of ornament, as the vanity of a sailor, who pays a visit to his old friends after a long absence, commonly delights to exhibit. With these David set out for the first fair that happened in the neighbourhood, to buy a horse, which was absolutely necessary for the cultivation of his farm; but he was not in his own element: a jockey soon fell in with him, and the tar gave his silver watch, the chief fortune of the family, for a jaded horse, which he afterward found, on inquiry, old enough to have seen the days of lord Hawke and Conflans, being upwards of twenty years of age.

Our young farmer, alarmed at the marks of debility which too manifestly shewed themselves in his new horse, and terrified lest he might hastily give him the slip, and die in his hands, set out with all expedition to try his fortune at market once more; where, with the assistance of another piece of plate, he soon bartered his antiquated steed, and, under the influence of his late misfortune, purchased a colt, almost as un-serviceable from his youth, as the former had been from extreme old age.

These calamities of the son were little less ruinous than those of the father, but with this difference, that the misfortunes of the latter being such as no human foresight could have prevented, he was universally esteemed and pitied by the neighbourhood; while every body laughed at the simplicity which involved poor David in his distresses.

However, some peasants of the next village, pitying his situation, admitted him into what is here called a neighbour dealing, that is, he was allowed to join his colt in the team with three of their horses, and the plough was alternately employed in each man's farm; by this means David has been enabled to till his inheritance, and this year a harvest of rich hope seems to promise a reward; whether it shall or not, rests with Providence.

Such is the simple unadorned history of this poor family, affording an artless affecting picture of the accidents and distresses of humble life, which I am sure will interest your feelings, and make you forget the tediousness of this digression from my main subject.

## LETTER VII.

DEAR SIR,

*Portrush, August 20.*

IT is a pleasing, as well as an interesting pursuit, to observe the gradual advancement of mankind in any particular object of inquiry; to trace the wild shoot of infant philosophy, from the natural soil in which it has grown, rank and uncultivated, to the garden of science, where it blooms in all the improved beauty and vigour which the hand of art and industry can add to it. In this point of view, a little history of the opinions which have prevailed concerning the curious combination of pillars in this neighbourhood, called the Giant's Causeway, may perhaps afford you some amusement; and if it does not bring with it much solid information concerning the operations of nature, yet it may be pleasant enough to see the various attempts which men have made to explain them.

The native inhabitants of the coast, as they were the earliest observers of this wonder, so were they the first to account for its production; and however rude and simple their theory may be, yet a little consideration will satisfy us that it does not deserve the igno-

minious appellation of being grossly barbarous and absurd. The Causeway was observed by the fishermen whose daily necessities led them thither for subsistence, to be a regular mole, projecting into the sea, which answered for several convenient purposes; on closer inspection, it was discovered to be built with an appearance of art and regularity somewhat resembling the works of men, but at the same time exceeding every thing of the like kind which had been seen: and it was found that human ingenuity and perseverance, if supported by sufficient power, might be abundantly adequate to its production.

The chief defect in this simple analogy seems to have been the want of strength equal to the effect; but this was soon supplied in the traditions of a fanciful people, and Fin ma Cool,\* the celebrated hero of ancient Ireland, became the giant under whose forming hand this curious structure was erected.

It was afterward discovered, that a pile of similar pillars was placed somewhere on the opposite coast of Scotland, and as the business of latitudes and longitudes was not at that time very accurately ascertained, a general confused notion prevailed, that this mole was once continued across the sea, and connected the Irish and Scottish coasts together.

Near the end of the last century, when this kingdom began to revive from its misfortunes under the regulations of William III, the spirit of inquiry, which the Royal Society of London had just then called forth, began to busy itself about this singular and original wonder. At this period we find, among the papers of the Society, a letter from Sir Richard Bulkley to Dr. Lyster, on this subject, dated in the year 1693, of the merits of which you may judge by the following extract:

“Concerning the Giant’s Causeway:—Prolixity in a philosophical description I am sure you will pardon, for I was very exact in getting it from a person that was *rei compos*, perhaps *peritus*; a scholar, a master of arts in Cambridge, and a traveller, who went on purpose with the bishop of Derry to see it, &c.

“This whole Causeway (says the scholar) consists of pillars of perpendicular cylinders. The pillars do not consist of joints, as you were informed, but each cylinder is one solid piece, only indeed in breaking, it breaks crosswise, and not lengthwise, which we commonly call splitting; and all the stones that rise up on the strand are all cylinders, though of never so many different angles, for there are also four-squared upon the same shore.† That the cylinders do not consist of joints is evident from hence, that the pieces so broken off have their bottom as often convex or concave, as flat or even.”

Thus has this intelligent traveller demonstrated that these pillars have no joints, from the very circumstance which of all others renders their articulation most curious and surprising.

In consequence of the information which this gentleman gave of the want of joints, people began to compare these pillars with the regular fossils then best known, the *eutrochi*, *asteriæ*, and the rock crystal, which, on a diminutive scale, seemed to bear resemblance with the larger masses in the Giant’s Causeway; and to this end a number of queries were drawn up by Sir Richard Bulkley, which, with their answers by Doctor Samuel Foley, are published in the Philosophical Transactions of that period.

Such are these following:

“Are any of the pillars hexagons, or squares? or be they pentagons only?”

\* Mr. Mac Pherson’s more modern Fingal.

† With all due deference to this Cambridge master of arts, who so scientifically describes these four-squared cylinders, he must have made some very unaccountable mistake, or else matters have been strangely altered since this time, for there is not now a single pillar to be found in the whole Causeway which is not clearly separable into very many distinct joints.

“Have the tops of the pillars any gravings or striate lines on them ?

“Is the superficies caniculate or otherwise grooved ?” &c. &c.

All which queries, though truly enough answered, yet produced very little useful information ; being entirely directed to the mere exterior appearance of the Causeway itself, without paying any attention to the general features of the coast, to the attendant fossil substances, or even to the nature and chemical properties of the stone itself, which is utterly different from those fossils with which it was then compared. However, the British philosophers seem to have pursued the analogy of this species of crystallization with very great confidence ; so that the authors of the late appendix to their Encyclopædia, have endeavoured to give it an air of probability, by delineating many of the basalt pillars as terminating in pyramids, like the common rock crystal, and some species of salts.\*

To these answers a sketch was added, of which an engraving is published in the Philosophical Transactions, entitled “A Draught of the Giant’s Causeway, which lies near Bengore Head, in the county of Antrim, by Christopher Cole, A. D. 1694.” Of this drawing and its imperfections, the account which Doctor Foley himself gives will be the best description: “He tells me he has not drawn the Giant’s Causeway as a prospect, nor yet as a survey or platform, for this he thought would not answer his design ; and that he has no name for it but a draught, which he took after this sort. He supposed the hills and Causeway to be epitomised to the same height and bigness the draught shews them, and this he fancied the most intelligible way to express it.”

Doctor Thomas Mollencux was the first person who took any very considerable pains to procure information concerning the Giant’s Causeway, and we have reason to lament that the necessary attendance of his profession prevented him from making his observations in person, for which he seems to have been well qualified : however, his intelligence was the best that had yet been collected. It was found that this species of stone was not confined to the Giant’s Causeway alone, but might be discovered in the mountain of Dunmull ; nay, that it was certainly of the same species with the lapis misneus, or basaltes of Stolphen, in Saxony, of which a slight description had been given by Agricola, in his History of Fossils.

By the influence of this gentleman in the Dublin Society, that body employed a painter of some eminence to make a general sketch of the coast near the Causeway ; but neither the talents nor fidelity of the artist seem to be at all suited to the purpose of a philosophical landscape.

An engraving of this is published under the following title :

“A true Prospect of the Giant’s Causeway, near Bengore Head, taken from the north-west, by Edward Sandys, A. D. 1696, at the expence of the Dublin Society.

“Right hon. Sir Cecil Week, knt. President.

“Rev. Dr. Ashe, bishop of Cloyne, Wm. Mollencux, esq. vice presidents.”

In this true prospect, the painter has very much indulged his own imagination, at the expence of his employers, insomuch that several tall pillars in the steep banks of this fanciful scene appear loaded with luxuriant branches, skirting the wild rocky bay of Port Noffer † with the gay exhibition of stately forest trees. In the back ground he

\* This representation of the pillars has probably been taken from a drawing of the basaltes of Saxony, sent many years ago to Gesner, together with a description of that species of stone by Kentman. This drawing contains many errors, and among the rest exhibits pillars of basaltes with conical terminations.

† This bay lies immediately eastward from the Causeway. I have here written the name nearly as it is pronounced by the natives, who have scarce any knowledge of the Irish language ; but the proper mode of writing it should be Port na Bfathach, which signifies the Giant’s Port.

discovered a parcel of rude and useless materials, which his magic pencil soon transformed into comfortable dwelling-houses, and for chimnies he has happily introduced some detached pillars of basaltes, which, from their peculiar situation, and the name given to them by the peasants of the country, naturally excited the attention of this extraordinary artist. And thus were concluded the labours of the last century, concerning this curious work of nature.

From that period the basalt pillars of this kingdom passed almost unnoticed for half a century, and seem to have been viewed cautiously, and as it were at a distance, by men of science, who appeared slow to engage with an object which had hitherto entirely baffled the attempts of every theorist.

In the year 1740, Mrs. Susannah Drury made two very beautiful and correct paintings of the Giant's Causeway, which obtained the premium appointed for the encouragement of arts in Ireland; and these drawings being soon after engraved by the hand of an eminent artist, and published, the attention of the world was once again directed toward this antiquated subject.

Shortly after this, Doctor Pocoke, a gentleman of considerable industry in philosophical pursuits, made a tour through the county of Antrim, and was the only person who appears to have taken a general view of the coast, of which he has given a cursory description. But not content with a plain history of matters of fact, the learned doctor ventured to start a new theory of his own, which I fear will not stand the test of a critical examination: to say the truth, it is little else than the doctrine of the atoms of Epicurus in a modern dress.\*

He conceives that the basaltes might once have been suspended in a watery medium, either in solution, or as a kind of mud: that at certain times, accidental fits of precipitation took place, in such a manner as to form a range of short cylinders, whose upper ends should chiefly be convex: that as these joints became somewhat solid, a second fit of precipitation took place, forming a second range of incumbent joints, which must generally be concave, adapted to the convexity of the lower order, and thus, by successive fits of precipitation, he supposes a set of erect cylinders might be generated in contact with each other. Now a set of cylinders can touch only in right lines, and therefore must leave empty spaces between them; but the pillars being yet soft, and yielding to the increasing pressure from above, should, he imagines, dilate, and spread themselves out so as to fill up the vacuities. And thus he conceives may the polygon articulated pillars, of the Giant's Causeway, be generated.

I shall not delay you by any commentary on this unhappy theory, only to observe, that a more accurate inquiry would have discovered horizontal and even curved pillars, for the production of which this cause is utterly inadequate.†

Such is the history of the Giant's Causeway, and such have been the labours of the learned, and their various opinions concerning its structure, in which, whatever may have been already accomplished, much certainly remains to be done, towards a judicious

\* "Ille censet, in infinito inani, in quo nihil nec summum, nec infimum, nec medium, nec ultimum, nec extremum sit: ita ferri ut, concursionibus inter se coherescant: ex quo efficiantur, ea quæ sint, quæque cernantur omnia."

† Mr. D'Acosta, who has published this account of Doctor Pocoke's in his History of Fossils, strangely ranges the basaltes among the class of marbles, or stones allied to marbles, with which it has not any one common feature of resemblance, except that it will receive a polish; so that he might with equal propriety have classed it with any other hard substance in nature. In truth he seems to be very ill informed on the subject, imagining this to be the only stone of the kind ever discovered, and is in amaze to think how far it may extend into the sea.

arrangement of a sufficient number of materials, whereon to build any general theory to satisfy a reasonable mind with respect to its formation.

In my last letter I mentioned that the extent of country contiguous to the Causeway, through which all the varieties of this species of stone prevailed, was much greater than had been imagined: and within these few years it has been discovered abroad; that the basalt is a common fossil through every part of the world, there being few kingdoms where it may not be found under one shape or another. Hence it has come to pass that the observations of men of science in distant places have been united on this subject; different theories have been compared together; and more general analogies suggested, on which to build some rational conjectures, concerning the cause that might have produced these wonderful pillars.

It is somewhat singular, however, that during these inquiries abroad, all appeals which have been made to the Giant's Causeway, in favour of any particular system, have always proved fallacious; and still more extraordinary, when one considers that these errors should have principally arisen from the extreme pains employed in describing it, particularly from those two accurate and beautiful drawings executed by Mrs. Drury, which have really been a stumbling block to most of the foreign writers on this subject. Thus Mons. Demarest, the ingenious father of the volcanic theory of basalt, strangely imagines that the Causeway has been a current of lava, erupted from the side of a conical mountain, though there is not a mountain of any sort in its vicinity, nor one of that particular shape within a great many miles of it. The truth is, that gentleman saw these much celebrated drawings, and has mistaken the segment of a shelving cape, at whose base the pillars stand, for a portion of a conical hill cut down in the direction of its axis: and this error has been confirmed by the prevailing custom of putting those pictures together in the same frame; so that the two segments, standing back to back, exhibit the appearance of an entire conical mountain, such as Mr. Demarest describes.\*

It was also observed by foreigners, that in every drawing and description of the Giant's Causeway, particular attention was paid to the circumstance of its projecting into the sea; hence a crude and indefinite opinion was adopted by many writers, that the pillars of basalt were produced by the refrigeration of a liquid body of lava, in consequence of being suddenly plunged into water. Such is the theory of a Mr. Raspe, who has published an account of the valley of Hesse Cassel, in Germany, and such are the sentiments advanced by Mons. de Luc, in his excellent Letters addressed to the queen of England, in which he gives as his opinion, that the ancient volcanos were formed in the ocean, where the sudden cooling of the melted mass (not to count on the presence of the marine salt) might have determined a regularity of figure in the cooling body.†

Though this opinion does with much ingenuity assign a reason why the basaltic pillars are not produced at this day, as they were formerly, yet a little consideration will shew that it ought not hastily to be adopted, since general experience teaches us that all

\* "Je tirai de cette conformite reconnu un consequence que la force de l'analogie m'autorisoit a tirer: cette consequence me fit voir, dans la Chaussee de Geans, et dans toute le masses prismatiques que se montrent sur le bord escarpes de la mere en Ireland, et un mot dans le sommet tronques, q'on y'apperçoit, l'ouvrages des eruptions, d'un ou de plusieurs volcans qui se sont eteint, comme ceux des Auvergne." See Mons. Demarest's Memoir on the Basaltes of Auvergne, in the volume of the French Academy for 1771.

† "Or, on voit une cause de plus, dans les volcans anciens, que dans les modernes, pour produire cet effet; c'est de s'etre formes dans la mer, ou, sans compter la presens du sel, l'attouchment seul de l'eau, en produisant un condensation plus subite, a pu etre un circonstance determinante." De Luc Lettres a la Reine de Grande Bretagne.

tumultuary causes are only adapted to produce tumultuary effects: every species of regular figure produced by crystallization, or any mode whatever analogous to it, being always more perfect, in proportion as length of time and rest have allowed the different particles to unite gradually; indeed a moment's reflection must satisfy any one, that the furious encounter of a river of liquid fire with the waters of the ocean, so far from being suited to form the neat and elegant arrangement of our pillars of basaltes, can only tend to introduce confusion and irregularity. But in truth, any arguments derived from the particular situation of the Giant's Causeway will be found extremely erroneous, because the circumstance of its standing in the sea is purely accidental; similar pillars being often discoverable on the summit of the highest grounds in its neighbourhood, many hundred feet above the level of the beach.

I shall no longer weary your patience by a more minute account of the opinions to which this celebrated Causeway has given birth, but shall hasten to a general view of the bold volcanic theories that have been advanced to explain the production of the pillars of basaltes.

### LETTER VIII.

DEAR SIR,

*Portrush, August 24.*

THE vicinity of the little fishing village of Portrush to the Giant's Causeway, has afforded me, during my stay here, ample opportunity to visit that curious work of nature, and to examine, with a good deal of attention, the features of the adjoining country, which has hitherto been very imperfectly known.

The Causeway itself is generally described as a mole or quay, projecting from the base of a steep promontory, some hundred feet into the sea, and is formed of perpendicular pillars of basaltes, which stand in contact with each other exhibiting an appearance not much unlike a solid honeycomb. The pillars are irregular prisms, of various denominations, from four to eight sides;\* but the hexagonal columns are as numerous as all the others together.

On a minute inspection, each pillar is found to be separable into several joints, whose articulation is neat and compact beyond expression, the convex termination of one joint always meeting a concave socket in the next; besides which, the angles of one frequently shoot over those of the other, so that they are completely locked together, and can rarely be separated without a fracture of some of their parts.

The sides of each column are unequal among themselves, but the contiguous sides of adjoining columns are always of equal dimensions so as to touch in all their parts.

Though the angles be of various magnitudes, yet the sum of the contiguous angles of adjoining pillars, always makes up for right ones. Hence there are no void spaces among the basaltes, the surface of the Causeway exhibiting to view a regular and compact pavement of polygon stones.

The outside covering is soft, and of a brown colour, being the earthy parts of this stone nearly deprived of its metallic principle by the action of the air, and of the marine acid which it receives from the sea.†

\* Monsieur Faujas de St. Fond took much pains to search for pillars of nine sides among the basaltes of Vivararis, in consequence of the account which Mr. Molleneux and Monsieur de Lisle gave, that such were to be found; but there is little doubt that both these gentlemen were mistaken, as none of that denomination are to be discovered at the Giant's Causeway, or its neighbourhood. Indeed octagonal pillars are very rarely to be met with.

† This coating contains iron which has lost its phlogiston, and is nearly reduced to a state of calx; for with a very moderate heat it becomes a bright red ochre colour, the attendant of an iron earth.

These are the obvious external characters of this extraordinary pile of basaltes, observed and described with wonder by every one who has seen it. But it is not here that our admiration should cease; whatever the process was, by which nature produced that beautiful and curious arrangement of pillars so conspicuous about the Giant's Causeway, the cause, far from being limited to that spot alone, appears to have extended through a large tract of country, in every direction, insomuch that many of the common quarries for several miles round, seem to be only abortive attempts towards the production of a Giant's Causeway.

From want of attention to this circumstance, a vast deal of time and labour have been idly spent in minute examinations of the Causeway itself; in tracing its course under the ocean, pursuing its columns into the ground, determining its length and breadth, and the number of its pillars, with numerous wild conjectures concerning its original; all of which cease to be of any importance, when this spot is considered only as a small corner of an immense basalt quarry, extending widely over all the neighbouring land.

The leading features of this whole coast are the two great promontories of Bengore and Fairhead, which stand at the distance of eight miles from each other; both formed on a great and extensive scale; both abrupt toward the sea, and abundantly exposed to observation, and each in its kind exhibiting noble arrangements of the different species of columnar basaltes.

The former of these lies about seven miles west of Ballycastle, and is generally described by seamen, who see it at a distance, and in profile, as an extensive headland, running out from the coast to a considerable length into the sea; but, strictly speaking, it is made up of a number of lesser capes and bays, each with its own proper name, the tout ensemble of which forms what the seamen denominate the headland of Bengore.

These capes are composed of a variety of different ranges of pillars, and a great number, of strata; which, from the abruptness of the coast, are extremely conspicuous, and form an unrivalled pile of natural architecture, in which all the neat regularity and elegance of art is united to the wild magnificence of nature.

The most perfect of these capes is called Pleaskin, of which I shall attempt a description, and along with it hope to send a drawing which my draftsman has taken from the beach below, at the risk of his neck; for the approach from these promontories down to the sea, is frightful beyond description, and requires not only a strong head, but very considerable bodily activity to accomplish it.

The summit of Pleaskin is covered with a thin grassy sod, under which lies the natural rock, having generally an uniform hard surface, somewhat cracked and shivered. At the depth of ten or twelve feet from the summit, this rock begins to assume a columnar tendency, and forms a range of massy pillars of basaltes, which stand perpendicular to the horizon, presenting, in the sharp face of the promontory, the appearance of a magnificent gallery or colonade, upward of sixty feet in height.

This colonade is supported on a solid base of coarse, black, irregular rock, near sixty feet thick, abounding in blebs and air holes, but though comparatively irregular, it may be evidently observed to affect a peculiar figure, tending in many places to run into regular forms, resembling the shooting of salts and many other substances during a hasty crystallization.

Under this great bed of stone stands a second range of pillars, between forty and fifty feet in height, less gross, and more sharply defined than those of the upper story, many of them, on a close view, emulating even the neatness of the columns in the



**Giant's Causeway.** This lower range is borne on a layer of red ochre stone, which serves as a relief to shew it to great advantage.\*

These two admirable natural galleries, together with the interjaecnt mass of irregular rock form a perpendicular height of one hundred and seventy feet; from the base of which, the promontory, covered with rock and grass, slopes down to the sea for the space of two hundred feet more, making in all a mass of near four hundred feet in height, which in beauty and variety of its colouring, in elegance and novelty of arrangement, and in the extraordinary magnitude of its objects, cannot readily be rivalled by any thing of the kind at present known.†

Though there are but two complete ranges of pillars which appear in any of the promontories, yet it is not improbable that there may be many more in suecession, at various depths under ground; and this opinion is confirmed by columnar marks which may be traced in several rocks that lie in the sea. The Causeway itself, which is situated at the base of one of those promontories, on the level of the beach is one of those columnar beds that has been accidentally stripped and washed by length of time and storms.

The pillars of this whole headland appear naturally to affect a perpendicular situation, and in the few places where they lie in an inclined posture, it seems to be the effect of some external cause, which has deranged them from their original disposition. Indeed where the forms of crystallization are imperfect, they may be seen to shoot in various directions, and sometimes in irregular curves, but in most of these instances the columnar outline is very rude and unfinished.

It is worth remarking, that the ranges of pillars are more perfect in proportion as they lie deeper under ground; the second range in Pleaskin is evidently better finished than the upper one, and contains much fewer irregularities in the grain of its stone; while the pillars of the Causeway, which runs into the sea itself, have still a greater sharpness in their figure, and are more close and uniform in their texture.

Such is the general outline of this great headland, which affords objects extremely interesting to every one who may wish to study Nature in her bold and uncommon works.

At the distance of eight miles from hence (as I mentioned before) the promontory of Fairhead ‡ raises its lofty summit more than four hundred feet above the sea, forming the eastern termination of Ballyeastle bay. It presents to view a vast compact mass of rude columnar stones, the forms of which are extremely gross, many of them being near one hundred and fifty feet in length, and the texture so coarse, § as to resemble black schorle stone, rather than the close fine grain of the Giant's Causeway basaltes. At the base of these gigantic columns, lies a wild waste of natural ruins, of an enormous size, which in the course of suecessive ages have been tumbled down from their foundation by storms, or some more powerful operations of nature. These massive bodies have sometimes withstood the shock of their fall, and often lie in groups and clumps

\* The only instances of different ranges of basaltes that have hitherto been discovered, occur in the valuable works of Mons. Faujas de St. Fond, on the volcanos of Vivararis, &c. but the arrangement which appears there, even with the neatness that always attends an engraving, is greatly inferior to that of Pleaskin.

† Mr. Pennant is much mistaken in his opinion that the little island of Staffa, whose greatest height is but one hundred and twenty-eight feet, contains any object equal to the bold promontories of Bengore. Neither are the best specimens of pillars at Staffa at all comparable to those of the Giant's Causeway, in neatness of form, or singularity of articulation.

‡ This is the Rhodogium Promontorium of Ptolemy the geographer.

§ These pillars do not, at first view, appear to have any marks of articulation; but, on observing such as have fallen down from the top of Fairhead, they are found to be often separated into pretty regular joints by the force of the fall.

of pillars, resembling many of the varieties of artificial ruins, and forming a very novel and striking landscape.

A savage wildness characterizes this great promontory, at the foot of which the ocean rages with uncommon fury. Scarce a single mark of vegetation has yet crept over the hard rock to diversify its colouring, but one uniform grayness clothes the scene all around. Upon the whole, it makes a fine contrast with the beautiful capes of Bengore, where the varied brown shades of the pillars, enlivened by the red and green tints of ochre and grass, cast a degree of life and cheerfulness over the different objects.

Though I have particularly described the basalt pillars of these two magnificent promontories, yet there are many other similar arrangements through this country, which, though less worthy of admiration as great objects, yet become extremely interesting when one wishes to search minutely into the natural causes which might have produced these extraordinary pillars.

The mountain of Dunmull, lying between Colerain and the river Bush, abounds in this species of stone, particularly at the craigs of Islamore, where two different ranges of columns may be discovered; and at most of the quarries which have occasionally been opened round the mountain. They may be seen also at Dunlucc-hill, near the castle of Dunluce: in the bed of the river Bush, near the bridge of Bushmills: on the summit of the mountain of Croaghmore: in many parts of the high land over Ballintoy: in the island of Raghery, and various other places, through an extent of coast about fifteen miles in length, and two in breadth.\*

I shall not at present delay you with a minute description of each of these, but may, in the course of my letters, take an opportunity to mention the general character of the face of this country, and any singularities worthy of notice, in the forms and situation of its basaltes. Yours, &c.

## LETTER IX.

DEAR SIR,

*Portrush, August 13.*

IN my last letter I described the external character of the Giant's Causeway pillars, which will abundantly serve to discriminate the columnar basaltes from any other fossil of a different species at present known. But as this stone does not always appear in its prismatical form, it will be convenient to take notice of some other properties, not immediately derived from its figure, by which we shall be enabled to distinguish it in those instances where it may be disposed in more rude and irregular masses.

The basaltes of the Giant's Causeway† is a black, ponderous, close-grained stone, which does not effervesce in any of the mineral acids.

Its specific gravity is to that of water, nearly in the proportion of 2.90 to 1.00, and to that of the finest marble, as 2.90 to 2.70.

Though its texture be compact, it is not absolutely homogeneous; for if ground to a smooth surface, its bright jet-black polish is disfigured by several small pores.

\* Beyond this tract, which abounds in perfect pillars, an attentive observer will be able to trace the same species of fossils in very distant parts of the country, as far as the northern shore of Lough Neagh, and the mountains of the county of Derry; in many places of which imperfect columnar forms may be observed, so that the great cause which generated this species of stone, has been exerted through a space of more than forty miles in length and twenty in breadth; that is, through above eight hundred square miles.

† I have intentionally confined this account to the stone of the Giant's Causeway, because it seems as perfect in its kind as any hitherto discovered, and may in some measure serve for a standard, with which to compare other stone of the same species.

It strikes fire imperfectly with a steel.

When exposed to a moderate heat in a common fire it assumes a reddish colour, which is more vivid on its natural outside covering, and loses about one fiftieth part of its weight.\*

In a more intense heat it readily melts, and is, as the chemists express it, fusible per se.

With the assistance of an alkali flux it may be vitrified, and forms an opaque glass of a black or bluish colour.

Its principal component parts are iron in a metallic state, combined chiefly with siliceous and argillaceous carths.

Its metallic principle may be demonstrated by a very simple experiment: let a small fragment of basalt, in its natural state, be brought into contact, or very near to a good magnetical needle, and it may be made to detain the needle at a considerable distance from its meridian. Let this fragment be touched by a magnet and it will acquire pretty strong polarity, capable of attracting or repelling the needle, at the distance of an inch or more. From hence it is proved to contain iron in a metallic state, because the calx of that metal is incapable of producing any magnetical phenomena whatever.

To determine the quantity and quality of each constituent part, requires a very slow and laborious operation, which would be almost equally tedious in the description. I shall therefore just mention the results from the experiments of that able chemist, Sir Torbern Bergman, whose authority you will not readily question:

Basalt 100 parts.	
Contains siliceous earth	- - - - 50 parts,
Argillaceous earth	- - - 15
Calcareous earth	- - - 8
Magnesia	- - - - 2
Iron	- - - - 25
	-----
	100
	-----

From these elements we shall easily be enabled to account for several of its properties.

Hence it comes to pass that its specific gravity is so considerable, exceeding that of many stones, which, when polished, appear much more compact, the quantity of phlogisticated iron easily making compensation.

We see also why it answers so well for a touchstone, the hardness of its iron particles easily rubbing and fretting off the parts of any softer metal which may be applied to it, and its black ground serving to display these to greater advantage.

Hence too arises its fusibility without addition; for though flint, clay, and calcareous earth, are separately refractory, in any degree of artificial heat, yet when mixed together they are readily fusible, and still more easily when united with phlogisticated iron.

From the metallic state of its iron element we are enabled to infer, a priori, that the columns of the Giant's Causeway are all natural magnets, whose lower extremity is their north pole, and the upper extremity their south pole. For having stood during many ages in a perpendicular position, they must have acquired that polarity which is peculiar to all iron substances in a similar situation; and like natural magnets, every fragment,

\* This loss probably arises from water expelled by the heat. For in the course of twenty-four hours after, it will nearly have recovered its former weight, particularly if it be moistened.

when broken, will have its north and south pole. And this I have found true by experience; each pillar of the Giant's Causeway, and each fragment of a pillar, which I applied near to the needle, having its attractive and repelling point.

Hence likewise it follows that the great capes in the neighbourhood of the Causeway, must possess a similar property; and, accordingly in the semi-circular bays of Bengore-head, I have often found the compass very much deranged from its meridian.

The magnetism of these capes may perhaps be an object of some curiosity; it might be well worth inquiring, how far such masses of phlogisticated iron within the earth may produce those sudden and unaccountable deflexions of the needle, which are always inconvenient, sometimes so dangerous to seamen; and whether that still more mysterious and inexplicable phenomenon of the annual variation, may not arise from the gain or loss of the principle of metalliety, which in the slow and regular course of nature, may possibly take place by the various action of heat and moisture.

We have proof sufficient on a diminutive scale, that iron may by a variety of artificial means lose or gain that principle on which alone its magnetical property depends; and the decomposition of the basaltic enables us to affirm, with reasonable certainty, that such changes do actually take place in nature, and that the magnetical phenomena of the promontory of Bengore, for instance, must now be different from what it was some ages ago, or from what it will be some ages hence; it may, therefore, deserve consideration, how far this analogy could be pursued with respect to the whole mass of the earth, particularly as we have evidence of the existence of a natural agent abundantly adequate to this effect, I mean subterranean fire, whose extensive dominion is indisputably proved by those numerous volcanos that have been discovered in so many distant parts of the world, and whose sources must lie at very considerable depths below the surface of the earth, if we may argue from the vast quantity of different substances which they have vomited forth in their various eruptions.

From a knowledge of these elementary parts of the basaltic, we are furnished with an analogy tending to throw some light on the regularity of its form. One of its principles is found to be silicious earth, and we have very numerous proofs that this substance does, in other instances which come within our observation, frequently affect a regular figure, variable however under various circumstances. Thus rock crystal, which is a very pure flinty earth, is commonly disposed in the form of hexagonal prisms, the denomination of sides which chiefly prevails among our basaltic pillars. Thus variety of crystallizations are found to take place in the metal of glass-houses, where the furnace has been suffered to cool gradually.

Iron is another of the principles which enter into the basaltic; and this metal is found to crystallize in regular figures, when all fit circumstances concur to permit the due arrangement of its parts. This is sometimes discoverable in the ores of that metal, and may be observed to take place imperfectly even in our founderies, in what is commonly called the grain of cast iron, generally presenting to view a striated appearance: but, in cases where the pains and ingenuity of the chemist has been exerted to exhibit this phenomenon more decisively, very regular cubical figures have been produced, clearly ascertaining the existence of this tendency toward a peculiar disposition of its parts.

In truth, the particles of every substance in nature appear to possess private laws and affinities, whereby they proceed to unite, and to arrange themselves in regular forms, when all things necessary combine to assist this tendency; that is, when by any means whatever, the particles are removed to a sufficient distance, and afterwards suffered to approach slowly and regularly according to their various laws of action.

Thus it appears to be in the case of saline substances, which have been held in solution in a watery medium; for if by the uniform evaporation of the fluid, or any other slow and regular cause whatever, time and space be allowed in which the dissolved particles may exert, without disturbance, their private laws of affinity, these particles will be found to affect an arrangement peculiar to that species of body to which they belong. Thus again, all bodies which have been dissolved by the medium of heat, when suffered to cool equably, and without the rapid afflux of fresh portions of air, do universally exhibit a peculiar disposition of parts, of which instances enough occur in every species of metal, in sulphurs, in glass, and, in short, in all substances capable of a perfect fusion.

Since therefore we have sufficient evidence, in such instances as come within the reach of human powers and observation, that the elementary parts of the basaltes do affect a specific form of crystallization, and that this form is always more and more perfect, in proportion as our experiments are made with greater regularity, and on a larger scale, it may not appear unreasonable to pursue the same analogy in the extensive operations of nature, where those laws, which are but imperfectly exerted in our diminutive experiments, may act with full and undisturbed vigour, capable of producing the beautiful symmetry and arrangement of a Giant's Causeway. And though crystals have probably never been produced from any simple substance, precisely answering to the articulated basalt pillars, yet no very important objection can be derived from hence, since it is well known that elements which separately form specific crystals, may, when united, constitute by their compound laws, bodies different from either figure. Thus melted glass, through which scorïæ of iron had been accidentally mixed, was found to affect a columnar shape.\*

These are the chief matters worthy notice, which have come under my own immediate observation with respect to the perfect stone of the Giant's Causeway. I shall next mention some of the leading varieties of its different species.

First. With respect to form and magnitude: the pillars of the Causeway are small, not very much exceeding one foot in breadth, and thirty in length, sharply defined, neat in their articulation, with convex or concave terminations to each joint. In many of the capes and hills they are of a larger size, more imperfect and irregular in their figure and articulation, having often flat terminations to their joints: at Fairhead they are of gigantic magnitude, sometimes exceeding five feet in breadth, and an hundred in length; oftentimes apparently destitute of joints altogether. Through many parts of the country this species of stone is entirely rude and unformed, separating in loose blocks, in which state it resembles the stone known in Sweden by the name of Trappe.

Secondly. With respect to situation: the pillars at the Giant's Causeway stand on the level of the beach, from whence they may be traced through all degrees of elevation, to the summit of the highest grounds in the neighbourhood, as at the old fort of Dunmull, and on the top of Croaghmore, six hundred feet at least above the level of the sea.

Thirdly. With respect to disposition and arrangement: At the Causeway, and in most other places, they stand perpendicular to the horizon; in some of the capes, and particularly near Ushet harbour in the isle of Raghery, they lie in an oblique position; at Doon Point, in the same island, and along the Ballintoy shore, they form a variety of regular curves.

The little point of Doon is indeed extremely curious, containing at once perpendicular, horizontal, and bending pillars. Its base resembles a mole composed of erect co-

\* Vide Ker's Observations on the crystallization of glass. Phil. Trans. vol. lxy.

lums like those of the Giant's Causeway; over the extremity of this mass others appear in a bending form, as if they had slid over in a state of softness, capable of accommodating themselves to the course of their descent, and thus assuming the figure of various curves, in consequence of the action of gravity; over all, several pillars are disposed in an horizontal position, such as would accord with an hypothesis of their having just reached the brink of the descent where they were suddenly arrested, and become rigid, lying along with their extremities pointing out toward the sea.

Fourthly. With respect to colour and grain; the Giant's Causeway stone is black, close, and uniform; its varieties of colour are blue, reddish, gray; and of grain, all that can be supposed from extreme fineness, to the coarse granulated appearance of a stone which resembles imperfect granite, abounding in crystals of schorle, chiefly black, though sometimes of various colours.

Fifthly. With respect to texture: we must observe, that though the Giant's Causeway stone be in general compact and homogeneous, yet it is remarkable that the upper joint of each pillar, where it can with certainty be ascertained, is always rudely formed and cellular;\* the gross pillars also, in the capes and mountains, frequently abound in these air holes through all their parts, which sometimes contain fine clay and other apparently foreign bodies: and the irregular basaltes, beginning where the pillars cease, or lying over them, is in general extremely honey-combed, containing in its cells crystals of zeolyte, little morsels of brown clay, sometimes very pure steatite, and in a few instances bits of agate.

The fossils attendant on the basaltes are, First. Extensive layers of red ochre, varying in all degrees from a dull ferruginous colour, to a bright red, answering well for coarse paint.

Secondly. Veins of iron ore sometimes very rich, commonly of a brown or reddish cast, at other times of a changeable blue colour.

Thirdly. Steatites, generally of a greenish soapy appearance, more rarely of a pure white; it raises an imperfect saponaceous froth when agitated with water.

Fourthly. Zeolyte, of a bright and purest white colour; in masses varying in weight from a grain to a pound; generally disposed in cavities of the cellular basaltes; often affecting a crystallization, in which the fibres radiate out from one center, in some instances resembling a beautiful spangled appearance of thistle down. The most remarkable property of this fossil is that it forms a gelatinous mixture in the course of a few hours with any of the mineral acids, most readily with spirit of nitre.†

Fifthly. Peperino stone, a friable matrix of indurated clay and iron, studded with little morsels of zeolyte, and other substances. It is often of a reddish burnt colour, corresponding accurately with the peperino stone of Iceland.

Sixthly. Pumice-stone, of a deep black colour, containing iron not entirely dephlogisticated, but still capable of acting on the needle; sometimes found on the shore of the island of Raghery.

\* Vide pillars at the museum of Trin. Coll. Dublin.

† Zeolyte is said by the chemists to be composed of argillaceous, siliceous, and calcareous earths, united in certain portions to water (vide Kirwan's Mineralogy, page 65.) Now, that these elements may possibly be found in it, I do not deny, but that its singular properties can be accounted for from this union alone, seems not likely. In truth, chemical tests depending only on affinities already known, cannot always discover the presence of that element on which the chief phenomena of bodies may often depend. A chemical analysis can then only be esteemed perfectly decisive when it is supported by a fair synthetical proof, demonstrating that the component parts discovered by the analysis may be so united as to form a substance possessed of all the properties of the original.

The following fossils seem to have existed in their present form, independent of, and perhaps antecedent to the basaltes.

First. Chalky Limestone: the whole country appears to have been originally formed of this substance, to the height of several hundred feet above the present level of the sea. It lies in beds nearly parallel to the horizon, and contains some scarce petrifications, particularly belemnites, more rarely asteriæ.

Secondly. Flints: these are disposed in great abundance, and in various shapes, through the chalky limestone; sometimes, however, they are found loose through the ground; at other times they may be discovered among the basaltes:\* but in all these instances the limestone appears to be their proper matrix, from whence they have been only accidentally dispersed; for the vegetable mold (in which they are never found, except near the limestone) most commonly abounds in calcarious earth, as if it had been principally formed by the decomposition of that substance, while the harder texture of the flints, suffering little change, were scattered in their original state irregularly through it. As for the basaltes, it only contains them at or very near to the place of contact with the inferior mass of calcarious stone, bits of which still continue to adhere to the flints in many parts. The substance of the flints too seem to have undergone some change in this situation, their transparency, hardness, and colour being often considerably altered.

Thirdly. Sandstone: a great mass of this forms the eastern side of Ballycastle bay, and in one part the basalt pillars of Fairhead rest on it.

Fourthly. Pit-coal: it lies in beds between the layers of sandstone at Ballycastle, and appears to continue under the sea to the island of Raghery.

Fifthly. Martial Vitriol: this is formed among the coal-pits, by the union of the sulphureous acid of the coals with a stratum of iron.

Sixthly. A very singular range of calcarious phosphoric rocks; these lie on the shore of the island of Raghery, nearly where the vein of the Ballycastle coals might be supposed to reach. Close to the shore it resembles a hard white limestone, of a bluish cast; a little further inland it becomes softer, and whiter; by and by it assumes the appearance of a calcarious sandstone; in each of which states it produces a vivid yellowish light when sprinkled on coals, or a hot iron. It does not emit a sulphureous smell in burning, nor does it discolour vitriolic acid in solution.†

I have here given you a summary of the principle varieties of the basaltes and its attendant fossils; perhaps you will say that my brevity does not help to make me intelligible, but to this I must answer first, that if fossils cannot be ascertained by a few general characteristics, a more laboured description of minute circumstances will do little else than perplex any person who is not a very good mineralogist, in which case we have no resource but in actual observation. And, secondly, that such circumstances as I have here mentioned, will probably afford a foundation broad enough on which to build any analogical reasoning that may be derived immediately from the nature of the substances themselves.

As I should be sorry to have given you the trouble of reading this letter only for the unprofitable labour of learning uncommon names, which would certainly be the case did this account terminate the subject; I shall, in my next letter, candidly apply such arguments as can be derived from the nature and properties of these fossils, to explain

\* For instance, under Dunluce Castle.

† Specimens of all these fossils may be seen in the museum of T. C. D. under the description of Irish fossils, county of Antrim.

the volcanic theory of the production of the basalt; at the same time, however, I hope to be able to state, with equal honesty, such objections as seem most substantially to militate against this favourite hypothesis; leaving it to your own excellent judgment to decide on a subject, where, as Sir Roger de Coverly would observe, "much might be said on both sides."

## LETTER X.

DEAR SIR,

*Portrush, August 31.*

THERE are few things that can affect a contemplative mind with more surprise, than the numerous and signal changes which appear to have taken place in the form and arrangement of our earth, at some very distant age. It is a subject which has at all times engaged the attention of mankind, and certainly constitutes the most interesting department of natural history.

From the frequent and unequivocal vestiges of marine productions, which are found in the midst of our most extensive continents, and on the summit of several of the loftiest mountains, some philosophers have been induced to attribute the formation of the present habitable world, to the violent and tumultuary fury of the ocean, agitated by some uncommon cause: \* Whilst others† have thought, that the gradual but unceasing efforts of its heaving billows were abundantly adequate to account for these appearances on more common principles.

But variety of natural phænomena occur to an attentive observer, which are deemed incapable of being reasonably explained by these hypothesis; whether we regard the general features and elevation of many of our continents, or the nature and situation of the fossils which they contain.

Hence it has come to pass, that a new and more powerful principle, esteemed entirely equal to those effects, has been adopted, and many of the most surprising phænomena of nature are held to be explicable by the potent agency of subterranean fire.

To this latter cause the formation of our pillars of basalt has been attributed with some appearance of probability; and though much has been said on this subject with vagueness and indecision, concerning the manner of their production, yet the principal facts that have been adduced in favour of the general opinion are worthy of attention, and open to view a very novel and important object of inquiry.

The first person who took a decided part in favour of the volcanic theory of the basalt was M. Desmarest, a French gentleman, whose Memoire on that subject may be seen in the publication of the Royal Academy of Sciences for the year 1771. Mr. Desmarest made a tour through the county of Auvergne, one of the southern provinces of France in the neighbourhood of the Rhone, where he discovered many piles of basalt, with more variations of magnitude, figure, and arrangement, than was at that time known about the Giant's Causeway in Ireland. By his means a geographical survey was made of this part of France, and a map delineated in which the direction of the mountains, and the situation of its basalt, were supposed to be accurately projected.

From this map, and his own personal observations of the nature of the soil, and the general species of its fossils, he conceived that this country had once been ravaged by subterranean fire, of whose wasteful dominion undeniable vestiges still remained; and that the bold inequalities of its surface, its hills and vallies, were formed by vast heaps of

\* Burnet, Whiston, Woodward, &amp;c.

† Buffon, &amp;c.



scoriæ, and different melted substances, which had issued from its volcanic mountains, spreading themselves in every direction from these flaming centers.

He imagined also, that many of these melted torrents might be traced through their whole extent, from the side of the great volcano which gave them birth in the mountains of D'or, to their remotest extremities where they terminated in banks of prismatic basaltes. From all these circumstances he concluded, that the basaltic columns were formed by the gradual refrigeration of a mass of fluid lava, during its slow progress over the subjacent soil, and that most of its varieties of shape and situation might naturally be attributed to the different interruptions of its course, or to the alterations introduced by the successive ravages of volcanic fire.\*

After Mr. Desmarest many writers both foreign and domestic pursued this interesting subject with great ardor. Among the English authors we are principally indebted to the labours of Sir William Hamilton, whose valuable collection of facts relating to those places which are at this day the seat of living volcanos, afford the surest rules of judgment concerning such countries as do yet bear strong marks of a volcanized appearance without any direct evidence of the existence of subterranean fire.

But the person to whom we owe the most ample compilation of materials immediately relating to the basaltes, is Mons. Faujas de St. Fond, who has lately published a voluminous work on the extinct volcanos of Vivararis and Velay, counties adjoining to Auvergne, which had before been described by Mr. Desmarest. In this work the author has given a particular memoir on the basaltes, to which he has annexed descriptions, and engravings of the most remarkable banks and mountains of basaltic columns in these two countries. But what renders his work still more valuable, are the minute and accurate accounts which it contains of the attendant fossils, particularly zeolyte schorl, and puzzolane earth; because we are from thence enabled to decide whether these substances be universally connected with the basaltes, or are only the accidental attendants of it in a few particular counties; and where such fossils are found together, we have it in our power to estimate fairly the force of those arguments derived from their nature and connection in any one country, by considering candidly, how far they should weigh with us in those instances which come immediately under our own particular observation.

In my last letter I enumerated the chief varieties of the basaltes and its attendant fossils, as they occur in the northern parts of Ireland; and I shall now briefly state to you such arguments as may be derived from them, in proof of the ancient existence of subterranean fire in their neighbourhood.

First. The basaltes itself is esteemed to be nothing else than lava; and its varieties are attributed entirely to accidental circumstances attending its course, or the manner of its cooling. In support of which opinion it is affirmed that the basaltes agrees most ac-

\* "A mesure qu'on parcourt ces Cantons, en faisant la recherche & l'énumération des masses prismatiques, qu'on étudie les courants, sur tout vers leur extrémités, qu'on suit leur marche depuis le centre des éruptions, leur échaînement & leur distribution à la superficie des plaines hautes qui séparent les vallons, qu'on examine les différentes espèces des pierres dont ils sont composés, on reconnoît à chaque pas que ce sont des hors d'œuvres établis sur le sol naturel. On distingue les produits du feu des substances intactes & l'on apprécie du même temps les transports immenses des matières fondues, dont les prismes sont toujours partie. Desmarest sur l'origine & la nature du Basalt. See Memoirs of the French Academy for the year 1771.

curately with the lava in its elementary principles,\* in its grain, in the species of the foreign bodies which it includes,† and all the diversities of its texture.‡

Secondly. The iron of the basaltes is found to be in a metallic state capable of acting on the magnetical needle. The same is true of the iron contained in the compact lava.

Thirdly. The basaltes possesses the remarkable property of being fusible per se; this property is also common to the lava and most volcanic substances.

Fourthly. The basaltes is a foreign substance, superinduced on the original limestone soil of the country, in a state of softness capable of allowing the flints to penetrate considerably within its lower surface. It is hardly necessary to add, that the lava is an extraneous mass, overspreading the adjoining soil in a fluid state; that it is often born on a limestone base, or that flints and other hard matters do frequently penetrate into its substance. In short, the circumstances of agreement are so numerous, and so clear, as to create a very reasonable presumption that they are one and the same species of substance.

But the evidence derived from the nature and properties of the attendant fossils, seems also to contribute largely in support of this opinion.

Those extensive beds of red ochre, which abound among our basaltes, are supposed to be an iron earth reduced to this state of a calx by the powerful action of heat; for such a change may be produced on iron in our common furnaces, provided there be a sufficient afflux of fresh air; and the basaltes itself in such circumstances is easily reducible to an impure ochre, exactly similar to that found at Bengore. This phænomenon is also observed to take place more or less in the present living volcanos, particularly within their craters, and is therefore held to afford a presumptive argument of the action of fire in the neighbourhood of the basaltes.

I remarked to you the frequent bits of zeolyte which abound in the county of Antrim, and these, though not the immediate product (as far as I know) of any living volcano, are yet thought to countenance the general system, because zeolyte is found in countries where subterraneous fire is still visible, and where there is great reason to apprehend that the whole soil has been ravaged by that principle. Thus it abounds in Iceland, where the flames of Hecla yet continue to blaze;§ and in the isle of Bourbon, which is said to bear undeniable marks of a volcanic character;|| this substance is therefore supposed to arise from the decomposition of the volcanic products, in places whose fires have been long since extinct.

\* This will appear pretty evident, from stating the products of each substance according to the analysis of that able chemist, Sir Torbern Bergman:

Basaltes 100 parts.		Lava 100 parts.	
Contains	parts	Contains	parts
Siliceous earth	50	Siliceous earth	49
Argillaceous do.	15	Argillaceous do.	35
Calcareous do.	8	Calcareous do.	4
Magnesia	2	Iron	12
Iron	25		
	<hr/>		<hr/>
	100		100
	<hr/>		<hr/>

† Bits of limestone, flints, schorl crystals of various colours, morsels of pure clay, &c. are common to the basaltes, and to lava.

‡ All the varieties of texture which take place in lava, from the compact close grained kind to the spongy lava, may also be traced among the basaltes.

§ Vide Von Troil's Letters on Iceland.

|| Vide Messrs. Desmarest, Faujas de St. Fond, Raspe, &c.

Crystals of scori appear in great plenty among many kinds of our basaltes, and these, though not absolutely limited to volcanic countries, yet being found in great abundance among the Italian\* lavas, in circumstances exactly corresponding to ours, are thought to supply a good probable argument in the present instance.

The substance which I mentioned under the name of peperino stone, is believed to be the undoubted offspring of fire; it has frequently the burnt appearance and spongy texture of many of the volcanic products, and agrees accurately with the peperino of Iceland and Bourbon islands, which still contain burning mountains.

Puzzolane earth is not immediately found in that state in Ireland, but it is discovered among the basaltes of France, and there is very little doubt that our basaltes, if pulverized, would agree with it in every respect; that is, it would produce a fine sharp powder, containing the same elementary parts, and most probably answering all its valuable uses as a cement.† Puzzolane earth is found in the Canary islands, which are esteemed to have other characteristics of the effects of fire; it is met in abundance through all the volcanized parts of Italy; it is never discovered except in places which have other strong marks of the ravages of fire.

The discovery of this earth is therefore thought to add great weight to the many other proofs which have been mentioned in favour of the general system.

Pumice-stone is a substance so generally acknowledged to be the product of fire, that I need not be at any trouble to enforce it; indeed it bears the character of a cinder so obviously in its external appearance, that one must be convinced at first view of its original. This fossil is sometimes found on the shore of the island of Raghery, among the rounded stones on the beach of the sea,‡ and being supposed an unequivocal test of the action of fire, is imagined to complete all that could be desired in this kind of reasoning.

Such are the internal arguments in support of the volcanic origin of the basaltes, immediately derived from the nature and properties of that substance and its attendant fossils compared with other substances which are the certain products of fire; and it must be confessed, there appears throughout such a remarkable coincidence of circumstances, as raises a strong presumption in favour of the opinion that they have been produced by similar causes; but there still remains other external proofs, which when added to the former are supposed to form a demonstration almost as perfect as the nature of such analogical reasoning will allow.

In the beginning of this letter I mentioned that Messrs. Desmarest and Faujus de St. Fond had described the basaltic provinces of France, its containing mountains, whose exterior appearance was such, that they readily pronounced them to be extinct volcanos. One of these, on the banks of the river Ardesche, called the Montagne de la Coupe, seems to exhibit the proofs of its origin in characters peculiarly clear and distinct. It is of conical form, exactly corresponding in shape with the present living volcanic mountains, and like them it contains a large crater nine hundred and fifty feet in diameter, and six hundred feet in depth.§ The substances that have been discovered through all

\* Vide Ferber's Letters on Italy.

† A few experiments on this subject might perhaps be worth the attention of the gentlemen concerned in the inland navigation of Ireland; and there is more reason for hope of success in this inquiry, as the Swedes have already applied their pulverized trappe (mush resembling our course basaltes) as a good substitute for the puzzolane, formerly brought at great expence from Italy and the Canary islands.

‡ Pumice-stone occurs so rarely, that I have been often induced to doubt whether it might not be a foreign substance accidentally driven here by the waves from Iceland, or some other volcanic country. However, on trial, it is found too heavy to have floated thither, its iron not being entirely dephlogisticated, as is evident from its deep black colour, and a small degree of magnetism which it still possesses.

§ Vide Mons. Faujas de St. Fond, sur les Volcans, &c.

its parts, particularly in a deep ravine formed on one side by torrents, bear a strong resemblance to many of the Vesuvian products. In fine, the volcanic features of this mountain are so strongly marked, that an accurate account of it would afford no very unsuitable description of Vesuvius itself during the intervals of its eruptions. Now the Montagne de la Coupe contains at its base abundance of basaltic pillars, which have been exposed to view on one side by the impetuous torrents of this mountainous country, particularly of the river Ardesche, whose banks are formed of columnar basaltes. And thus are two characters of a basaltic and volcanic mountain esteemed to be decisively united in the Montagne de la Coupe.\*

There are three living volcanos at present known, within whose neighbourhoods the basaltes, and most species of its usual attendant fossils, have been observed. The first is situated in the island of Bourbon, off the southern coast of Africa; † the second is *Ætna* in the island of Sicily, and the third is *Hecla* in the island of Iceland. ‡ To which it may be added, that the basaltic is found in the volcanized parts of Italy, as at *Bolzena*, § and other places; though not (as far as I have been informed) any where immediately contiguous to Vesuvius. Thus (say the naturalists) do the argument derived from the situation of this species of fossil, with respect to mountains which yet continue to burn, coincide with those other clear and satisfactory proofs, which were drawn immediately from its nature and properties, in proof of its volcanic origin.

In addition to what has been here stated I shall mention another plausible argument in support of the opinion, deduced in some measure a priori.

It is well ascertained by experience, that there are vast beds of pyrites dispersed through the interior parts of the earth at all depths; and it is a certain fact, that this compound substance may, by the accidental affusion of a due quantity of water, become hot, and at length burn with great fury. This, therefore, is one principle to which we may, with the strongest probability, attribute the origin of subterranean fire, more especially as the present living volcanos do actually pour forth in abundance all the component parts of the pyrites, the chief of which are sulphur, iron, and clay. Now among the superinduced substances of the county of Antrim (and I believe the same may be said of every other basaltic country) it is certain that the quantity of iron and clay, diffused through almost every species of fossil, amounts to more than one half of the whole materials, so that two of the principal elements of the pyrites are still found here, reduced in many instances to a state of slag or scorizæ; and the third principle, namely the sulphur, cannot in the nature of things be expected to remain, because sulphur does in a great measure perish during the act of inflammation; and what might perchance escape or be sublimed, would no doubt have long since perished by decomposition, in consequence of being exposed to the air.

Thus in fact every part of the pyrites which could reasonably be expected to survive, does at this day actually exist in form extremely similar to the products of *Ætna*, *Vesuvius*, and *Hecla*, the three most celebrated volcanos of Europe.

\* I have been more particular in mentioning this mountain, because my information concerning it has been confirmed by the account of my intelligent friend Doctor Percival, of Dublin, whose accurate observations and excellent judgment can only be exceeded by the uncommon candour of his mind.

† Vide Messrs. Desmarest, Faujas de St. Fond, Raspe, &c.

‡ The island of Castel-a-mere, near Catania, off the coast of Sicily, is entirely basaltic. Vide Sir Wm. Hamilton's *Campi Phlegreæi*.

§ Vide Von Troil's Letters on Iceland.

|| Vide Sir William Hamilton's *Campi Phlegreæi*, Ferber's Letters, &c.

## LETTER XI.

DEAR SIR,

*Portrush, September 3.*

NOTWITHSTANDING the numerous and specious arguments which are urged in defence of this volcanic theory of the basaltes, yet many difficulties and objections have been raised against it by men of excellent understanding; some of these are of considerable force, and as I do not wish to dictate any opinion to you, but rather modestly to offer what information has come in my way on the subject, I shall candidly state those objections, together with the most reasonable answers. It is said, that this theory does rashly attribute some of the most regular and beautiful phænomena of nature to one of the most tumultuary and irregular causes that can be imagined; ascribing the exquisite arrangement of a Giant's Causeway, which almost emulates the laboured works of design, to the blind fury of a burning volcano.

This objection, which is pretty strong in itself, has certainly received very considerable support from the various unsuccessful attempts that have been made to explain the manner in which the pillars of basaltes were produced: one person\* wildly attributing their formation to the refrigeration of a current of lava, suddenly plunged into the ocean: another obscurely hinting that some occult quality in the sea salt might have had its share in the business: a third† supposing, contrary to experience, that the melted mass of lava might in its liquid state have been capable of a considerable diffusion or solution in water, by which means the particles had an opportunity of arranging themselves in regular crystallizations: a fourth‡ conceiving that the basaltes was originally a bed of iron and other substances, gradually moistened, and softened in the streams of water heated by subterranean fire and afterwards assuming its regular figure during the time of drying and hardening.

It is pretty plain, that none of these indefinite explanations can at all satisfy a thinking mind, and as an unfortunate argument generally tends to encrease the apparent weakness of a cause, in defence of which it is brought forward, it has hence come to pass, that many persons of good sense have held the whole volcanic system to be extremely fallacious.

In truth, there seems to be but one operation of nature, which affords any rational principle of analogy, by which we can attempt to explain the formation of the basaltic pillars. It is certain that the particles of most bodies, when removed from each other to a proper distance, and suffered to approach gradually, assume a peculiar form of arrangement, as if the parts of each species of matter did, independent of their general properties of cohesion and gravity, possess also private laws and affinities tending to produce these specific forms. However, let the cause be what it may, the fact at least is sufficiently certain: and it does not appear to be a matter of any importance by what medium the particles are disunited, provided only, that a sufficient separation, and a gradual approximation, be allowed to take place.

Thus, whether bodies be dissolved by fire, or by a watery medium, the phænomena of crystallization is equally observable when proper art has been applied to render its effects visible.

I mentioned, in a former letter, that the basaltes was capable of a very perfect fusion, and that two of its elementary parts were such, as, by experience, we know to possess the property of crystallization by fusion, both in their separate and combined states.

\* Mr. Raspe.

† Mr. Kirwan.

‡ Bergman.

Since therefore the basalt, and its attendant fossils, bears strong marks of the effects of fire, it does not seem unlikely that its pillars may have been formed by a process exactly analogous to what is commonly denominated crystallization by fusion.

The only apparent specific difference between the basaltic crystals, and those which are produced in our diminutive laboratories, seems to be in the complete disunion of the pillars, and in the articulated form which they sometimes exhibit. But this will not appear to be a matter of any importance, when we reflect, that in natural operations of the same kind, but differing in magnitude, the same proportions are commonly observed between the different parts: thus, the same ratio which the diameter of a basaltic pillar bears to the diameter of one of our diminutive crystallizations, will the interval between the pillars of basalt bear to the interval between the parts of our crystal; and whoever will take the trouble to calculate this distance will find it so very small, as easily to admit the different surfaces within the limits of cohesion; so that no separability of crystals into joints can possibly take place, from their smallness, though they often bear marks which might lead one to imagine them capable of disunion.

If this reasoning be allowed to have weight, the objection derived from the irregularity and confusion of a volcanic cause will not appear unanswerable. For though, during the moments of an eruption, nothing but a wasteful scene of tumult and disorder be presented to our view, yet, when the fury of those flames, which have been struggling for a passage, has abated, every thing then returns to its original state of rest, and those various melted substances, which but just before were in the wildest state of chaos, will now subside, and cool with a degree of regularity utterly unattainable in our laboratories, and such as may easily be conceived capable of producing all the beauty and symmetry of a Giant's Causeway.

A second objection arises from hence, that the currents of lava which have issued from *Ætna* and *Vesuvius*, within the memory of man, have never been known to exhibit this regularity of arrangement. It is therefore said that experience does abundantly prove the fallacy of the volcanic hypothesis.

In reply to this we are told, that it is not in the erupted torrents of these volcanos we are to look for the phenomena of crystallization, but in the interior parts of the mountains themselves, and under the surface of the earth, where the metallic particles of the lava have not been dephlogisticated by the access of fresh air, and where perfect rest, the most gradual diminution of temperature, have permitted the parts of the melted mass to exert their proper laws of arrangement, so as to assume the form of columnar lava: that we must wait, until those volcanic mountains which at present burn with so much fury, shall have completed the period of their existence; until the immense vaults, which now lie within their bowels, no longer able to support the incumbent weight, shall fall in, and disclose to view the wonders of the subterranean world: and then may we expect to behold all the varieties of crystallization, such as needs take place in these laboratories of Nature; then may we hope to see banks and causeways of basalt, and all the bold and uncommon beauties which the abrupt promontories of *Antrim* now exhibit.

It is stated as a third objection, that, according to this hypothesis, the basalt must have been reduced to a perfect state of fluidity, in order to permit the phenomena of crystallization to take place, but, that there is no reason for believing it ever could have been subjected to any intense action of fire, so as to be reduced to a state of thin fusion, because it does not contain air holes, like the lava, nor possess those marks of vitrification, which attend a very moderate heat in our laboratories.

The first part of this objection is ill founded, though advanced by Wallerius, and other eminent mineralogists. All the basaltes, which I have ever seen, does, in one part or another of its substance, always exhibit air holes; and it is remarkable that even the pillars of our Giant's Causeway, which are singularly compact, have their upper joints constantly more or less excavated, so that this part of the argument does rather plead in defence of the volcanic origin of the basaltes.

With respect to the want of all marks of vitrification, we are to consider that substances in fusion are very differently affected, in proportion as they are more or less exposed to the access of fresh air, the presence of this element being absolutely necessary in order to deprive a body of its phlogiston.

Thus, metals which may be readily vitrified by exposure to heat, and the free afflux of air, will yet bear the most intense action of fire in close vessels, without being deprived of that principle on which their metalliety depends, and are therefore in this situation incapable of being vitrified. The basaltes may therefore have been subjected to a very great degree of heat, within the bowels of the earth, and yet shew no marks whatever of vitrification, and hence it may be explained, how it comes to pass that the iron principle of the basaltes still retains its phlogiston, acting so sensibly on the magnetic needle.

A fourth objection is derived from hence, that in many of the countries where the basaltes most abounds, there are no traces whatever of those bold and decisive features which constitute the distinguishing characteristic of a volcanic mountain; its lofty pointed form, its unfathomable crater, and many other circumstances that strike the senses very forcibly at *Ætna* and *Vesuvius*. The basaltes, therefore, is affirmed to be a fossil extensively spread over the surface of the earth, and where it is found in the neighbourhood of volcanic mountains, it is said we should suppose these to be accidentally raised on a basaltic soil, rather than to have created it.

It must be confessed that volcanic mountains are not always found to attend the basaltes, at least there do not appear any direct vestiges of them in the neighbourhood of the Giant's Causeway in Ireland.

But the advocates of the system are not much embarrassed with this difficulty; according to them, the basaltes has been formed under the earth itself, and within the bowels of those very mountains, where it could never have been exposed to view, until by length of time, or some violent shock of nature, the incumbent mass must have undergone a very considerable alteration, such as should go near to destroy every exterior volcanic feature. In support of this it may be observed that the promontories of Antrim do yet bear very evident marks of some violent convulsion which has left them standing in their present abrupt situation; and that the island of Raghery, and some of the western isles of Scotland, do really appear like the surviving fragments of a country, great part of which might have been buried in the ocean. It is further added, that though the exterior volcanic character be in a great measure lost in the basaltic countries, yet this negative evidence can be of little avail since the few instances where the features have been preserved afford a sufficient answer to this objection.

Thus the *Montagne de la Coupe* in France still rears its pointed top to the Heavens, retains its deep crater, and bears every characteristic of its volcanic origin; and this mountain is observed to stand on a base of basaltic pillars, not disposed in the tumultuary heap into which they must have been thrown by the furious action of a volcanic eruption tearing up the natural soil of the country, but arranged in all the regularity of a Giant's Causeway, such as might be supposed to result from the crystallization of a bed of melted lava, where rest, and a gradual refrigeration, contributed to render the phenomenon as perfect as possible.

Fifthly. It is observed by Monsieur Faujas de St. Fond, that at the foot of the mountain of Mezinc, in the province of Velay, a range of basaltic pillars stands supported on a bed of fossil coal, with a very thin stratum of clay not more than a few inches thick interposed; now, that this inflammable body of coal could have remained uninflamed under a mass of melted lava, thirty feet thick, seems highly improbable, and therefore it is evident, say the adversaries of the system, that the basaltes could not have derived its origin from fire.

In answer to this plain and weighty objection, it is affirmed, that no substance in nature can be consumed by fire without the access of atmospheric air; that fire may be passed through inflammable air itself, without exciting actual inflammation, unless the atmosphere lend its assistance. Hence it cannot appear strange that a bed of coal might have survived in the neighbourhood of a volcano, and even under a mass of fluid lava, which, by resting on it, would prevent every possible approach of fresh air, so absolutely necessary to its being inflamed. It is certain that coal may be exposed to the violent action of fire, in a close vessel, without being consumed, or even suffering any material alteration, and therefore it is believed that this particular instance ought not to be held of weight sufficient to overturn a system, in support of which so many reasonable and almost certain proofs concur.

Such are the difficulties which are thought to embarrass the volcanic theory of the basaltes. In your excellent judgment I am certain they will bear their just value, founded on an extensive knowledge of nature and her operations. But among the generality of mankind their weight will be exceedingly various. In reasonings concerning natural phænomena, the standard of truth is extremely vague and equivocal. Climate bears here a more powerful influence than can well be imagined; so that it is not uncommon to find an opinion universally adopted by the inhabitants of one country, while those of the neighbouring kingdom shall join as universally to reprobate it.

Thus the Neopolitans, accustomed from their infancy to the wild scenes of horror and desolation which abound in a soil ravaged by volcanic fire, and to see as it were a new world suddenly raised on the ruins of their country, have their warm imaginations filled with the gigantic idea of this powerful principle, which to them appears adequate to the production of every thing that is great and stupendous in nature. How different are the sensations and opinions which prevail in the native of our temperate island! To him the sound of thunder is uncommon, an earthquake is almost a prodigy, and the fury of the subterranean fire is utterly unknown. He beholds nature pursue her calm and steady course with an uniformity almost uninterrupted; he views the same objects unchanged for a long series of years; the same rivers to water his grounds, the same mountains supply food for his flocks, the same varied line of coast continues through many successive ages to bound his country, and to set the foaming ocean at defiance: hence he naturally proceeds to extend his ideas of regularity and stability over the whole world, and stands utterly uninfluenced by those arguments of change in the earth, which to the inhabitant of a warmer climate appear absolutely decisive.

In this manner are the prevailing opinions, even among the philosophers of most countries, generally founded on partial analogies; and it requires a vigorous mind, as well as an extensive and clear understanding, to prevent our being misled by the specious arguments and dangerous conclusions which have been derived from such deceitful sources, many of them plainly tending to multiply false opinions, and to subvert the only true principles of religion and morality.



## LETTER XII.

DEAR SIR,

*Portrush, September 10.*

IF the volcanic theory of the basaltes be well founded, and no doubt many of the arguments in favour of it are extremely plausible, a scene of horror is presented to our view, which must surely fill us with astonishment; since on this system it will be found, that there is hardly a country on the face of our globe which has not at some time or other been wasted by the fury of subterranean fire.

If, again, those apparent vestiges of marine productions, which are observed indiscriminately scattered through the earth, at all depths below the surface, and on the summits of its highest mountains, be esteemed sufficient proofs of the presence of the ocean in those places, a scene, no less wild and uncommon than the former, rises before our imagination; in which the products of the equator and the poles appear to be jumbled together in a manner incapable of being explained by any of the known analogies of nature.

From observations such as these, where in truth every thing is inexplicable, many of the modern philosophers, chiefly indeed of the French nation, have become warm admirers of the old brute atoms of Epicurus, or the mysterious plastic principle of the Stoics, forming to themselves systems of nature, in which an intelligent cause seems to be of all others the least necessary; systems in which blind destiny alone is the active spring of life and motion.

Thus are the sources of religion and morality effectually cut off at one blow, and mankind deprived of those present blessings, and that most delightful hope of future happiness, which they fondly imagined to be rightly founded on their natural instincts, and supported by the fairest deductions of reason.

It is the business of natural history to collect, as extensively as possible, all the phenomena of nature, to compare such of them as bear any reasonable similitude, and from their general analogies to derive conclusions which may benefit our fellow-creatures, either as discoveries useful in common life, or as speculative truths suited to improve and enlarge the understanding. In this point of view it is a science which merits the honourable praise of mankind, and is certainly inferior to none in the copious sources of delight and improvement which it may afford to a rational mind.

Surely it is most unaccountable, that a study, which in this character appears so lovely and engaging, should nevertheless have been pursued upon such perverse principles, and with such misguided views, as to lead to consequences equally false in their own nature, and ruinous to the welfare of any society where they may become universally prevalent.

I have been accidentally led to make a few reflections on this subject, by the perusal of some foreign writers on natural history, who have unfortunately applied the proofs of those inexplicable changes which may possibly have taken place in the earth, and indeed all their negative knowledge of nature, for the purpose of disproving the existence of its admirable author; as if arguments derived from the depths of human ignorance, could, with any reason, be esteemed capable of overturning such positive truths as the faculties of mankind are entirely adequate to apprehend.

When men choose to build their opinions on things which they do not rightly understand, rather than on truths which come clearly within their comprehension, it can hardly happen that they will not run into very gross mistakes; because, as the number of errors on any subject is plainly without limits, the chance is little less than infinite, that such reasoners will fall into the unfathomable abyss of falsehood.

Such has been the fate of the author of a French work, *Sur la Nature*, and indeed of every follower of that pernicious school of modern philosophy, which, rejecting all consideration of final causes, and despising those simple and obvious analogies that lead to the most useful and satisfactory truths, has chosen rather to pursue others, which neither its disciples, nor the rest of mankind, are in any respect suited to investigate.\*

Perhaps an example may serve to render me more intelligible, and to point out the general fallacy of this unhappy species of reasoning.

There can be no doubt that the telescope, with all its present improvements, is the result of a most happy application of uncommon skill and ingenuity, contriving and combining all the various parts and movements of that curious machine, for the excellent purpose of assisting vision.

In proportion as these movements were gradually invented and applied to use, during a long series of years: when each successive discovery was brought to the utmost extent of its perfection, mankind then observed that the human eye, in a very superior manner, enjoyed that particular advantage which they had sought for with so much art and industry, exhibiting to view a perfect achromatic instrument of vision, adapting itself with surprising facility to the different brightness of its objects, and to a vast variety of distances.

At the last, a defect was discovered in the telescopes, arising from the spherical figure of the glasses; in consequence of which the focus of those rays which fall near the limb of the glass, and of such as pass near to its center, do not coincide. This defect, after various fruitless attempts to obviate it, has for many years been given up by the most ingenious as irremediable.† But though men have, in this instance, found that there are bounds placed to their utmost skill and ingenuity, yet have they learned this useful truth, that there are no discoverable limits set to the powers of that admirable Cause which formed the human eye; this error being there entirely corrected, in the curious construction of the crystalline humour, the principal refracting lens of the organ of vision; which gradually increasing in density from the limb toward the middle, does by this wonderful variation of its refractive power in one respect, counteract the errors which would have arisen from the other consideration.

This happy union of different parts and movements, as well in the natural as in the artificial machine, each attaining its own particular end, and all together without confusion or interference, completing one greater and more excellent effect, this, I say, reasonable men denominate a work of design; and as they affirm that the telescope is an instrument formed to assist vision, in consequence of various means duly connected, by an invisible cause: (for it is plain that there is some moving principle in man, which is neither eyes, ears, hands, or head, neither the tout ensemble of all these, nor in any respect the object of our senses:) so do they believe that the human eye is an instrument made for the use of man, by an exceeding apt combination of intermediate causes; wonderfully and most unaccountably connected together, by one great, wise, and good cause; who is neither the eye itself nor any part of its mechanism, not at all

\* "Il est au dessous de Dieu d'agir pour une fin." Vide *Des Cartes Philosoph.* Maupertuis *Essai de Cosmologie.* Buffon *Theorie de la Terre.* Robinet *Sur la Nature, &c. &c.*

† The most probable means discovered of late years, for correcting these spherical errors has been offered to the public by that excellent British artist Mr. Ramsden, who conceives them capable of being in great measure removed in the eye-glasses of telescopes (where they are most sensibly felt) by such an adjustment of the instrument as that the image formed by the object glass shall fall as near as possible to the eye-glass. See *Phil. Trans. of the Royal Society of London, A. D. 1782.*

the object of our senses, but only visible to us through the beauty and wisdom of the works of creation, in the same manner as thought and intelligence in man are known to us through those motions and effects daily produced before us, which we do always suppose to result, originally, from a principle in some sort resembling our own minds.

From hence, and a thousand other similar analogies, for apprehending which our faculties are admirably suited, mankind have reasonably inferred the existence of one superior intelligent, good Being, who is every where present; whom we see, and feel, and hear, every moment of our lives, in the visible works of nature, as we do in particular circumstances hear and feel, and see other beings whom we denominate men.

To this reasoning, which does not in any respect appear uncandid or delusive, the author of the treatise *Sur la Nature* warmly objects. What! the eyes made for vision, which in many instances fail and become blind? The teeth and jaws made to grind food, which so often lose, and refuse to perform their office? The earth formed to support its inhabitants, while it contains volcanos which may have destroyed them by fire? Or an ocean, which has overwhelmed them under its waters?

These are some of the objections of that extraordinary writer, and this the general mode of argument, unhappily adopted on the continent by too many of those who have obtained the honourable title of philosophers; a false species of reasoning, in which the positive parts of human knowledge are most sophistically supplanted by what is purely negative: in which a man is required to judge of the truth of what he knows, by those other parts of nature where he is avowedly ignorant.

From principles such as these the Christian religion has been hastily rejected; because the population of America, and the accidental qualities of its inhabitants, could not immediately be explained by speculative men, who had no other data whereon to reason except the imaginary extent of their own genius, together with an entire ignorance of the situation of that continent, and the qualities of its inhabitants.\*

From the same deceitful source of reasoning this beautiful world, so aptly formed, so wisely moved, so bountifully and yet so variously adapted to maintain its different inhabitants, that the native of every country from the equator to the poles, finds cause to bless his situation, and to boast of comforts unknown in other climates. This curious structure, the delight and wonder of the best and wisest men in every age, has been condemned by a few presumptuous sophists, as the work of blind destiny, acting through the present elements of nature, because there are many of its principles and movements of whose use they are ignorant; because there appear to be vestiges of the ravages of fire, or the inundations of the ocean, which they are not able to explain.

It is most certain, that the laws of motion which now exist, could have produced this world in the beginning, neither are they capable of continuing it for ever in its present state.

The interior structure of the earth, whereby its various fossil substances, though differing exceedingly from each other in specific gravity, though not arranged according to any regular law of situation, do yet constitute a world self-balanced, a sphere whose center of

\* The proximity of America to the continent of Asia is now perfectly ascertained by the British navigators. The confident assertion of modern philosophers, that its inhabitants were beardless, is from many quarters proved to be false; and there is every reason for believing that their copper colour, and other peculiarities, are altogether the effects of the soil and climate, since the progeny of the Europeans has been found to suffer very considerable changes in all these circumstances, even during the course of those few generations which have passed since their first establishment there. So that in these instances revealed religion, so far from apprehending danger from the discovery of truth and the improvement of human knowledge, has only suffered from the ignorance or misinformation of philosophers.

gravity coincides with its centre of magnitude (without which all its motions must have been in an extreme degree irregular) evidently demands a first cause, which neither acts blindly, nor of necessity. A blind principle is not wont to labour in defiance of all chance; neither do mechanical causes usually produce their effects in contempt of the established laws of matter and motion.

The gradual ascent of our continents from the shores of the ocean, toward their mediterranean parts, so necessary for collecting the rains of heaven, and giving birth and course to those rivers which beautify and fertilize the earth: this exterior form, without which the vapours of the sea would have ascended to the clouds in vain, plainly requires the interference of some principle superior to any of the known elements of nature. Whatever the followers of Epicurus may think of these elements, no reasonable man will believe that the waves of the ocean could have created a country whose soil lies far above the level of its waters; or that the fury of volcanic eruptions could have produced an effect, so general, that we are rather led to infer the casual existence of former volcanoes in particular places, because of some apparent universal interruption to this regularity of form.

The projectile force by which the earth was in the beginning made to move round the centre of light and heat; its diurnal rotation, duly diffusing this light and heat over the surface; the inclination of its axis to the plane of the ecliptic, whereby the tropical climates receive fewer of the sun's rays, while the inhabitant of the polar circle enjoys a much larger share:\* all these effects, far surpassing the present powers of nature, most aptly combined together, working in concert without interference or disorder, for the attainment of one great, and good, and excellent end, clearly prove that this world has been produced by one powerful, intelligent, and benevolent principle, utterly unlike to any mechanical cause which now does exist, or that can be conceived to exist.

Mechanical causes, such as we are acquainted with, evidently tend to destroy the present form of the world; and thereby afford the strongest proof that it is not by its constitution immortal.

Sir Isaac Newton has demonstrated, that the perturbing forces which take place in the solar system, must in due time destroy the planetary motions, unless the first mover of all things shall choose to interfere. And it is sufficiently evident, that the slow but certain operations of heat and cold, together with the continued action of the air and storms, are capable of breaking and changing the most firm bodies, even the hardest rocks; while the numerous rivers on the earth's surface, and the waves which wash its shores, perpetually labour to bear all these substances into the bottom of the ocean, and thereby to reduce all things to a level situation.

Since then the earth yet continues to circulate with regularity round the sun, notwithstanding the perturbing forces of the planets: since all the countries on its surface still retain their elevated form, in opposition to those boasted mechanical causes, that labour incessantly to destroy it; since its impetuous rivers which pursue their course toward the ocean, have not yet smoothed those abrupt and precipitous cataracts, over which they rush with such unbridled fury, it is plain, either that the world, as we now see it, is but of a short duration; or else, that some saving hand has interfered to retard the progress of causes which in sufficient length of time must needs produce their effects.

If we cast our eyes over the annals of the world, we shall find in the history of the human race a clear and decisive evidence in favour of those general truths which our religion teaches, concerning the duration of the earth and its inhabitants. The evident

\* Vide Keil's Phys. Essays.

marks of novelty in all those arts and sciences that are the offspring of experience: the wonder and terror with which the earlier philosophers (though in other respects well informed men) were wont to behold many of those natural appearances, which longer observation has shewn to be neither uncommon nor dangerous: the general defect of all histories and traditions antecedent to a certain period at which the Jewish writings affirm the world to have been destroyed by water: these cogent circumstances afford the plainest proof that the human race has not existed here for many ages.

There is not now a nation on the earth, neither has there been one for these two thousand years past, whose remote traditions extend, with any degree of probability, beyond that memorable period of the universal deluge, which is recorded in the sacred writings; so that whatever Mons. Voltaire and others may assert concerning the eternity of the world, its motions, or its inhabitants, they will find but few rational men to adopt his wild system of astronomy, or who can be persuaded to believe that the sun ever rose in the west, or that the Babylonians made observations on that luminary some millions of years ago, when it was at the north pole.\*

Perhaps you will say, that such language as this is silly and childish, beneath the name of philosophical, and unworthy of any answer—yet I can assure you it is the general language of that miserable school of modern philosophy, which searches for the most unknown notions in nature, to explain those that are best known; which breaks fragments from the sun by chance, and then mysteriously forms them into habitable worlds;—which makes the ocean to act where it is not; †—which quotes the fables of Ovid, or the tales of the Egyptians, as its best authority in natural history; ‡—which utterly rejects the delightful and profitable pursuit of final causes; §—and holds the most precious moments of life to be well employed in endeavours to discover the thoughts and amusements of trees and stones.||

If this be wisdom, we, my friend, have reason to boast that we are not wise: if these be the vaunted fruits of freedom of thought, we have good cause indeed to rejoice that we are not free; that we still retain our dependance on a wise and bountiful Providence; and have not yet fallen into that universal anarchy of opinion, where each individual labours to enthrone and to adore every wild phantom of his own wandering imagination, just as folly or caprice may chance to direct his choice.

\* Mons. Voltaire, and after him the Abbe Reynall, believes that the earth has an unknown motion round one of its equatorial diameters, in such sort that its axis performs an entire revolution in the space of four millions of years. Voltaire's proofs of this motion are founded on an observation of the obliquity of the equator and ecliptic, said to have been made by Pythais about two thousand years ago; on the general accounts to be met with in Ovid's *Metamorphoses* of strange revolutions having formerly taken place on the earth's surface; and on a wild fable of the Egyptians, affirming that the sun rose twice in the west within the memory of their nation. Nay, this extraordinary philosopher seems to imagine it not very improbable that the poles themselves may travel over different parts of the earth's surface: and it seems but a slight objection to this belief, that the oldest monuments in the world, the pyramids of Egypt, are accurately situated to face the cardinal points of the compass, the stability of which cardinal points entirely depends on the continuance of the poles of the earth in the same precise spot of the surface.

† Vide Buffon's *Theorie de la Terre*.

‡ Vide Voltaire's *Period of Four Thousand Years*.

§ Vide Des Cartes, Maupertuis, &c.

|| Vide Robinet sur la Nature.

# A JOURNEY TO PARIS IN THE YEAR 1698.

BY DR. MARTIN LISTER.

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## DEDICATION.

To his excellency, John lord Somers, baron of Evesham, lord high chancellor of England, and one of the lords-justices of England.

MY LORD,

WISDOM is the foundation of justice and equity, and it seems not to be perfect, without it comprehends also philosophy and natural learning, and whatever is of good relish in arts. It is certain, my lord, for the honour of your high station, that the greatest philosopher of this age, was one of your predecessors; nor is your lordship in any thing behind him; as though nothing inspired people with more equity than a true value for useful learning and arts. This hath given me the boldness to offer your lordship this short account, of the magnificent and noble city of Paris, and the court of that great king, who hath given Europe so long and vehement disquiet, and cost England in particular so much blood and treasure. It is possible, my lord, you may find a leisure hour to read over these few papers for your diversion, whercin I promise myself, you will meet with nothing offensive, but clean matter of fact, and some short notes of an unprejudiced observer. But that I may no longer importune you, perpetually busied in so laborious and useful an employment, I beg leave to subscribe myself,

My lord, your lordship's most humble and most obedient servant,

MARTIN LISTER.

## A JOURNEY TO PARIS, &c.

### INTRODUCTION.

THIS tract was written chiefly to satisfy my own curiosity, and to delight myself with the memory of what I had seen. I busied myself in a place where I had little to do, but to walk up and down; well knowing, that the character of a stranger gave me free admittance to men and things. The French nation value themselves upon civility, and build and dress mostly for figure: this humour makes the curiosity of strangers very easy and welcome to them.

But why do you trouble us with a journey to Paris, a place so well known to every body here? For very good reason, to spare the often telling my tale at my return. But we know already all you can say, or can read it in the Present State of France, and Description of Paris; two books to be had in every shop in London. It is right, so you may; and I advise you not to neglect them, if you have a mind to judge well of the grandeur of the court of France, and the immense greatness of the city of Paris. These were spectacles I did indeed put on, but I found they did not fit my sight, I had a mind to see without them; and in matters of this nature, as vast cities and vast palaces, I did not care much to use microscopes or magnifying glasses.

But to content you, reader, I promise you not to trouble you with ceremonies either of state or church, or politics; for I entered willingly into neither of them, but only,

where they would make a part of the conversation, or my walk was ordered me. You will easily find by my observations, that I incline rather to nature than dominion; and that I took more pleasure to see Monsieur Breman in his white waistcoat digging in the royal physic garden, and sowing his couches, than Monsieur de Saintot making room for an ambassador; and I found myself better disposed, and more apt to learn the names and physiognomy of a hundred plants, than of five or six princes. After all, I had much rather have walked a hundred paces under the meanest hedge in Languedoc, than any the finest valley at Versailles or St. Cloud, so much I prefer fair nature and a warm sun, before the most exquisite performances of art in a cold and barren climate.

Another reason, that I give you little or no trouble in telling you court matters, is, that I was no more concerned in the embassy, than in the sailing of the ship which carried me over: it is enough for me, with the rest of the people of England, to feel the good effects of it, and pass away this life in peace and quietness. It is a happy turn for us, when kings are made friends again. This was the end of this embassy, and I hope it will last our days. My lord ambassador was infinitely caressed by the king, his ministers, and all the princes. It is certain the French are the most polite nation in the world, and can praise and court with a better air than the rest of mankind. However the generality of the kingdom were through great necessity well disposed to receive the peace: the bigots and some disbanded officers might be heard at our first going to grumble, but those also gave over, and we heard no more of them when we came away. But to the business.

I happily arrived at Paris after a tedious journey in very bad weather; for we set out of London the tenth of December, and I did not reach Paris till the first of January; for I fell sick upon the road, and staid five days at Bologne, behind the company, till my fever abated; yet notwithstanding so rude a journey, I recovered, and was perfectly cured of my cough in ten days; which was the chiefest reason of my leaving London at that time of the year, and never had the least return of it all the winter, though it was as fierce there as I ever felt it in England. This great benefit of the French air I had experienced three several times before, and had therefore longed for a passage many years; but the continuance of the war was an insuperable obstacle to my desires. Therefore the first opportunity which offered itself I readily embraced, which was my lord Portland's acceptance of my attendance of him in his extraordinary embassy; who ordered me to go before with one of my good friends, who was sent to prepare matters against his arrival.

Now that I might not wholly trust my memory, in what I saw at Paris, I set down my thoughts under certain heads.

#### I....OF PARIS IN GENERAL.

THOUGH I had much spare time the six months I staid in that city, yet the rudeness of the winter season kept me in for some time. Again, I believe I did not see the title of what deserves to be seen, and well considered; because for many things I wanted a relish, particularly for painting and building; however I viewed the city in all its parts, and made the round of it; took several prospects of it at a distance when well thought on, I must needs confess it to be one of the most beautiful and magnificent in Europe, and in which a traveller might find novelties enough for six months for daily entertainment, at least in and about this noble city. To give therefore a strict and general idea of it, and not to enter far into the vain disputes of the number of inhabitants, or its bigness, compared to London; sure I am, the standing

croud was so great, when my lord ambassador made his entry, that our people were startled at it, and were ready the next day to give up the question, had they not well considered the great curiosity of the Parisians, who are much more delighted in fine shews than the people of London, and so were well near all got into the way of the cavalcade. One thing was an evident argument of this humour, that there were some hundreds of coaches of persons of the best quality, even some bishops and lords which I saw, who had placed themselves in a file to line the streets, and had had the patience to have so remained for some hours.

It is also almost certain, that for the quantity of ground possessed by the common people, this city is much more populous than any part of London; here are from four to five and to ten menages, or distinct families in many houses; but this is only to be understood of certain places of trade. This difference betwixt the two cities also is true, that here the palaces and convents have eat up the people's dwellings, and crowded them excessively together, and possessed themselves of far the greatest part of the ground; whereas in London the contrary may be observed, that the people have destroyed the palaces, and placed themselves upon the foundations of them, and forced the nobility to live in squares or streets in a sort of community: but this they have done very honestly, having fairly purchased them.

The views also which it gives upon the river are admirable: that of the Pont-neuf downwards to the Tuilleries, or upwards from the Pont-Royal; and some other places, as from Pont St. Bernard, the Greeve, &c. The river Seine, which passes through the midst of the city, is all nobly banked or keyed with large free-stone; and incloses in the heart of the city two islands, which causes many fine bridges to be built to pass over them.

The houses are built of hewn stone entirely, or whited over with plaister: some indeed in the beginning of this age are of brick with free-stone, as the Place-Royal, Place-Dauphin, &c. but that is wholly left off now; and the white plaster is in some few places only coloured after the fashion of brick, as part of the abbey of St. Germain. The houses every where are high and stately; the churches numerous, but not very big; the towers and steeples are but few in proportion to the churches, yet that noble way of steeple, the domes or cupolas, have a marvellous effect in prospect; though they are not many, as that of Val de Grace, des Invalides, College Mazarin, de l'Assumption, the Grand Jesuits, la Sarbonne, and some few others.

All the houses of persons of distinction are built with porte-cocheres, that is, wide gates to drive in a coach, and consequently have courts within; and mostly remises to set them up. There are reckoned above 700 of these great gates; and very many of these are after the most noble patterns of ancient architecture.

The lower windows of all houses are grated with strong bars of iron; which must be a vast expence.

As the houses are magnificent without, so the finishing withinside and furniture answer in riches and neatness: as hangings of rich tapestry, raised with gold and silver threads, crimson damask and velvet beds or of gold and silver tissue. Cabinets and bureaus of ivory inlaid with tortoise-shell, and gold and silver plates in 100 different manners: branches and candlesticks of crystal: but above all most rare pictures. The gildings, carvings and paintings of the roofs are admirable.

These things are in this city and the country about, to such a variety and excess, that you can come into no private house of any man of substance, but you see something of them; and they are observed frequently to ruin themselves in these expences. Every one, that has any thing to spare, covets to have some good picture or sculpture of the best artist; the like in the ornaments of their gardens, so that it is incredi-



ble what pleasure that vast quantity of fine things give the curious stranger. Here as soon as ever a man gets any thing by fortune or inheritance, he lays it out in some such way as now named.

Yet, after all, many utensils and conveniencies of life are wanting here, which we in England have. This makes me remember what Monsicur Justell, a Parisian formerly, told me here, that he had made a catalogue of near threescore things of this nature which they wanted in Paris.

The pavements of the streets is all of square stone, of about eight or ten inches thick ; that is, as deep in the ground as they are broad at top ; the gutters shallow, and laid round without edges, which makes the coaches glide easily over them.

However, it must needs be said, the streets are very narrow, and the passengers a-foot no ways secured from the hurry and danger of coaches, which always passing the streets with an air of haste, and a full trot upon broad flat stones, betwixt high and large resounding houses, makes a sort of music which should seem very agreeable to the Parisians.

The royal palaces are surprisingly stately ; as the Louvre and Tuilleries, Palais Luxembourg, Palais Royal.

The convents are great, and numerous, and well built ; as Val de Grace, St. Germain, St. Victor, St. Genevieve, the Grand Jesuits, &c.

The squares are few in Paris, but very beautiful ; as the Place Royal, Place Victor, Place Dauphine, none of the largest, except the Places Vendosme, not yet finished.

The gardens within the walls, open to the public, are vastly great, and very beautiful ; as the Tuilleries, Palais Royal, Luxembourg, the Royal Physic Garden, of the arsenal, and many belonging to convents, the Carthusians, Celestins, St. Victor, St. Genevieve, &c.

But that which makes the dwelling in this city very diverting for people of quality, is the facility of going out with their coaches into the fields on every side ; it lying round, and the avenues to it so well paved ; and the places of airing so clean, open, or shady, as you please, or the season of the year and time of the day require : as the Cour de la Reyne, Bois de Bologne, Bois de Vincennes, les Sables de Vaugrarde, &c.

But to descend to a more particular review of this great city, I think it not amiss to speak first of the streets and public places, and what may be seen in them ; next of the houses of note ; and what curiosities of nature or art, also of men and libraries, I met with : next of their diet and recreations ; next of the gardens, and their furniture and ornaments ; and of the air and health. We shall conclude the whole with the present state of physic and pharmacy here.

To begin with the coaches, which are very numerous here and very fine in gilding : but there are but few, and those only of the great nobility, which are large, and have two seats or funds. But what they want in the largeness, beauty, and neatness of ours in London, they have infinitely in the easiness of carriage, and the ready turning in the narrowest streets. For this purpose, they are all crane-necked, and the wheels before very low ; not above two feet and a half diameter ; which makes them easy to get into, and brings down the coach-box low, that you have a much better prospect out of the foremost glass, our high seated coachmen being ever in the point of view. Again, they are most, even fiacres or hackneys, hung with double springs at the four corners, which insensibly breaks all jolts. This I never was so sensible of, as after having practised the Paris coaches for four months, I once rid in the easiest chariot of my lord's, which came from England ; but not a jolt but what affected a man : so as to be tired more in one hour in that, than in six in these.

Besides the great number of coaches of the gentry, here are also coaches de Remise, by the month, which are very well gilt, neat harness, and good horses: and these all strangers hire by the day or month, at about three crowns English a day. 'Tis this sort that spoils the hackneys and chairs, which here are the most nasty and miserable voiture than can be; and yet near as dear again as in London, and but very few of them neither.

Yet there is one more in this city which I was willing to omit, as thinking it at first sight scandalous, and a very jest; it being a wretched business in so magnificent a city; and that is the Vinegrette, a coach on two wheels, dragged by a man, and pushed behind by a woman or boy, or both.

Besides those, for quick travelling there are a great number of post-chaises for a single person: and Roullions for two persons; these are on two wheels only, and have each their double springs to make them very easy; they run very swiftly; both the horses pull; but one only is in the thilles. The coachman mounts the Roullion; but for the chaise, he only mounts the side horse. I think neither of these are in use in England; but might be introduced to good purpose.

As for their recreations and walks, there are no people more fond of coming together to see and to be seen. This conversation without doubt takes up a great part of their time: and for this purpose, the Cour de la Reyne is frequented by all people of quality. It is a treble walk of trees of a great length, near the river side, the middle walk having above double the breadth to the two side ones; and will hold eight files of coaches, and in the middle a great open circle to turn, with fine gates at both ends. Those that would have better and freer air, go further, and drive into the Bois de Bologne, other out of other parts of the town to Bois de Vincennes, scarce any side amiss. In like manner these persons light and walk in the Tuilleries, Luxembourg, and other gardens, belonging to the crown and princes (all which are very spacious) and are made convenient, with many seats for the entertainment of all people; the lacquies and mob excepted. But of this more hereafter.

No sort of people make a better figure in the town than the bishops, who have very splendid equipages, and variety of fine liveries, being most of them men of great families, and preferred as such, learning not being so necessary a qualification for those dignities as with us; though there are some of them very deserving and learned men. I say, they are most noblemen, or the younger sons of the best families. This indeed is for the honour of the church; but whether it be for the good of learning and piety is doubtful. They may be patrons, but there are but few examples of erudition among them. 'Tis to be wished that they exceeded others in merit, as they do in birth.

The abbots here are numerous from all parts of the kingdom. They make a considerable figure, as being a genteel sort of clergy, and the most learned; at least were so from the time of cardinal Richelieu, who preferred men of the greatest learning and parts to these posts; and that very frankly, and without their knowing it before-hand, much less soliciting him for it. He took a sure way, peculiar to himself to inquire out privately men of desert, and took his own time to prefer them. This filled the kingdom of France with learned men, and gave great encouragement to study; whereof France has yet some feeling.

'Tis pretty to observe, how the king disciplines this great city, by small instances of obedience. He caused them to take down all their signs at once, and not to advance them above a foot or two from the wall, nor to exceed such a small measure of square; which was readily done: so that the signs obscure not the streets at all, and make little or no figure, as though there were none; being placed very high and little.

There are great number of hostels in Paris, by which word is meant public inns, where lodgings are let; and also the noblemen and gentlemen's houses are so called,

mostly with titles over the gate in letters of gold on a black marble. This seems as it were, to denote that they came at first to Paris as strangers only, and inned publicly; but at length built them inns or houses of their own. It is certain, a great and wealthy city cannot be without people of quality; nor such a court as that of France without the daily inspection of what such people do. But whether the country can spare them or not, I question. The people of England seem to have less manners and less religion, where the gentry have left them wholly to themselves; and the taxes are raised with more difficulty, inequality, and injustice, than when the landlords live upon the desmainses.

It may very well be, that Paris is in a manner a new city within this forty years. It is certain since this king came to the crown, it is so much altered for the better, that it is quite another thing; and if it be true what the workmen told me, that a common house, built of rough stone and plaistered over, would not last above twenty-five years, the greatest part of the city has been lately re-built. In this age certainly most of the great hostels are built, or re-edified; in like manner the convents, the bridges and churches, the gates of the city; add the great alteration of the streets, the keys upon the river, the pavements; all these have had great additions, or are quite new.

In the river amongst the bridges, both above and below, are a vast number of boats, of wood, hay, charcoal, corn, and wine, and other commodities. But when a sudden thaw comes, they are often in danger of being split and crushed to pieces upon the bridges; which also are sometimes damaged by them. There have been great losses to the owners of such boats and goods.

It has been proposed to dig near the city a large basin for a winter harbour; but this has not had the face of profit to the government; so they are still left to execute their own project. There are no laws or project so effectual here, as what bring profit to the government. Farming is admirably well understood here.

Amongst the living objects to be seen in the streets of Paris, the counsellors and chief officers of the courts of justice make a great figure; they and their wives have their trains carried up; so there are abundance to be seen walking about the streets in this manner. It is for this that places of that nature sell so well. A man that has a right to qualify a wife with this honour, shall command a fortune; and the carrying a great velvet cushion to church is such another business. The place of a lawyer is valued a third part dearer for this.

Here are also daily to be seen in the streets great variety of monks, in strange unusual habits to us Englishmen; these make an odd figure, and furnish well a picture. I cannot but pity the mistaken zeal of these poor men; that put themselves into religion, as they call it, and renounce the world, and submit themselves to most severe rules of living and diet; some of the orders are decently enough clothed, as the Jesuits, the fathers of the oratory, &c. but most are very particular and obsolete in their dress, as being the rustic habit of old times, without linen, or ornaments of the present age.

As to their meagre diet, it is much against nature, and the improved diet of mankind. The Mosaic law provided much better for Jews, a chosen people; that was instituted for cleanliness and health. Now for the Christian law, though it commands humility and patience under sufferings, and mortification and abstinence from sinful lusts and pleasures; yet by no means a distinct food, but liberty to eat any thing whatsoever, much less nastiness; and the papists themselves in other things are of this mind; for their churches are clean, pompously adorned and perfumed. It is enough, if we chance to suffer persecution, to endure it with patience, and all the miserable circumstances that attend it; but wantonly to persecute ourselves, is to do violence to Christianity, and to put ourselves in a worse state than the Jews were; for to choose the worst of food, which is sour herbs and fish, and such like trash, and to lie worse, always

rough, in course and nasty woollen frocks upon boards ; to go barefoot in a cold country, to deny themselves the comforts of this life, and the conversation of men ; this, I say, is to hazard our healths, to renounce the greatest blessings of this life, and in a manner to destroy ourselves. These men, I say, cannot but be in the main chagrin, and therefore as they are out of humour with the world, so they must in time be weary of such slavish and fruitless devotion, which is not attended with an active life.

The great multitude of poor wretches in all parts of this city is such, that a man in a coach, a-foot, in the shop, is not able to do any business for the numbers and importunities of beggars ; and to hear their miseries is very lamentable ; and if you give to one, you immediately bring a whole swarm upon you. These, I say, are true monks, if you will, of God Almighty's making, offering you their prayers for a farthing, that find the evil of the day sufficient for the day, and that the miseries of this life are not to be courted, or made a moek of. These worship, much against their will, all rich men, and make saints of the rest of mankind for a morsel of bread.

But let these men alone with their mistaken zeal ; it is certainly God's good Providence which orders all things in this world. And the flesh-eaters will ever defend themselves, if not beat the Lenten men ; good and wholesome food, and plenty of it, gives men naturally great courage. Again, a nation will sooner be peopled by the free marriage of all sorts of people, than by the additional stealth of a few starved monks, supposing them at any time to break their vow. This limiting of marriage to a certain people only is a deduction and abatement of mankind, not less in a papist country than a constant war. Again, this lessens also the number of God's worshippers, instead of multiplying them as the stars in the firmament, or the sand upon the sea shore ; these men willfully cut off their posterity, and reduce God's congregation for the future.

There is very little noise in this city of public cries of things to be sold, or any disturbance from pamphlets and hawkers. One thing I wondered at, that I heard of nothing lost, nor any public advertisement, till I was shewed printed papers upon the corners of streets, wherein were in great letters, Un, Deux, Cinq, Dix jusq ; a Cinquante Louis a gagner, that is, from one to fifty louis to be got ; and then underneath an account of what was lost. This sure is a good and quiet way ; for by this means without noise you often find your goods again ; every body that has found them repairing in a day or two to such places. The gazettes come out but once a week, and but few people buy them.

It is difficult and dangerous to vend a libel here. While we were in town, a certain person gave a bundle of them to a blind man, a beggar of the hospital of the Quinzevint, telling him he might get five pence for every penny ; he went to Nostredame, and cried them up in the service time ; La Vie & Miracles de PEvesq ; de Rheims. This was a trick that was played the archbishop, as it was thought, by the Jesuits, with whom he has had a great contest about Molinas, the Spanish J. doctrines. The libel went off at any rate, when the first buyers had read the title further, and found they were against the present archbishop, duke, and first peer of France.

The streets are lighted alike all the winter long, as well when the moon shines, as at other times of the month ; which I remember the rather, because of the impertinent usage of our people at London, to take away the lights for half of the month, as though the moon was certain to shine and light the streets, and that there could be no cloudy weather in winter. The lanthorns here hang down in the very middle of all the streets, about twenty paces distance, and twenty foot high. They are made of a square of glass about two feet deep, covered with a broad plate of iron ; and the rope that lets them down, is secured and locked up in an iron funnel and little trunk fastened into

the wall of the house. These lanthorns have eandles of four in the pound in them, which last burning till after midnight.

As to these lights, if any man break them, he is forthwith sent to the gallies ; and there were three young gentlemen of good families, who were in prison for having done it in a frolic, and could not be released thence in some months, and that not without the diligent application of good friends at court.

The lights at Paris for five months in the year only, cost near 50,000*l.* sterling. This way of lighting the streets is in use also in some other cities in France. The king is said to have raised a large tax by it. In the preface to the tax it is said, "that considering the great danger his subjects were in, in walking the streets in the dark, from thieves, and the breaking their necks by falls, he for such a sum of money did grant this privilege, that they might hang out lanthorns in this manner."

I have said, that the avenues to the city, and all the streets, are paved with a very hard sand stone, about eight inches square ; so they have a great care to keep them clean ; in winter, for example, upon the melting of the ice, by a heavy drag with a horse, which makes a quick riddance and cleaning the gutters ; so that in a day's time all parts of the town are to admiration clean and neat again to walk on.

I could heartily wish their summer cleanliness was as great ; it is certainly as necessary to keep so populous a city sweet ; but I know no machine sufficient, but what would empty it of the people too ; all the threats and inscriptions upon walls are to little purpose. The dust in London in summer is oftentimes, if a wind blow, very troublesome, if not intolerable ; in Paris there is much less of it, and the reason is, the flat stones require little sand to set them fast, whereas our small pebbles, not coming together, require a vast quantity to lay them fast in paving.

But from the people in the streets, to the dead ornaments there. There are an infinite number of bustos of the grand monarch every where put up by the common people ; but the noble statues are but few, considering the obsequious humour and capacity of the people to perform.

That in the Place-Victoire is a foot in brass, all over gilt, with Victoire, that is a vast winged woman close behind his back, holding forth a laurel crown over the king's head, with one foot upon a globe. There are great exceptions taken at the gilding by artists ; and indeed the shining seems to spoil the features, and give I know not what confusion ; it had better have been all of gold brassed over ; which would have given its true lights and shadows, and suffered the eye to judge of the proportions. But that which I like not in this, is the great woman perpetually at the king's back ; which is a sort of embarras, and instead of giving victory, seems to tire him with her company. The Roman victory was a little puppet in the emperor's hand, which he could dispose of at pleasure. This woman is enough to give a man a surfeit.

The other are statues of three of the last kings of France, in brass on horseback.

That on the Pont-neuf is of Henry the Fourth in his armour bare-headed, and habited as the mode of that time was.

The other of Lewis the Thirteenth in the Palace-Royal, armed also after the mode of the age, and his plume of feathers on his head-piece.

The third is of this present king Louis the Fourteenth, and designed for the Place Vendosme. This colossus of brass is yet in the very place, where it was cast ; it is surprisingly great, being 22 feet high, the feet of the king 26 inches in length, and all the proportions of him and the horse suitable. There was 100,000 pound weight of metal melted, but it took not up above 80,000 pounds ; it was all cast at once, horse and man. Monsieur Girardon told me, he wrought diligently, and with almost daily application at the model eight years, and there were two years more spent in the moulding, and

furnaces, and casting of it. The king is in the habit of a Roman emperor, without stirrups or saddle, and on his head a French large periwig a-la-mode. Whence this great liberty of sculpture arises, I am much to seek.

It is true, that in building precisely to follow the ancient manner and simplicity is very commendable, because all those orders were founded upon good principles in mathematics: but the clothing of an emperor was no more than the weak fancy of the people. For Louis le Grand to be thus dressed up at the head of his army now a-days would be very comical. What need other emblems, when truth may be had; as though the present age need be ashamed of their modes, or that the Statua Equestris of Henry IV, or Louis XIII, were the less to be valued for being done in the true dress of their times. It seems to me to be the effect of mistaken flattery; but if regarded only as a piece of mere art, it is methinks very unbecoming, and has no graceful air with it.

I remember I was at the levee of king Charles II, when three models were brought him to choose one of, in order to make his statue for the court at Windsor; he chose the Roman emperor's dress, and caused it also to be executed in that other erected for him in the old Exchange in London. The like is of king James in Whitehall, and at Chelsea college, our invalids. Now I appeal to all mankind, whether in representing a living prince now-a-days, these naked arms and legs are decent, and whether there is not a barbarity very displeasing in it. The father of these two kings, Charles I, was the prince of this age of the best relish, and of a sound judgment, particularly in painting, sculpture, architecture by sea and land, witness the vast sums of money he bestowed upon Rubens and his disciple Vandyke. Also the great esteem he had for the incomparable Inigo Jones, who was the first Englishman in this age that understood building. I heard M. Auzout say, when he had viewed the banquetting-house at Whitehall, that it was preferable to all the buildings on this side the Alps; and I ought to believe him, he having studied Vetruvius more than forty years together, and much upon the place at Rome. Also the ship the Sovereign, which was truly the noblest floating castle that ever swam the sea. Yet after all this, that king had a Statua Equestris of himself erected, now at Charing-cross, cast in the full habit of his own time, and which I think may compare with the best of that sort at Paris.

I should beg leave in the next place to visit the palaces and men of letters and conversation; but I must take notice first of the vast expences that are here in iron balustrades, as in the Place-Royal, which square is compassed about with one of ten feet high. Of this sort and better there are infinite every where in Paris; which gives indeed a full view of the beauty of their gardens and courts.

First, therefore, I saw the Palais Mazarin, in which are many good pictures, but the low gallery is furnished with a great collection of ancient Greek and Roman statues, and is what I most took notice of. They were most brought from Rome by the cardinal. Those which are togatæ and clothed, are as they were found; but such as were made nudæ or naked, are miserably disguised by the fond humour of the duke de Mazarin, who in a hot fit of devotion caused them to be castrated and mangled, and then frocked them by a sad hand with I know what plaister of Paris, which makes them very ridiculous. Cicero somewhere tells us, that some of the ancient wise men thought there was nothing naturally obscene, but that every thing might be called by its own name; but our Celsus is of another mind, and begs pardon, being a Roman, that he wrote of these things in his own tongue. It is certain upon our subject, the duke should not have furnished his cabinet and gallery with naked pictures, but with the togatæ only; or if it had once pleased him to do otherwise, he should not have clothed them; which was at best but a vain ostentation of his chastity, and betrayed his ignorance and

dislike of good things ; that is, spoils and hides the noble art of the sculpture, for which only they are valuable.

But why should nudity be so offensive, since a very great part of the world yet defies clothes, and ever did so ; and the parts they do most affect to cover, is from a certain necessity only.

It is plain by these and many other elegant statues I saw at Versailles, most of which were taken out hence, that the Roman clothing was the most simple thing imaginable ; and that a Roman was as soon undressed, as I can put off my gloves and shoes. The men and women went dressed much alike. As for the fashion of the Roman habit, it is evident by these ancient statues (which Oct. Ferrarius has well and reasonably followed in explicating the several garments of the ancients) that the tunica or shirt was without a collar or sleeves, and girt high up under the breasts ; also, that the toga or gown was a wide and long garment open at both ends, and let down over the head, and supported by the left hand thrust under the skirts of it, whilst the top of it rested upon the left shoulder. The right hand and arm was naked, and above the gown, so that the gown was ungirt and always loose. Now for the purpose, when a Roman made himself naked for a bath (as he daily did just before eating) he had nothing to do but draw up his left hand, and the gown fell down at his feet ; and at the same time to loose the girdle of the tunica, and to draw up both his arms from under the tunica, and that also fell at his feet.

In the first ages of the commonwealth they wore a toga or gown only, afterwards they put on next the skin a tunica or shirt, and never added more in the very splendour and luxury of the empire ; all other matters of clothing, of whatever nature soever, have been invented since.

I much admired, that in the great number of ancient statues to be seen in and about Paris, I could never meet any one but what was clothed with a toga pura, and no representation of a bullated one.

This toga and tunica both were made of fine white wool or flannel : they had not a rag of linen about them. This flannel, I say, was very fine ; for their folds are small, and it falls into them easily ; and seems to be very light, by the handling of it, to raise it by the finger and thumb only, as is the air of some of the statues, and the whole garment to be suspended by the left shoulder. Upon the least straining of it, the breasts and nipples are visible through it ; also the proportions of the thighs.

This wearing all woollen in a hot country brought on the use and necessity of frequent bathing : otherwise they could never have kept themselves sweet and clean ; and the necessity of bathing kept them to this sort of loose garment ; and much bathing brought in oils, and oils perfumes infused in them.

But in my mind a fair linen shirt every day is as great a preservative to neatness and cleanness of the skin and health, as daily bathing was to the Romans. It is certain, had they not used either simple oils of olives, sometimes unripe and old, for the astringency, and sometimes ripe and perfumed, the warm water must have much decayed nature, and made the skin intolerably tender and wrinkled. The naked indians and blacks secure their skins by oils at this day from all the injuries of the weather, both from heat and cold.

But the best rule of health and long life is to do little to ourselves. People are not aware what inconveniences they bring upon themselves by custom, how they will plead for things long used, and make that pleasant, which is very destructive to their healths ; as in the case of clothing, tobacco, strong waters, steel remedies, the drinking mineral waters, bathing, tea, coffee, chocolate, &c.

One little statue I took more particular notice of, for the elegance of the sculpture,

and the humour of the dress ; it stood upon a table ; it was the figure of a sybil. The face of the old woman was cut very deep into the stone, within the quoifure, like a hood pulled over the forehead, a very emblem of an oracle, which is hid, dark and ambiguous, as the woman herself, who would have neither her face seen, nor her saying easily understood—that is, she is as it were, ashamed of her cheat.

What was the fancy of the men of the first ages to make old women prophetesses, to utter oracles, and to interpret the will of the gods by the eating of animals ; to make them Sagæ and Veneficæ is reasonable enough ; for old age makes all people spiteful, but more the weaker sex. To poison and bewitch are the secret revenges of impotent people.

The Jews were impatient of the company of women in their religious rites, lest they should contaminate and spoil all their devotion. The Romans on the contrary thought religion became women better than men, for besides the general parts they had in common with the men in adoration of their gods, they had also peculiar ones, where the men were not concerned. Tully bids his wife supplicate the gods for him ; for he tells her, he thought they would be kinder to her than him. Upon some such principle, probably, their prophetesses were in esteem.

I saw the apartment of Monsieur Viviers in the arsenal ; it consists in seven or eight ground rooms looking into the great garden ; these rooms are small, but most curiously furnished, and have in them the greatest variety and best sorted china ware I ever saw, besides pagods and China pictures : also elegant and rich bureaus, book-cases, and some paintings of the best masters.

That which pleased me most, amongst the paintings, were the pieces of Rembrant's ; that incomparable Dutch painter.

A girl with a cage in one hand, and looking up after the bird that had got out, and was flying away over her head : she had fright, amazement, and sorrow, in her looks. The other is an unlucky lad leaning upon a table, and looking with mischief in his eyes, or that he watched to do some unhappy turn. The third is a young gentleman in a fur cap, en dishabille, after his wonted manner. The two first are the most natural thoughts and dress that can be ; but nothing certainly ever came near his colouring for flesh and garments. This part he studied passionately all his life, and was ever trying experiments about it ; and with what success, these and many other pieces shew.

These three pictures of Rembrant are all of young people, and are finished with all the art and perfection of colouring, as smooth as any limning ; which makes the judgment of Philibien of him appear not just : for he fitted his paint according to the age and nature of the subjects he wrought. I had the pleasure of seeing them again and again.

Monsieur le Nostre's cabinet, or rooms, wherein he keeps his fine things, the controller of the king's gardens, at the side of the Tuilleries, was worth seeing. He is a very ingenious old gentleman, and the ordinance and design of most of the royal and great gardens in and about Paris are of his invention, and he has lived to see them in perfection. This gentleman is 89 years old and quick and lively. He entertained me very civilly. There were in the three apartments, into which it is divided (the uppermost of which is an octagon room with a dome) a great collection of choice pictures, porcellans, some of which were jars of a most extraordinary size : some old Roman heads and bustos, and entire statues ; a great collection of stamps very richly bound up in books ; but he had lately made a draught of his best pictures to the value of 50,000 crowns, and had presented them to the king at Versailles. There was not any thing of natural history in all his cabinet.

I was several times with him, and once he carried me into an upper closet, where he had a great collection of medals in four cabinets, most modern ; amongst them there



were four large drawers, three of which were the medals of king William, near 300 as he told me. The fourth drawer was of king William's ancestors and family; he had been forty years in making this collection, and had purchased many of them at vast rates. He has certainly the best furniture for an *Historia Metallica*, that I ever saw. The French king has a particular kindness for him, and has greatly enriched him, and no man talks with more freedom to him; he is much delighted with his humour, and will sit to see his medals, and when he comes at any medal, that makes against him, he will say, Sire, *voyla une, qu' est bien contre nous!* as though the matter pleased him, and he was glad to find it to shew it to the king. Monsieur le Nostre spoke much of the good humour of his master; he affirmed to me he was never seen in passion, and gave me many instances of occasions, that would have caused most men to have raged; which yet he put by with all the temper imaginable.

In this cabinet I saw many very rare old china vessels, and amongst them a small Roman glass urn, very thick made, and ponderous, of a blue sea colour; the two ears were feet divided into four claws, but the very bottom of this vessel was smooth, and very little umblicate; and for this reason I cannot tell whether it might not be cast, and not blown.

The Palace of Luxembourg is the most finished of all the royal buildings; it is very magnificent, well designed, were it not for the trifling intersections or round and deep jointings of the columns, which looks like a cheesemonger's shop, and which is below the grandeur of the orders; so hard a matter it is to have a true relish of the ancient simplicity, and not to add impertinent ornaments. And to say the truth, there are not many things in Paris where this chastity is strictly preserved; among those, where little is to be blamed, are the south east front of the Louvre, the facade of St. Gervais, and the whole building of Val de Grace. And this wantonness in additional ornaments may perhaps be one reason, why the Doric is more practised there at this day, the modillions naturally admitting greater variety, and according to the intended use of the building.

In this palace is that famous gallery, where the history of Maria of Medicis is painted by Rubens. Though this was done 70 years ago, it is as fresh as at the first; so great a master he was in colouring. His flesh is admirable, and his scarlet, for which, if he had not a secret, not now understood, he had less avarice, and more honour, than most of our modern painters. It is certain the goodness of colours was one of the great cares and studies of the late famous painters; and that which seems most to have obliged them to it, was the necessity they put themselves upon, to paint all their own designs, and more particularly the present dresses. And though Rubens in his history is too much a libertine in this respect, yet there is in this very place, which we now describe, much truth in the habit of his principal figures, as of king Henry the Fourth, the queen, her son, the three daughters and the cardinal; though indeed the allegoric assistants in all the tableaux are very airy and fancifully set out. His scholar St. Ant. Vandyke did introduce this novelty too much in England, where the persons would bear it; as the female sex were very willing to do, who seem in his time to have been mighty fond of being painted in dishabille. It was this that cut out of business the best English painter of his time, Cornelius Johnson, and shortened his life by grief. It is certain with a little patience all dress becomes dishabille; but I appeal, whether it is not better and much more pleasing to see the old fashion of a dead friend, or relation, or of a man of distinction, painted as he was, than a foppish night-gown, and odd quoifure, which never belonged to the person painted.

But that which led me into this reflection was, that the modern painters have thereby an opportunity to be idle and to have others to work under them; it is sufficient to finish the face, and to send it out to be dressed at the block; whereas were they obliged in honour to paint the whole dresses, this would make them accurate in colouring, through the great variety which would daily occur, and that noble art be in far greater esteem.

A good artist might easily reduce it, and command the purses of those he paints, to pay well for his labour and time, for it is the lot but of very few men to excel in this noble art.

In the anti-chamber of the queen's apartment there are other paintings of Rubens, as, in three distinct tableaux, at the upper end of the room the ceremonies of the marriages of her three daughters, to Savoy, Spain, and England. Also in another historical tableaux, on the side of the same room, he has painted his own picture, in a very free and easy posture, next the eye, up in the very corner, looking out, as unconcerned in his own tableaux, upon the three ladies. He has done his wife in some of the tableaux, in the great gallery; but in the last, where the queen is mounting up to Heaven, she is drawn up after her; but whether it be her full and heavy body, or her mind, she is painted in a very unwilling posture, bending back. It seems her husband liked her company too well to part with her easily, or she with him.

Several of the rooms of this apartment were wainscotted with cedar, wrought in flowers, as her dressing-room and oratory; which is rare in Paris. The floors were made of small pieces of wood put together in figures; the inward knots were inlaid with threads of silver, which have a marvellous effect; but the firmness, duration, and entireness of these floors, after so long laying, I most admired: whereas with us in London, and elsewhere in Paris, they prove so noisy to tread on, and faulty, that they are in a few years intolerable.

It is pity the king has so great an aversion to the Louvre, which if finished (which he might easily do in two or three years) would be the most magnificent palace, perhaps, that ever was upon the face of the earth; and, indeed, except that be done, Paris will never arrive at its full beauty.

There are two stones in the fronton of the south east facade of the Louvre, which are shewed to all strangers, covering the very top of it, as slates do, and meet in an angle. These are very big, viz. 54 feet long a-piece, eight feet broad, and but 14 inches thick. The raising so high these two vast and tender stones was looked upon as a master-piece of art, equalling any thing of the ancients of that nature. They were taken out of the quarries of Meudon, where Monsicur the dauphin dwells.

I saw in the galleries of the Louvre some of the battles of Alexander by Le Brun; which are by the French the most admired pieces of painting, that have been (say they) done by any man on this side the Alps; and of which they are not a little proud.

Also a large piece of Paulo Veronese, presented by the Senate of Venice to the king.

I cannot pass by unmentioned the vast number of great cases in one of the galleries, wherein are the play things or puppets of the dauphin, when a child: they represent a camp in all its parts, and cost 50,000 crowns.

But, indeed, that which most surprised me in the Louvre was the Attelier or work-house of Monsieur Gerradon; he that made Cardinal Richelieu's tomb, and the Statua Equestris designed for the Place de Vendome; he told me he had been almost ten years in making the model and moulding and other things as I said before, with assiduity and daily application.

He hath in the Louvre also two rooms, in one of which are many ancient marble statues, and in the other are brass statues and vasa, and a hundred other things relating to antiquity. There is nothing in Paris deserves more to be seen.

In this last, I saw a sort of Egyptian Janus, with Silenus on one side, and a Bacchus on the other; with many other Egyptian figures well designed; all of them with a hole in the crown of the head.

Also a lion of Egypt very large of brass; but the design rude, and more like an Indian Pagod. This also had a large square hole in the back, near the neck. The Siamites, that came in an embassy to Paris, were well pleased to see this figure, and said it was not unlike one of theirs; and that that hole served to put the incense in, that the smoke might come out of the body and nostrils of the lion. I doubt not but that also was the use of the open crowns of the rest of the Egyptian figures, which I had seen elsewhere, as well as here; and their heads served for perfuming pots for themselves: and hence also might arise, that other ornament of radiated heads; in imitation of a bright flame kindled within, and casting rays out of and round the head.

There was also a small image of a lean man, cast bent, in a sitting posture, with a roll of parchment spread open upon his knees, and he looking down upon it, reading it. This was of solid brass, the head and all: this was found inclosed in a mummy. He seemed to have a thin linen garment on, perhaps such as the Egyptian priests used to wear.

Also he shewed us the mummy of a woman entire. The scent of the hand was to me not unpleasant; but I could not liken it to any perfume now in use with us; though I make no question, but naphtha was the great ingredient; which indeed is so unusual a smell, that the mineral waters of Hogsden near London (wherewith the true naphtha is substantially, and of which I have some ounces by me, gathered off those waters) have imposed upon the ignorant in natural history; who would make them come from a chance turpentine effusion, or the miscarriage of a chemical experiment.

Here were also great variety of urns and funeral vasa of all materials and fashions.

Also an ancient writing pen coiled up, with two ends erected both alike, representing the head of a snake.

The ancient heads and bustos in brass are numerous and of great value. This gentleman is exceeding courteous to all strangers; especially to such as have the least good relish of things of this nature, to whom he shews them gladly. It cannot be otherwise, that a man educated in that noble art of sculpture, who shall daily study so great a variety of originals of the best masters, but must far excel the rest of mankind, who practice without good example, and by fancy mostly.

I was to see Monsieur Boudelot, whose friendship I highly value: I received great civilities from him. He is well known by his books about the utility of voyages: he has a very choice and large collection of books of Greek and Roman learning. I made him several visits, and had the pleasure of perusing his cabinets of coins, and small images of copper, which are many and of good value: as Egyptian, Phrygian, Grecian, and Roman.

Amongst his Egyptian, the most curious was a Deus Crepitus of admirable workmanship, with a radiated crown: it was an Ethiopian, and therefore bespoke its great antiquity; for they very usually represented their kings under the figures of their gods.

There was also the skeleton of a woman of solid copper, found in the body of a mummy, in a sitting posture; not unlike that other mentioned above in Monsieur Girardon's closet.

An Apis or a heifer in copper.

A Phrygian Priapus of elegant workmanship : the Phrygian Cap pointed and hanging down behind, as our caps in dishabille are now worn.

Of all which, and many more, this learned antiquary intends to write.

In his cabinet of medals I could not find one of Palmyra, for which I carefully inquired ; for I was willing to add what could be found in France upon this subject.

He has also many marbles from Greece ; most of which have been published by Spon ; save one, and that is the most ancient and most curious of all ; concerning which he is ready to publish a dissertation. It is a catalogue in three columns, of the names of the principal persons of Eretheis, one of the chiefest tribes of Attica, that were killed in one and the same year in five several places, where the Athenians fought under two generals, as in Cyprus, in Egypt, in Phœnicia, in Egina, in Halies. Here are 177 names in the three columns.

The Mantis closes the column, who died in Egypt, that is, the physician. Magic and physic went together in those days : nay, the very comedians and poets, those necessary men of wit, fought ; for none were exempt from being enrolled that were born in the kingdom or republic of Attica.

The antiquity of this marble, besides the known history and names which justify the time of those men : the figure of the letters are an undoubted argument ; for there are no double letters here ; no *u*, no *a*, but all graved *e*, *o* ; also the letters, *L*, *P*, *n*, *R*, *S*, are very Roman. So that it is also an evidence, that the Romans borrowed their letters from the ancient Greek alphabet.

The invention and borrowing of letters was a great happiness to mankind. The embarrass in which writing is in China, is owing to the misfortune of wanting an alphabet ; so that the Chinese are forced to express every sentence and thought by a different character, which has multiplied their writing to 120,000 characters ; of which yet they have less need, than we in Europe, who perform all with 24 letters (whereof five add life to the other 19, saith Hippocrates, which is an argument of the age he wrote in : the knowledge of grammar, i. e. reading and writing, depends upon seven figures, de Dieta. 1.) The Chinese know much less than we ; they have no other morals, they have less philosophy, less mathematics, fewer arts, and yet much narrower knowledge of natural history, because they can have the knowledge only of that part of nature which they have at home : in what therefore should they employ this multitude of characters ; it is, I say, their misfortune not to have thought of an alphabet : their common language is as easily learned, and consequently might as easily be writ as any in Europe.

But to return to Monsieur Boudelot's stores. In this cabinet I also saw some basso-relieves : one of Praxiteles well designed ; one of Musos the comedian : amongst the rest of the marbles there is a basso-relief, very extant, and finely finished, of a cupid asleep, leaning his head upon his left arm ; in his hand he holds two poppy heads. It is probable the poppies were emblematic from the power they have in love-affairs. Indeed most poisons affect those parts chiefly, being the great sluice of the habit of the body, or circle of the blood ; and no people use poppy more, and stand more in need of it, than the men who delight in polygamy, the Mahometans, or understand it better ; as Olearius testifies.

He had an antic busto of Zenobia in marble, with a thick radiated crown ; of which he very obligingly gave me a copy, well designed from the original : this was brought out of Asia by Monsieur Thevenot.

He shewed me a dissertation he had written out fair for the press, about a certain ancient Intaglia of Madames, of Ptolomæus Auletes, or the player upon the flute : In

this the thin muffer is the most remarkable thing, which covers the mouth and nose. This head is engraved upon an amethyst.

I enjoyed this gentleman's company very often; and had much discourse with him about his books of the utility of voyages; and in one conversation took the freedom to dissent from him about the interpretation of that coin in Monsieur Seguin, which he calls Britannic.

Monsieur Boudelot reads it thus, *Jovi Victori Saturnali Io!* or *Jovi Victoria Sat. Io!* I had rather read it thus, *Io! Sat. Victoriæ Io!* upon the occasion of his returning with the soldiers, filling their head-pieces with the shells they had gathered off the sea-shore; and the little use of his new invented letter the digamma, which he instituted or borrowed from the *Æolique* to express *V* consonant.

The shells were a triumph much like this small addition to the alphabet; which lasted no longer than his time: that is victory enough: (for so stupid a prince as Claudius) let us return with the spoils of the ocean, and adorn his new invented letter with a palm-branch: the reverse of this coin being a laurel crown: both the signs of victory.

About the *Boustrophedon* way of writing, mentioned by Suidas and Pausanias, or turning again as the ox ploughs, or the racers about the meta in the cirque, in my opinion it could be nothing else, but the serpentine manner of writing found in Swedeland in runique letters.

He shewed me also a stone taken lately out of the body of a horse at Paris, which was his death; and dying strangely, they dissected him, that is, certain ignorant people; in the lower part of the body (probably the bladder) was found this stone: it weighs, as I guess, two pound; it is as round as a cannon ball; it is laminated like an onion; for the first couche was broke up in some places, of a dark hair colour, and transparent; or like some cloudy agats which I have seen: it was very ponderous. Such like transparent stones I had a patient voided often in Yorkshire. I saw another transparent one, which was cut out of the buttock of an alderman at Doncaster; he was twice cut in the same place, at some years distance. Another I had in some measure transparent, voided by a patient, which was of the very colour of a coffee berry when burnt; but of this horse stone Monsieur Boudelot wrote me a letter before I left Paris, which I design to publish.

I was by invitation from Monsieur Cassini at the Observatoire Royal, built on a rising ground just without the city walls. This building is very fine, and great art is used in the vaulted cut roofs and winding staircases. The stones are laid inside, outside, with the most regularity I ever saw in any modern building. In all this building there is neither iron nor wood, but all firmly covered with stone, vault upon vault. The platform a-top is very spacious, and gives a large and fair view of all Paris, and the country about it: it is paved with black flint in small squares, which I make no doubt are set in cement or tarras, that is, the *Pulvis Puteolanus*.

We were shewed a room well furnished with models of all sorts of machines; and a very large burning glass, about three feet diameter, which at that time of the year, viz. in the beginning of February, did fire wood into a flame, in the very moment it came into and passed through the focus.

I was indisposed, and so could not accept of the favour which was offered me of seeing the moon in their telescopes: and to go down into the vault, which was contrived for seeing the stars at noon-tide, but without success. I was told by Monsicur Roman afterwards, that he saw there a rock formed in the cave by the dropping of a spring of petrifying water; of which nature are all the wells in Paris.

In the floor of one of the octagon towers they have designed with great accurateness and neatness with ink an universal map in a vast circle. The north pole is in the centre. This is a correction of other maps upon the latest and best observations.

His nephew Monsieur Moraldi was with him; as for his only son, he was in London at that time; I afterwards was with him at his father's, a very hopeful young gentleman, and well instructed by his father in the mathematics, and all other useful learning.

The triumphal arch out of the gate of St. Antoine is well worth seeing; for in this the French pretend not only to have imitated the ancients, but to have out-done them. They have indeed, used the greatest blocks of stone that could be got, and have laid them without mortar, and the least side outward, after the manner of the ancients; but I am afraid their materials are very short of the Roman, and their stone is ill chose, though vastly great.

Indeed the design is most magnificent; it is finished in plaister, that is, the model of it, in its full beauty and proportions.

I suppose it was intended for a gate of entrance into the city: for it fronts the great street of the suburbs, and has a vast walk planted with trees leading from it towards Bois de Vincennes.

There is nothing more built but the four parts of the foundation of the true building, raised only to the feet of the pedestals; the foundation is laid twenty-two feet deep.

Amongst the vast blocks of stone, which take up a great compass before the building, I found several sorts, all brought from the quarries not far from Paris; all of them are of a kind of coarse grit, which will not burn into lime. They distinguish these stones into four sorts; 1. Pierre d'arcueil, for the first two or three couches or lays above the foundation. This is the best, and hardest of all. 2. That of St. Clou, which is good, and the next best. I did not find by the blocks designed either for the walls of the building; or the rounds of the pillars; that the beds of stone of St. Clou are above two feet thick. 3. That of S. Lieu; this is but indifferent, but yet much better than that stone, which is taken up out of the stone pits in and about Paris, which makes the fourth sort of stone. If it be wrought up into walls, as it is taken out of the pits, it is very apt to be flawed by the frost: but if it be laid in the air, and kept under cover for two years, then it becomes dry and more durable.

I saw but one piece in Paris of the ruins of an old Roman building; it was in La Rue de la Harpe. The vaults are very high and large. The manner of building is near the same I formerly caused exactly to be figured and described at York, and which is published in the Philosophic Transactions: that is, the inside and outside of the walls are composed of six rows of small square stones, and then four rows of flat, thin and broad Roman bricks, and so alternately from the top to the bottom. Which makes it probable it was built after Severus's time: for this was the African manner of building, as Vitruvius tells us; and therefore might well be, what tradition here says of it, viz. part of Julian the emperor's palace or thermæ.

St. Innocent's church-yard, the public burying-place of the city of Paris for a 1000 years, when entire (as I once saw it) and built round with double galleries full of skulls and bones, was an awful and venerable sight: but now I found it in ruins, and the greatest of the galleries pulled down, and a row of houses built in their room, and the bones removed I know not whither: the rest of the church-yard in the most neglected and nastiest pickle I ever saw any consecrated place. It is all one, when men, even the Roman catholics have a mind, or it is their interest, to unhallow things or places, they can do it with a good stomach; and leave the tombs of chancellors and other great

men without company or care. What nobody gets by, nobody is concerned to repair: but it is strange amongst so many millions of dead men, not one wonder-working saint should start up to preserve itself and neighbours from contempt and scandal. That so much holy earth, brought, as it is said, so far off, should never produce one saint, but rather spew up all its inhabitants, to be thus shuffled and dissipated.

Amongst the many cabinets of Paris there is nothing finer than the collection of Monsieur Bueo, Garde-Rolles du Parlement. You pass through a long gallery, the one side of which is a well furnished library, and also well disposed in wired cases. This gallery leads into two rooms very finely adorned with pictures, vasa's, statues and figures in brass, also with china, and the famous enamel vessels, formerly made in Poitu, which are not now to be had; a thousand other curious things.

I very particularly examined his large quantity of shells, consisting in near sixty drawers. There were indeed very many of a sort, and but few but what I had seen before, and figured. He very obligingly lent me those I had not seen, to have the designs of them done. He had many very perfect and large ones of land and fresh-water buccina; but yet a great number were wanting of those very tribes which I have published in my *Synopsis Conchyliorum*.

Here were also two or three very fair ones of that sort of compressed snail, which have their tail on the same side with their mouth; and the vulgar name, by which those men of cabinets distinguish them, is not amiss, viz. *des lampes*.

He shewed me a bivalve, which is not uncommon (a large blood red spondille) for which the late duke of Orleans gave 900 livres, which is above 50l. sterling; and he also assured me, that the same person offered a Parisian for thirty-two shells 11000 livres. Which sum was refused; but the duke replied, that he knew not who was the greater fool, he that bid the price, or the man that refused it.

I also saw in this collection an hippocampus about four inches long, the tail square thick bellied and breast like a miller thumb, winged not unlike a sort of flying fish, but the fins were spoiled; the membranes being tore from the bones of the wings, the head long and square like the tail, with a sort of tufted mussel. This fish I took to be of the hippocampus kind; and (as he told me) it was given him by my lady Portsmouth, possibly out of king Charles's collection, who had many curious presents made him: (as one of the shells from the States of Holland, many of which I have seen in other hands) but he suffered them all to be dissipated and lost.

Here also was a *Vespetum Canadense* of a most elegant figure, and admirable contrivance; of which I have a drawing. This is entire in all its parts; it is as big as a middle-sized melon, pear-fashion, with an edge running round, where it is thickest, from which edge it suddenly declines and lessens into a point; at the very end of the point, on one side, is a little hole, with pulvinated or smooth edges inclined inward; otherwise it is whole, and wrought upon the twig of a tree, of a very smooth satten-like skin.

Also the striated skin of an African ass, supple and well eured, which I had never seen before. It is certainly a most beautiful animal; and, I admire, after so many ages that it has been known to the people of Europe, it could never be tamed, and made of common use, as the rest of the horse kind. This was only of two colours, viz. broad lists of white and bay or chesnut colour drawn from the back down the sides to the belly, which was all white: the lists were parted at the back by a very narrow ridge of short hair; which lists also went round the legs like garters. The hair coloured stripes of the African ass were, near the back, three or four fingers broad, also the list down the back was very broad.

Another skin of a cap-ass I afterwards saw at Dr. Tournefort's; and the stripes were the same, but much broader and darker coloured; it may be from the different ages. This sort of striping seems to be peculiar to the ass; for the most common to be seen with us have all a black list down the back; and two more, that is, on each side one, running down the shoulders.

I saw Monsieur Tournefort's collection of shells, which are well chosen, and not above one or two of a sort; but very perfect and beautiful, and in good order, consisting of about 20 drawers.

There was amongst them a very large land shell, the same which I have figured from the museum at Oxford, having its turn from the right hand to the left. Also many very excellent and large patterns of other land snails; also a fresh-water mussel from Brazil, which I had never seen before; a pair of them he gave me; and many species of fresh-water buccina from the Carribee islands. Also an *auris marina spisse echinata*; which was new to me.

Among the shells the thin oyster, which shines within like mother of pearl, and has in the uppermost end of the flat valve, near the hinge, a hole. These he brought with him, and took them up alive from the rocks in Spain; he said they were very offensively bitter to the taste. These being perfect, I had the opportunity of seeing that hole shut with a peculiar and third shell, of the fashion of a pouch or shepherd's purse.

I shall say nothing of his vast collection of seeds and fruits, and dried plants which alone amount to 8000, and in this he equals, if not excels, all the most curious herbarists in Europe. His herbarisations about Paris he gave me to carry for England, just then printed off; also he shewed me the designs of about 100 European non descript plants, in octavo, which he intends next to publish.

He also shewed me ten or twelve single sheets of vellum, on each of which were painted in water colours very lively, one single plant, mostly in flower, by the best artist in Paris, at the king's charge. Those are sent to Versailles, when the doctor has put the names to them, and there kept: in this manner the king has above 2000 rare plants, and they work daily upon others. The limner has two louis's for every plant he paints.

I saw there also the *Vespetum Canadense Maximum*, about 12 inches long, and six in diameter; of a pear fashion; it hangs by a long and broad loop to the twig of a tree: the broad or lower end is a little pointed, and rising in the middle; the outward skin is as smooth as vellum, and of a whitish gray, next to the pearl colour. The button at the bigger end in this being broken, and the outward skin pilled off, I could see a hole of about half an inch diameter in the very middle, into which the wasps go in and out. The cells are sexangular, but of a very small size, not much bigger than a duck quill, or very small goose quill; and consequently appear very thick set and numerous.

He shewed me also a very great julus from Brazil, at least six inches long, and two about, round like a cord, very smooth and shining, of a kind of copper or brazen colour: the feet infinite, like a double fringe on each side: this he had from F. Plumier, who afterwards gave me a design of it drawn by the life, and in its proper colours.

Dr. Tournefort shewed me a present which was made him by his countryman of Provence, Monsieur Boyeur d'Aguilles, of a large book in folio in curious stamps. This is only the first part of his cabinet, all graved at the author's charge; and he is said to be another Peiresk, which would be happy for mankind, and a great honour to that country to have produced two Mæcenass in one age.



I was to see Monsieur Verney at his apartment at the upper end of the royal physic garden: but missing my visit, went up with a young gentleman of my lord ambassador's retinue, to see Mr. Bennis, who was in the dissecting room, working by himself upon a dead body, with its breast open and belly gutted: there were very odd things to be seen in the room. My companion, it being morning, and his senses very quick and vigorous, was strangely surprised and offended; and retired down the stairs much faster than he came up. And indeed, a private anatomy room is to one not accustomed to this kind of manufacture, very irksome, if not frightful; here a basket of dissecting instruments, as knives, saws, &c. And there a form with a thigh and leg stayed, and the muscles parted asunder: on another form an arm served after the same manner. Here a tray full of bits of flesh, for the more minute discovery of the veins and nerves; and every where such discouraging objects. So, as if reason and the good of mankind did not put men upon this study, it could not be endured: for instinct and nature most certainly abhors the employment.

I saw Monsieur Merric, a most painful and accurate anatomist, and free and communicative person, at his house Rue de la Princesse. His cabinet consisted of two chambers: in the outward were great variety of skeletons; also entire preparations of the nerves; in two of which he shewed me the mistake of Willis, and from thence gathered, that he was not much used to dissect with his own hand. The pia mater coating the spinal nerves but half way down the back where it ends: the dura mater coating the lowermost twenty pair. Which, Willis (as he said) has otherwise reported.

But that which much delighted my curiosity, was the demonstration of a blown and dried heart of a fœtus; also the heart of a tortoise.

In the heart of a fœtus, he shewed it quite open, and he would have it that there was no valve to the foramen ovale; which seemed equally open from the left ventricle to the right, as the contrary: that its diameter well near equalled that of the aorta: that the two arteries which ascend up into the two lobes of the lungs (and are the ramifications of the pulmonic artery, after it has parted with the canal of communication, which goes betwixt the pulmonic artery, and the lower or descending branch of the aorta) both put together, far exceed, if not double, the diameter of the aorta itself.

He therefore, not without good reason, affirms, that of all the blood which the vena cava pours into the right ventricle of the heart, and is thence in a fœtus forced up into the pulmonic artery, a great part is carried by the canal of communication into the descending trunk of the aorta, and is so circulated about the body, the lungs (as to that part) being wholly slighted; also that of the two remaining thirds of the blood, which is carried about the lungs, when it comes down the pulmonic vein, that which cannot be received by the aorta (and all cannot, because the aorta is much less than the two branches of the pulmonic artery put together) is therefore discharged back through the foramen ovale into the right ventricle of the heart, and so thrown up again with the rest of the blood, coming from the vena cava. So that one part of the two remaining parts of the blood is carried about the body, as in an adult fœtus, and a third part only circulates in the lungs, passing by the body or grand circulation.

That all this is done to abbreviate and reduce the circulation to a lesser compass, is certain; and so for the same reason and end, that other lesser circulation of the liver is slighted by the blood, which returns from the placenta, by a canal of communication betwixt the porta and the vena cava.

The reason he gives of this, I cannot at all allow of, as being very ill grounded; and therefore I shall not trouble myself to confute, or so much as name it.

As for the heart of the land tortoise, it was preserved in spirit of wine, and all the three ventricles thereof slit and opened; so that I had not all the satisfaction I could have wished: but the left ventricle in this animal had no artery belonging to it, but did receive only the blood, which descended from the lungs, and convey it by the foramen ovale into the right ventricle: that the third or middle ventricle was only an appendix to the right, and had the pulmonie artery issuing from it. So that the blood in a tortoise was in a manner circulated like that in a foetus, through the body, the lungs as it were, or in good part, slighted.

This thought of Monsieur Merrie's has made a great breach betwixt Monsieur Verney and himself; for which reason I had not that freedom of conversation as I could have wished with both of them; but it is to be hoped there may come good from an honest emulation.

Two English gentlemen came to visit me, Mr. Bennis and Mr. Probie. They were lodged near the royal garden, where Monsieur Verney dwells, and makes his anatomies, who in three months time shewed all the parts of the body to them. He had for this purpose at least twenty human bodies, from the gallows, the chatelet (where those are exposed who are found murdered in the streets, which is a very common business at Paris) and from the hospitals.

They told me, Monsieur Verney pretended to shew them a valve, which did hinder blood from falling back into the right ventricle by the foramen ovale. This valve they said he compared to the papillæ in the kidneys, musculous and fleshy: that if wind was blown into the vena pulmonalis, it did not pass through the foramen ovale, but stop there, by reason of the valve: that he did believe contrary to Mr. Merrie, that no blood did circulate through the lungs in an embryo.

Again, in another conversation with Monsieur Merrie, he shewed me the blown heart of an embryo, and that of a girl of seven years old. I saw clearly, that the skin of the supposed valve of the foramen ovale, was as it were suspended with two ligaments: and that in the girl's, the two sides of the foramen ovale were drawn one over the other, and so closed the hole; but were easily to be separated again by a bristle thrust betwixt them.

Also it seemed to me, that this membrane in an embryo might cover the foramen ovale, like the membrana nictans in a bird's eye, that is, be drawn over it, and so hinder the ingress of the blood from the vena cava, as often as the right auricle beats: but the dilating itself might give way to the descending blood of the vena pulmonalis; and possibly, the embryo living as it were the life of an insect, can by this artifice command the heart.

I remember in discourse that day with him, he told me, that Monsieur Verney had an old cat, and a young kitling just born, put into the air-pump before the Academie Royale de Sciences: that the cat died after sixteen pumps, but the kitling survived five hundred pumps; which favours in some measure the command young animals have of their hearts.

At another visit Monsieur Merrie obligingly procured for me the heart of a human embryo, with the lungs entire. He tried before me the experiment upon blowing, and also syringing water into the aorta, both which filled the auricles and ventricles, and freely came out at the vena cava only. Then he opened the right auricle and ventricle, where the foramen ovale was open only at one corner, not the tenth part

of its breadth ; and a membrane drawn over the rest, which membrane was fastened to the sides quite round. Then he opened in the same manner the left ventricle and auricle, and there it was evident, that that membrane which closed the hole, had two narrow straps or muscles by which it was fastened to the opposite sides, after the manner of some of the valves of the heart.

I told him that it must follow from this, that the foramen ovale was shut and opened more or less, at the pleasure of the embryo, according to the necessities of nature, and the quantity of blood that was to pass ; that it was probable, that all insects had a command of their hearts (of which I had given large instances \* elsewhere) by some such passage, which they could shut altogether, or in great part, as they had a mind, in winter, or fear, or fasting for want of food : that the shutting up of the passage in adult animals was therefore done in an instant, by drawing the curtain fully, which could never be again drawn back and opened, because of the great torrent of blood, which now entered the right auricle, and stopped it in that posture, which in time would altogether stiffen and lose its motion of relaxation. As a hen, when she sleeps, draws over the membrana nictans ; and likewise when she dies, the same membrane covers all the eye.

Mr. Bennis procured me the heart of a human fœtus, which had but just breathed ; the which I examined with Monsieur Litre of Castres in Languedoc, another very understanding and dexterous anatomist, and who teaches scholars of all nations the practice of anatomy. The experiments here were repeated as formerly described ; both wind and water passed the foramen ovale, both from the vena pulmonum, and from the aorta. That which I observed in this heart more particularly, was, that the membrane or valve on the left side of the foramen ovale was flat, and extended almost over the hole, without any limbus round its edges, because it was nothing but the very substance of the auricula sinistra continued, or a process thereof ; but on the right side the vena cava being joined to the auricle, it had a rising edge round that part of it, whence it proceeded ; that is, that the two faces had contrary openings, and being drawn as it were one over the other, they shut the hole ; but not so firmly, but the hole might be more or less open all a man's life. For those two oval processes sticking close together in a blown and dried heart, that is not to be much heeded : for I have seen them dry with the hole open ; but it has been like as betwixt unglued paper, or as the urethers descend betwixt the skins of the bladder, or as the same happens to the duetus biliaris in its insertion into the guts.

The same person brought me the heart of a man forty years old, in which the foramen ovale was as much open as in a fœtus new born ; and the ligaments very conspicuous, which tack the sides of the valve to the auricle, and go over to the other side of the border.

I was not better pleased with any visit I made, than with that of F. Plumier, whom I found in his cell in the convent of the Minimes. He came home in the sieur Ponti's squadron, and brought with him several books in folio, of designs and paintings of plants, birds, fishes, and insects of the West Indies ; all done by himself very accurately. He is a very understanding man in several parts of natural history, but especially in Botanique. He had been formerly in America, at his return printed at the king's charge a book of American plants in folio. This book was so well approved of, that he was sent again thither at the king's charge, and returned after several years wandering

\* Exercitat. Anatomica, 1.

about the islands with this cargo. He was more than once shipwrecked, and lost his specimens of all things, but preserved his papers, as having fortunately lodged them in other vessels; so that the things themselves I did not see. He had designed and dissected a crocodile; one of the sea tortoises; a viper, and well described the dissections.

His birds also were well understood, and very well painted in their proper colours. I took notice of three sorts of owls, one with horns, all distinct species from our European. Several of the hawk kind and falcons of very beautiful plumage; and one of those, which was coal black as a raven. Also (which I longed to see) there was one species of the swallow kind, very distinct from the four species we have in Europe.

Amongst the fish there were two new species of American trouts, well known by the fleshy fin near the tail.

Amongst the insects there was a scolopendra of a foot and an half long, and proportionably broad; also the julus very elegantly painted, which I had seen before in Dr. Tournefort's collection.

Also a very large wood-frog, with the extremity of the toes webbed.

Also a blood-red polypus, with very long legs, two of which I could discern by the draught were thick acetabulated. This, he told me, was so venomous, that upon the least touch, it would cause an insupportable burning pain, which would last several hours.

There were also some few species of the serpent and lizard kind.

There were but few shells; but amongst them there was a murex, which dies purple, with the fish as it exerts itself in the sea. Also that land buccinum, which lays eggs with hard shells, and for bigness, and shape, and colour, scarce to be distinguished from the sparrow eggs. And because the murex and this buccinum was drawn with the animal creeping out, I desired a copy of them, which he freely and in a most obliging manner granted me. He designed the buccinum terrestre in the island of St. Domingo, where he found it.

Amongst the vast collection of plants, I observed the torch kind and ferns were of all others the most numerous; of each of which there were an incredible number of species. There were two or three species of gooseberries and currants; and some species of wild grapes; all which F. Plumier told me were good to eat.

He told me these drawings would make ten books, as big as those he had published; and two books of animals. He had been often at Versailles to get them into the king's Imprimerie, but as yet unsuccessfully; but hoped ere long to begin the printing of them. Note, that the booksellers at Paris are very unwilling, or not able, to print natural history; but all is done at the king's charge, and in his presses.

I visited Monsieur Dacier and his lady, two very obliging persons, and both of great worth, and very learned.

I think our profession is much beholden to him, for his late elegant translation of Hippocrates into French, with learned notes upon him. I wish he may live to finish what he hath so happily begun. I read over the two volumes he has printed with great delight.

He seems to favour the opinion of those who think, the circulation of the blood was known to him; in which he errs undoubtedly. It is manifest his anatomy was rude, dark, and of little extent; but it is also as manifest, that he knew very well the effect of the circulation. As for example, 2 de Diæta. c. 12. "All the body (says he) is

purged by respiration and transpiration, and what humour thickens, is subtilized and thrown out by the skin, and is called sweat."

Again 3 de Diæta. c. 5. speaking of a sort of foul and impure bodies, he says: "More is by labour melted out of the flesh, than the circular motion (of the blood) hath purged off. There are a great number of instances of this nature." In conversation I put this to him, which he avowed was all he thought.

He told me he had two more volumes ready for the press, and did intend not to give it over till he had gone through all the works of Hippocrates. In which volumes will be these treatises: Of Dreams: of Regimen in acute Diseases: the Prognosticks: the Prorrhétiques: the Aphorisms: the Coaques.

On that aphorism he seemed to me to have a very happy thought, *cocta non, sed cruda purganda sunt*; which makes it of the same sense with that other, *si quid movendum est, move in principio*.

I must needs say this for Madame Dacier, his wife, though I knew her by her writings before I saw her, the most learned woman in Europe, and the true daughter and disciple of Tanaquil Faber; yet her great learning did not alter her genteel air in conversation, or in the least appear in her discourse, which was easy, modest, and nothing affected.

I visited Monsieur Morin, one of the Academie de Sciences, a man very curious in minerals; of which he shewed me some from Siam, as jaspers, onyxes, agates, Loadstones, &c. He shewed me also excellent tin ore from Alsace. Also from France, a great block of a sort of amethyst, of two or three hundred weight. Some parts of it (for he had several plates sawed and polished) were very fine, and had large spots and veins of a deep coloured violet. It was designed for a pavement in marchetterie, of which he shewed me a Carton drawn in the natural colours.

This puts me in mind of a vast amethyst I had seen at London, brought from New Spain, and exposed to sale; it weighed, as I remember, eleven pound odd ounces; and was most perfectly figured both point and sides, after the manner of a Bristol diamond, or common rock crystal; but this block here was rude, and without any shape.

I cannot say much of the meeting of these gentlemen of the Acad. Royal de Sciences, there are but few of them, about twelve or sixteen members; all pensioned by the king in some manner or other.

They endeavoured in the war time to have printed Monthly Transactions or Memoirs after the manner of ours in London; but could not carry them on above two volumes or years, for without great correspondence this can hardly be done. And ours is certainly one of the best registers that ever was thought on, to preserve a vast number of scattered observations in natural history, which otherwise would run the hazard to be lost, besides the account of learning in printed books.

I heard Mr. Oldenburgh say, who began this noble register, that he held correspondence with seventy odd persons in all parts of the world, and those be sure with others: I asked him, what method he used to answer so great variety of subjects, and such a quantity of letters as he must receive weekly; for I knew he never failed, because I had the honour of his correspondence for ten or twelve years. He told me he made one letter answer another, and that to be always fresh, he never read a letter before he had pen, ink, and paper ready to answer it forthwith, so that the multitude of his letters cloyed him not, or ever lay upon his hands.

The Monthly Register, or Philosophic Transactions, is one of the best copies which hath been printed in this age; it is now sold for 13l. sterling, and not many remaining to be had of them neither.

The abbot Bignon is president; nephew to Monsieur Pontchartrain. I was informed by some of them, that they have this great advantage to encourage them in the pursuit of natural philosophy, that if any of the members shall give in a bill of charges of any experiment which he shall have made, or shall desire the impression of any book, and bring in the charges of engraving required for such book, the president allowing it and signing it, the money is forthwith reimbursed by the king. As it was done in Dr. Tournefort's Elements de Botanique, the cuts of that book cost the king 12000 livres. And the cuts intended, and now engraving for another book of new plants found in his voyages into Portugal and Spain, will cost 100l. sterling.

Also, if Monsieur Merric for example, shall require live tortoises for the making good the experiments about the heart, they shall be brought him, as many as he pleases, at the king's charge.

These, besides their pensions, I say, were some of the advantages they have enjoyed; but the war, for this reason, has lain heavy upon the philosophers too.

Mr. Butterfield is a right hearty honest Englishman, who has resided in France thirty-five years; is a very excellent artist in making all sorts of mathematical instruments, and works for the king and all the princes of the blood, and his work is sought after by all the nations of Europe and Asia:

He more than once shewed me (which is his great diversion) a mighty collection of loadstones, to the value of several hundred pounds sterling.

Some he had as hard almost as steel, and others soft and friable; yet of these he had those which were of as great virtue as any of the hard; that of the equally hard there were very great difference.

He had one which weighed naked not above a drachm, and would naked take up a drachm and an half; but shod would take up 144 drachms of iron, if rightly applied, that is, if the iron to be taken up did firmly and in a plain touch alike both the feet.

The best shod were these that follow:

1. A slate loadstone, which I noted not so much for its strength, but because of its peculiar make, being fairly and distinctly laminous throughout, weighing one ounce and an half, draws up one pound.

2. A smooth loadstone, weighing one drachm, two scruples, fourteen grains, draws up eighteen ounces, that is, eighty-two times its weight.

3. Another smooth loadstone, weighing sixty-five grains, draws up fourteen ounces, that is, one hundred and forty-four times its weight.

It is surprising to see a loadstone no bigger than a hazel nut, take up a huge bunch of keys.

We have a very large slate loadstone in the repository at Gresham college, at least six inches over; this also is but weak: whether the laminæ do spoil the virtue, as though they were so many distinct stones packed together. And yet a loadstone which takes up, ex. gr. 6 pound weight, cut by the axis in two halves, and both halves shod again, will take up eight pound.

It is plain, that experiments are better made with a terrella, or spherical loadstone, than a square one; and his way of capping the terrella is very well contrived.

A square loadstone made into a terrella, will near take up as much weight as it did before, though a great deal of the stone is lost in the rounding, by virtue of the different shoeing.

He entertained us full two hours with experiments neatly contrived about the effects of the loadstone.

The experiment of approaching a loadstone to the spring of a watch is very fine ; it causes the balance to move very swift, and brought yet nearer, to stop quite and cease moving.

Another experiment was an inch broad plate of iron, turned into a ring of about four inches diameter, which had evidently two north and two south poles, which he said he had seen in a loadstone, and had contrived this in imitation of nature. The working of them with filings of steel, drigged upon a plate, set upon the ring, did clearly manifest the double polarity.

Also the suspending of a needle in the air, and a ball of steel upon the point of it, by a thread, which a weight kept down, that it could not ascend higher than such a distance within the sphere of the activity of the loadstone.

Again, the free working of the needle in water, through brass, gold, stone, wood, or any thing but iron. He told us, he had a stone, which would work through a stone wall of eighteen inches.

Lastly, he demonstrated by many experiments, how the effluvia of the loadstone work in a circle, that is, what flows from the north pole comes round, and enters the south pole ; on the contrary, what flows from the south pole, enters the north, and in its way puts in order all such filings of steel it meets with ; that is, according to the disposition of its own whirling, and the circular lines it keeps in its flying about the loadstone. Indeed, it is pleasant to see, how the steel filings are disposed ; and in their arrangement, one clearly sees a perfect image of the road, which the whirling invisible matter takes in coming forth, and re-entering the poles of the loadstone.

He shewed us a loadstone sawed off that piece of the iron bar, which held the stones together at the very top of the steeple of Chartres. This was a thick crust of rust, part of which was turned into a strong loadstone, and had all the properties of a stone dug out of the mine. Monsieur de la Hire has printed a memoir of it ; also Monsieu de Vallemont a treatise. The very outward rust had no magnetic virtue, but the inward had a strong one, as to take up a third part more than its weight unshod. This iron had the very grain of a solid magnet, and the brittleness of a stone.

These gentlemen, who have writ of this, have in my opinion missed their purpose, when they inquire, how it comes to pass to be thus turned ; for it is certain, all iron will in time go back into its mineral nature again, notwithstanding the artifice of melting and hammering. I have seen of those hammered Spanish cannon, which had lain many years buried in the ground, under the old fort at Hull in Yorkshire, which were thoroughly turned into brittle iron stone, or mine again ; and would not own the loadstone, no more than the rest of our English iron mine, till it was calcined, and then shewed itself to be good iron again. Also I have seen and had by me, a piece of wood taken out of Lough Neagh in Ireland, which was not only good iron mine, but a loadstone too ; so that it is evident nature, in this sort of mine, goes backwards and forwards, is generated and regenerated ; and therefore Monsicur de la Hire has well used the term of vegetation in this affair, which I had done many years before him, in my book "De Fontibus Medicis Angliæ," that is, out of iron mine will grow ; and out of mine, a loadstone ; as in the petrified wood.

I do not relate these things as though they were new discoveries ; the world has long since known them by the great industry of our most learned countryman, Gilbert of Colechester, to whom little has been added after near 100 years, though very many men have written on this subject, and formed divers hypotheses to solve these phænomena. A Dutchman, Mr. Hartsoeker, one of the Academic de Sciences, has published a treatise of the principles of natural philosophy, and has accounted for these and many more experiments of this nature, which he had shewn him by Mr. Butterfield, whom he mentions very honourably.

And yet after all, the nature of these effluvia are little known, and what is said by Des Cartes of screw-fashioned particles, and the invisible channels and pores and pipes of the load-stone, are all mere fancies without any foundation in nature. It is well called by some a certain magnetic matter, but what properties it hath is little understood.

It is very strange to me that a little load-stone of that prodigious force, should have so short a sphere of activity, and not sensibly to affect iron from above an inch or two ; and the biggest and strongest not above a foot or two. We see the vortices in water, how wide they work round about them, vastly increasing the circles ; and what little resistance the air can make to a body of that subtilty, as the effluvia of the load-stone, which can with ease penetrate all bodies whatsoever, marle, flints, glass, copper, gold, without any sensible diminution of its virtue. Again, we see the flame of a lamp in oil, or tallow, or wax, how short it is ; and how long and tapering it is in spirit of wine. If therefore the magnetic matter was darted out of infinite small pipes, and was of the nature of a more subtile and invisible flame, why does it not continue its course in a direct line to a great length, but return so suddenly ? We see the perspiration of our skins to rise into the air, and continue to mount, which yet has but a weak impulse from the heart, being interrupted and broke off when it comes out of the road of the blood into the ductus excretorii. But the circle of the magnetic matter is without any impulse, that we know of, from the stone ; and moves in a double circle, and with a double and contrary stream in the same pipes, contrary to the laws of the circulation of the blood in animals ; which has naturally but one current, and one road round ; for the whole mass of vessels in which the circulation of the blood is concerned, is but one continued pipe.

Until the nature of the effluvia is better known, no very satisfactory account can be given of the most common phænomena of the load-stone, ex. gr. why it does not draw to it all bodies alike ? Why a great load-stone, though weak, extends its virtue much farther than a small one, though strong ? Why a load-stone communicates its virtue to iron, as soon as it touches it, nay even at some distance, and gives it the properties of a load-stone.

The truth is, the earth's being a great magnet seems to me a mere vision and fable ; for this reason, because it is not iron. It is true, iron mine is the most common of all minerals, and found almost in all places ; but it holds not any proportion with the rest of the fossils of the earth ; and is not, at a guess, as a million to other fossils. This seems evident to any one, who has well considered the chalky mountains and cliffs, the high rag-stone mountains and lime-stone cliffs, the several quarries and pits sunk into the bowels of the earth for coal and lead, &c. how little iron there is to be found in comparison of other matters. Add to this, that very little of that very iron mine, which is so found any where, is magnetic, or capable of obedience to the magnet, till it is calcined. Whence therefore should all those magnetic effluvia arise, which are



supposed every where plentifully to encompass the earth? and why should they be supposed to be every where wandering in the air, since it is evident, they make haste to return to the stone, that emitted them, and are as afraid to leave it, as the child the mother before it can go?

Towards the discovery of the nature of the effluvia of the loadstone, such particulars as these, in my opinion, ought chiefly to be considered, and prosecuted with all industry. The loadstone is very good, if not the best iron mine. The sole fusion of the loadstone turns into iron. The fire destroys its very virtue, and so does vitrification iron. Fire will make iron mine own the loadstone, and turn to a magnet. Rust (into which all iron will naturally turn) and the reduction of iron again to its mine, will take away all the magnetic capacity of iron. A loadstone cannot be made to alter its poles, but iron may; nor be destroyed, but by the fire. A great and long bar of iron is naturally a loadstone, if held up perpendicularly, and it changes its poles at the pleasure of him that holds it: a strong loadstone loses much of its virtue by touching iron, but after a few days recovers it again. A small and weak loadstone cannot touch to give its virtue to a great lump of iron. A loadstone exposed to the air is spoiled in time. The deeper the vein of iron mine is, where loadstone is found, the better the stone, and how far this holds true, is to be considered: for I do not doubt, but a very hard stone may be found near the day, as well as deeper. A ruler or long plate of steel is much better touched with the virtue of the loadstone, than a plate of mere iron of the same figure; but on the contrary a plate of iron sticks much faster to the loadstone than a plate of steel; so as if a loadstone draws up a plate of steel of three ounces, it will draw up a plate of iron of four ounces and more. Why iron fastened to the poles of a magnet does so vastly improve its strength, as to be 150 times stronger than when naked.

Since therefore a loadstone is nothing else but good iron mine, and may be turned into iron; and iron most easily and of itself into loadstone, the way to find out the nature of those magnetic effluvia, seems to be to inquire strictly into the nature of iron mine, and iron itself; and not to run giddily into hypotheses, before we are well stocked with the natural history of the loadstone, and a larger quantity of experiments and observations relating to iron and its mine, with all the differences and species of them; which I think has hitherto been little heeded. For nature will be her own interpreter, in this, as well as in all other matters of natural philosophy.

Mr. Butterfield, in another conversation, told me he had observed loadstones, which were strong without arming; and being armed, had not that great advantage by it, as one could have expected: and that on the contrary, there were others, which had a more incredible virtue when armed, than they did promise.

That it seldom happens, that a loadstone has as much virtue in one of its poles, as in the other; and that a bit of iron is touched equally well at either of the poles of one and the same loadstone.

That there are loadstones which take up much, and which notwithstanding are incapable of well touching iron: so that a stone armed, which takes up seven pound, yet cannot communicate to a ruler of iron the virtue of taking up a very small needle.

That a loadstone of ten ounces, being reduced to the weight of six ounces or thereabouts, did almost the same effect as before.

I caused Mr. Butterfield to make the slate loadstone into a terrella, and when shod, it was indeed but of little force; but I observed its poles to lie level with the laminæ, of which it was composed.

N. B. A strong loadstone ought to have large irons, and a weak one but thin irons; so that a stone may be over-shod.

I waited upon the abbot Droine to visit Monsieur Guanieres, at his lodgings in the Hostel de Guisc. This gentleman is courtesy itself, and one of the most curious and industrious persons in Paris, his memoirs, manuscripts, paintings, and stamps are infinite, but the method in which he disposes them, is very particular and useful. He shewed his portefeuilles in folio, of red Spanish leather finely adorned. In one, for example, he had the general maps of England: then the particular maps of the counties: then the maps of London, and views about it: then the stamps of all the particular places and buildings of note about it: and so of all the cities in England, and places and houses of note of the counties.

In other book-cases, he has the stamps of the statesmen of England, nobility of both sexes, soldiers, lawyers, divines, physicians, and men of distinction. And in this method he has all Europe by themselves.

His rooms are filled with the heads of a vast number of men of note in oil paintings and miniatures or water-colours. Among the rest, an original of king John, who was prisoner in England, which he greatly values.

He shewed us the habits in limning from the originals, done by the best masters, of all the kings and queens and princes of France, for many ages backwards. Also the tournaments and justings at large; and a thousand such things of monuments.

He was so curious, that he told me, he seldom went into the country without an Amauensis, and a couple of men well skilled in designing and painting.

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One toy I took notice of, which was a collection of playing cards for 300 years. The oldest were three times bigger than what are now used, extremely well limned and illuminated with gilt borders, and the pasteboard thick and firm; but there was not a complete set of them.

Among the persons of distinction and fame, I was desirous to see Mademoiselle de Scuderie, now 91 years of age. Her mind is yet vigorous, though her body is in ruins. I confess, this visit was a perfect mortification, to see the sad decays of nature in a woman once so famous. To hear her talk, with her lips hanging about a toothless mouth, and not to be able to command her words from flying abroad at random, puts me in mind of the Sybil's uttering oracles. Old women were employed on this errand, and the infant world thought nothing so wise as decayed nature, or nature quite out of order, and preferred dreams before reasonable and waking thoughts.

She shewed me the skeletons of two cameleons, which she had kept near four years alive. In winter she lodged them in cotton; and in the fiercest weather she put them under a ball of copper full of hot water.

In her closet she shewed me an original of Madame Maintenon, her old friend and acquaintance, which she affirmed was very like her: and, indeed she was then very beautiful.

The marquis d'Hopital, one of the Academie de Sciences, whom I found not at home, returned my visit very obligingly. I had a long conversation with him about philosophy and learning; and I perceived the wars had made them altogether strangers to what had been doing in England. Nothing was more pleasing to him than to hear of Mr. Isaac Newton's preferment, and that there were hopes that they might expect something more from him: he expressed a great desire to have the whole set of the Philosophic Transactions brought over, and many other books, which he named, but had not

yet seen. He told me, it was not possible for them to continue the Monthly Memoirs, as they had done for two years only, because they were but very few in number of that society, and had very little correspondence. Indeed I did inquire once of some of that body, why they did not take in more, since there were very many deserving men in the city, as I instanced in F. Plumier. They owned he would be an honour to the body : but they avoided to make a precedent for the admission of any regulars whatsoever.

I repaid the marquis his visit : he lives in a fine house, well furnished : the garden pretty, with neat trelliage, wrought with arches and other ornaments.

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His lady also is very well studied in the mathematics, and makes one of the learned ladies in Paris ; of which number are Mad. Dacier, the duchess of Main, Mad. Scuderie, Mad. de Vicubourg, Mad. d'Esperson the daughter, Mad. Pres. de Ferrand, and others, whose names I have forgot.

I bought the works of Pere Pezaron, a Bernardin, now abbot de Charmoyse near Rheims. This is a very learned and disinterested author, and by his free way of writing has got him enemies amongst the regular clergy. The books I bought were his "Antiquities or Account of Time;" "The Defence of it against Two Monks;" "An Essay or Commentary upon the Prophets;" "The History of the Gospcl."

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• This is his reading of it.

VABALATHUS. V. G. R. IMP. R.

Vices gerens Imperii Romani.

Les autres y lisent mal. YCRIMOR.

He gave me also the stamps of the heads of Zenobia and Vabalathus, done from the king's medals. These were designed for a short history of all the emperors and empresses, which he has by him written in French, but not published. Nothing could be more civil and frank than this gentleman, whom I believe to be the best medalist in Europe: he told me he had made twelve voyages all over Europe and Asia Minor on purpose. That he had seen and described the contents of more cabinets, than any man ever did before him; and it is evident by his works, that he has made good use of them.

I had a visit from Mr. Cunningham, tutor to my lord Lorne, a very learned and curious man in books. I asked him (knowing him to have been lately at Rome) very particularly about the papers of Monsieur d'Azout. He told me that he saw him not above half a year before he died, and was very intimately acquainted with him, and saw him for a twelvemonth very often. That he told him that he had about eighty difficult passages in Vitruvius, which he had commented and explained; and the correction of a great number of errata in the text. Also that upon Julius Frontinus (though that was a much less book) he had much more to say, than he had upon Vetruvius. What is become of his papers I could not learn from him, nor any in Paris.

Monsieur d'Azout was very curious and understanding in architecture; for which purpose he was seventeen years in Italy by times; I do remember, when he was in England about fourteen years ago, he shewed me the design of several of our buildings drawn by himself; but of that of the banquetting-house at Whitehall, he expressed himself in very extraordinary terms, telling me, it was the most regular and most finished piece of modern workmanship he had seen on this side the Alps, that he could not enough praise it: that Inigo Jones, the architect, had a true relish of what was noble in that art.

It is now time to leave the private houses, and to visit the public libraries; and with them such persons, as are more particularly concerned in the history of learning.

Monsieur l'Abbe Drouine came to visit me at my lodgings. I returned the visit the next day at his apartment in the College de Bonecourt. He had four or five little rooms well furnished with books; in the biggest he had a collection of catalogues of books, and of all such, who had wrote the accounts of authors; above 3000 in all languages. He told me, he had studied the History of Books with the utmost application eighteen years, and had brought his memoirs into a good method; that he had thoughts of printing the first tome this year, which would be of the most ancient authors, Greek and Latin; that he intended to continue them throughout all the succeeding ages down to our times; which he said he had performed in good part.

He shewed me the Catalogue of authors in four very thick folios; alphabetically disposed by family names, under some such title as this: "Index alphabeticus omnium Scriptorum, cujuseunque facultatis, temporis & linguæ." Those came to about 150,000.

He also shewed me his alphabetie memoirs in sheets of the authors and books they had wrote, and in great forwardness. And lastly, the Chronological Catalogue, in which form he intends to print the whole.

• He is a very civil and well tempered person, very learned and curious, and of a middle age, fit to continue and finish such a laborious work. I was infinitely obliged to him for his frequent visits.

I was to wait on Monsicur Gurnier, one of the heirs of Monsieur Thevenot, to see the remains of that famous man's library. There are a great number of Oriental MSS. yet unsold.

He shewed me the MS. of Abulfeda, with its Latin version, done by Monsicur Thevenot; and the matrises and forms of Arabic letters, which he had, at his own charge, caused to be cut for the printing of certain proper names in it.

He went or designed to go into England and Holland to get it printed, but was called back by Monsieur Louvois's order to print it in France at the king's charge; but the late wars coming on, it was set aside, and is like to be so; for he was turned out of his place of library-keeper to the king, and died in disgrace.

Those great number of Oriental books he had most from his nephew, whom he sent abroad for that purpose, and who died in his travels.

This man was, as it were, the founder of the Academie des Sciences, and was in his own nature very liberal, and gave pensions to many scholars.

Amongst other things I saw there a large dictionary or grammar of the Algonquin tongue, one of the nations of the West Indies. The fugitive Jesuit, who wrote it, dwelled among them twenty years. Here I also saw a history, with large and accurate descriptions of the quadrupeds of that part of the West Indies by the same author.

As for the papers of Swammerdam, which indeed were the things I most coveted to see, they were much beneath my expectation, not answering the printed catalogue of Thevenot, p. 239. There were indeed some corrections of the figures of his general History of Insects, and some additions, as though he intended another edition of that book.

Also towards a particular history, there were some small treatises, or rather some figures only of the tadpole. Again, figures relating to the natural history of a certain day butterfly; of the asilus; of the scuttle fish; of the Scarabæus Nasicornis; and some considerable number of snails, as well naked, as fluviatil, and sea dissected; at least figured with their bodies exerted, and some of their bowels extracted; and which seemed to me to be well understood and delineated. There were two or three stitched books in Dutch of four or five sheets a-piece, belonging to those plates or figures. But the gentleman would not part with any of them, because, he said, they had been secured by the abbot Bignon, for the king's use. However, all these I judge were worth printing, when it shall please that society to do it.

Lastly, I saw in his custody a fair MS. of Michael Servetus, with a treatise at the end of it, which, as he said, was never published; being a comparison of the Jewish and Christian law, its justice and charity.

Mons. l'Abbe de Brillac, almoner to the prince of Conti, very obligingly offered to carry me to the king's library; but I civilly declined it, for I had been told, it was better to make visits by one's self: for no stranger but was very welcome at all times; not only on the days it was publicly open, as it is upon Tuesdays and Fridays.

Mons. Clement, the deputy library keeper, made us welcome, and invited us to come again, and spend a whole day with him. He made me in particular a very great compliment, as a considerable benefactor to that place, shewing me most of the books, and the names of the rest, I had published in Latin; and shewed a great satisfaction, that he had got the Synopsis Conchyliorum, which he had caused to be bound very elegantly. I told him that I was very sorry to see it there, and wondered how he came by it; for it was, I assured him, but a very imperfect trial of the plates, which I had disposed of to some few friends only, till I should be able to close and finish the design; which I now had done to my power, and would redeem that book with a better copy at my re-

turn into England: the same promise I renewed to the abbe Louvois, the library keeper, at his own instance, when I had the honour to dine with him. The reader will pardon me the vanity, if I tell him, that this book was no inconsiderable present, even for so great a prince, as the king of France; for that besides the time that it took me up (ten years at least) at leisure hours, to dispose, methodise and figure this part of natural history, it could not have been performed by any person else for less than 2000*l.* sterling; of which sum yet a great share it stood me in, out of my private purse. This young gentleman is brother to Monsieur Barbesieux, intendant of the affairs of war; he takes great care to apply himself to his studies, and for that purpose has two of the Sorbone constantly with him to instruct him. He lives great, and has a house, which joins upon the king's library, of which he is keeper. We were entertained by him with all the civility imaginable, and freedom of conversation.

This library is now placed in a private house, and taken out of the Louvre, but it is intended to be removed to the Place de Vendosme, where one side of that magnificent square is designed for it. In the mean time it is here most commodiously disposed into twenty-two rooms; fourteen above stairs, and eight below and above. Those below are philosophy and physic, and the shelves are wired, to secure them. Above are the books of philosophy and human learning; and it is in those rooms only the promiscuous crowd are admitted twice a week. In the middle rooms, which makes the great body of the library, are, for example, catalogues of books; histories in one of England and Holland; in another the histories of France and Germany; in another the histories of Italy, Spain, &c. in another bibles of all sorts, and the interpretations; in another Greek MSS. in another Latin MSS. in another the civil and municipal laws of all nations; in another the original papers of the state; in another stamps, where, by the bye, the king had the collection of Mons. Marolles to divert him, in one of his sicknesses; bought in at a vast sum. The catalogue alone of these stamps, no bigger than two small almanacks, cost me fourteen livres; so much strangers are imposed upon by the crafty booksellers of Rue St. Jacques; but it is not in France alone where people are made to pay for their humour.

They have two indexes of this library; one relating to the matter and contents of books; and another index of authors, wherein are all the works they have of them, and the titles of all likewise that they know of, that are wanting, with an asterism to such in the margin; which is well done, that they may know what they have to buy in. It is indeed a vast collection, and worthy so great a prince. This library consists at least of fifty thousand volumes of printed books; and fifteen thousand MSS. in all languages.

They work daily and hard at the catalogue, which they intend to print; I saw ten thick folios of it, fairly transcribed for the press. It is disposed according to the subject matter of the books, as the bibles and expositors, historians, philosophers, &c. They purpose to put it into the press this year, and to finish it within a twelvemonth.

In the king's library I was shewn an ancient Greek MS. of Dioscorides, wrote in a sort of thin or narrow capitals, with the plants painted in water-colours; but the first book was wholly wanting, and therefore the animals not there, which yet was what I most desired to see; for there are some things relating to them, which we are at this day in great doubt of; and it would have been some satisfaction to have seen by the pictures, what the middle ages, at least, had thought of them.

In the same room also we were shewn the epistles; which was one part of the same MS. which we have at Cambridge, which is the gospels only. Beza was possessed of ours, from whom we had it. It is written in square capitals, and very short lines, and



much worn out in many places. This comes much short of the Alexandrian MS. at St. James's for beauty and antiquity.

There was another MS. of the gospel of St. Matthew, which was but of late discovered; a very fair volume in a large folio. This was cut to pieces in the back, and had been shuffled and bound up again; and another book overwritten in a small modern Greek hand, about 150 years ago. The first writing was turned so pale that they took no pains to rub it out. One of the library keepers observing this, hath reduced it again by paging it a-new; and with a little heeding it is yet very legible. The letter is as fair a square capital as any I have seen. There are some interpolations very notorious, as about the descent of the sick man into the pool of Bethesda; which I suppose will be accounted for by the industrious and learned collator.

I observed the China manuscripts which father Beauvais brought this year as a present to the king. They are about forty-four packs of small books, of a long quarto fashion, put up in loose covers of a purple satin glued on paste-board; of natural history, of dictionaries relating to the exposition of their characters, &c.

The king had a set much of the same before in white satin, with their titles.

Here also I saw the third decad of Livy, a large quarto in vellum, without distinction of words in fair large capitals. It is supposed by Monsieur Baluze to be 1100 years old.

Yet the manuscript of Prudentius Hymnes, which was also shewed us, is a much fairer letter, and therefore thought to be older by one century at least.

Here also I saw a famous Latin roll or volume, written on Ægyptian paper, entitled, *Charta Plenariæ Securitatis*, taken the 38th year of Justian; it is fairly engraved and interpreted letter by letter upon copper by Monsieur Thevenot. I saw the print thereof: it is wrote long-ways the roll and not cross, in three columns: the column in the middle is three times as long as the two end columns. The roll is not above a foot broad.

They shewed us also in this house the apartment of Monsieur Huygens, which was very noble, and well for air, upon the garden: but here he fell melancholy, and died of it in Holland. He shewed the first tokens of it by playing with a tame sparrow, and neglecting his mathematic schemes. It is certain, life and health of body and mind are not to be preserved, but by the relaxation and unbending the mind by innocent diversions. For sleep is nothing else that I know of, but the giving up the reins, and letting nature to act alone, and to put her in full possession of the body. We have a convincing instance of this, in being in bed awake. No man can lie still scarce three minutes without turning; and if it come not presently upon us, we must turn again and again, and at length we become so intolerably weary, that our bed is a very rack to us. Whereas, if we chance to fall asleep, though we lie in one and the same posture seven hours, we shall wake fresh and without pain, as though the body did not weigh at all upon itself in sleep. It is certain, the nerves and muscles are in little or no tension in sleep; but when we are awake, are always stretched and compressed, whence weariness: which, if upon our feet or sitting, we are not sensible of, because we remove quick and with ease, and of course; but laid, we soon find ourselves very uneasy, till we change the posture.

But this is not all in the king's library: there are other things to be seen, viz. a considerable number of ancient Roman and Egyptian antiquities; as lamps, pateras, and other vessels belonging to the sacrifices; a sistrum or Egyptian rattle with three loose and running wires cross it.

Amongst the great variety of Egyptian idols, there was one betwixt two and three feet long of black touch-stone, with hieroglyphics engraven down before. I took particular notice of the grain of this stone; and at my return, having had the honour of a paper from Mr. Molyneux from Dublin, giving an account of the vast and stupendous natural pillars to be seen in Ireland, some of them of fifty feet high, and thick in proportion, and that the stones or joints, which constitute these pillars, are of the Lapis Lydius, or Basaltes kind, having seen one of the joints at Gresham college, I easily agree with him; but much admire that the pebble kind should produce such regular figures; which is certainly the very hardest stone to be found in Europe, and which no tool of ours will cut.

This also is another instance (the carved obelisks being one) of the different make and goodness of the Egyptian chisels, of which, and of the retrieving the ancient temper of steel, I have published a discourse in the Ph. Transactions some years ago.

I should have had more satisfaction in this kind, had I met with what I earnestly sought for, the Egyptian tombs, which were a long time in the garden of Monsieur Valentine at Paris; but were unluckily sent away to his house at Tours, not long before our coming to Paris. One of these tombs is said to be of black touch-stone, to have been brought out of the higher Egypt, and to be full of hieroglyphics. Of this in particular Kircher has written.

There is in this collection a large piece of tin ore from England, very curious; it has on one side of it a great number of fair and large opaque crystals of tin, shining like polished steel. The planes of those crystals I could not easily reckon; but sure I am, having with care examined all the stone crystals I could meet with, both precious and more common, and also the crystals of all fossil salts, I never before observed that figure in any of them, but believe them of a peculiar nature, proper to tin ore. I call them crystals, though opaque, because angular and of one constant figure.

I was at the college of Clermont with Pere Hardouin: he shewed me the library with great civility; it consists of two long galleries; the galleries are well furnished with books, having lights only on one side, and the windows are not over large; with tables under each light, very commodiously placed for writing and reading. Also certain closets for manuscripts, and others for forbidden books. In this he shewed me a great collection of Jansenius's original letters. In the other a Greek manuscript of the prophets, of Eusebius's own hand writing; it was in capitals, but of a different character from any I had seen: the letters very erect, but something thinner, and not so square.

Also a vulgar Latin in capitals, very ancient.

I told him I was well pleased with his Pliny in usum Delphini; and that it was to the honour of the French nation to have laboured more particularly upon that author; Dalechampius first, then Salmasius's Exercitationes Plinianæ; and lastly, this his most elegant edition.

The books are well disposed under gilt titles, as Medici in folio, and over against them, where the windows will permit, the Medici in quarto: in the other gallery runs a balustrade, within which are placed the octavos and twelves.

At one end of the upper gallery is a very large tableaux, an original of Nicolo, of the massacre of Agamemnon; in it there is this commendable, that in such a horrid fury, and such variety of murders in half naked figures, no one indecent posture is to be seen.

Pere Hardouin seemed to doubt of the Inscription of Palmyra put out by M. Spon; that the Greek was faulty, and the Syriac very questionable. I told him we had had it

lately copied, carefully and truly by one at Rome : which took away his objection of the multiplicity of letters.

Both he and Vallant agreed, that they had never seen any medal of Oedenatus. He very obligingly answered my memoir about Palmyra, Zenobia, and Vabalathus, with a transcript of all the coins he had seen, and had in his possession : which follows :

Nummi Zenobiæ.

CEPTIMIA ZHNOBIA CEB. R. Spes. est apud Seguinum, p. 62.

Oedenati nullum vidi, nisi apud Oconem, nullum Palmyrenum.

Vabalathi apud Com. Foucalt, rei ærariæ ac judiciaræ Præfectum in Neustria inferiore.

A. K Δ. ΔOM. ΑΥΡΗΛΙΑΝOC. CEB. capite laureato. Sub ipsum Aureliani mentum  
litera L. absque anni numero.

R. ΑΥΤ. ΕΡΜΙΑC ΟΥΑΒΑΑΑΘOC ΑΘΗΝΟΥ. capite radiato.

ΑΥΤ. Κ. Α. Δ. ΑΥΡΗΛΙΑΝOC CEB. capite laureato. L. A.

R. ΑΥΤ. ΕΡΜΙΑC. ΟΥΑΒΑΑΑΘOC. ΑΘΗ. capite diademate L. Δ.

ΑΥΤ. Κ. Α. Δ. ΑΥΡΗΛΙΑΝOC. CEB. capite laureato. L. B.

R. ΑΥΤ. ΕΡΜΙΑC. ΟΥΑΒΑΑΑΘOC. ΑΘΗΝΟΥ. capite diademate. L. E.

IMP. C. AURELIANVS AVG. capite radiato.

R. VABALATHVS VCRIMPR. alii male VCRIMOR. sic olim interpretatus sum.

Vice Cæsaris, rector imperii Romani.

IMP. C. VHABALATHVS AVG. capite radiato.

R. VICTORIA AVG. victoria gestat palmam & coronam.

The library of the Grand Jesuits, near the gate St. Antoine, is a very fair gallery of great length and breadth, and well furnished with books, on the very top of the house. They find, that books keep much drier and sweeter there, than in lower rooms, besides the advantage of a clear sky-light.

P. Daniel is library keeper, and was very civil to me; he shewed me a letter, which he had just then received from Monsieur Huetius, the learned bishop of d'Auranches near Mont St. Michael's in Normandy; wherein he told him, that having lately received the catalogues of books printed in Holland and England during the war; he found, that learning was much alike at a kind of stand in Holland and France; but, that it had yet life and vigour in England, which he rejoiced at.

And, indeed, I had had the same thought from more of the French before. Even the Jesuits themselves will be little considered, if learning fall into neglect and disgrace. Oratory ceased with the commonwealth of Rome; and so will all sorts of learning without emulation and rewards.

He shewed me P. de ly Chaise's cabinet of medaks.

Also a vestal of copper found at Dee in the country of le Forest.

Also a very entire loaf or Roman ten pound weight of red copper, on which was inscribed Deæ. Sec. P. X.

Also a square stone urn, or small tomb, well carved and inscribed

D. M.  
SVLPICIO  
NOTO. ADESTE  
SVPERI.

I saw the choir of the abbey of St. Germain's, and the altar near the lower end of it; in which position also I remember to have seen an altar in the choir of St. John's

church at Lyons; both plain tables. Mons. l'abbé de Villiers, who has an apartment in the convent, a learned man, went with me, and to the library also; which is two large galleries well furnished; at the end of one of them is a large closet of manuscripts; also another armoir in the great library, where the most ancient manuscripts are kept, yet with more care. In this I saw the psalter, as it is believed, of St. Germain, who lived in the sixth century; it is certainly very ancient; being a large quarto of fine purple vellum, and on it are wrote the psalms in large capital letters, with commas or points. The letters seem to have been of silver; and the great initial capitals of gold.

They shewed also a psalter in the short notes of Tyro, Tullius's Libertus; with a discourse concerning the use of such short hand in the beginning of the manuscript; it was wrote very fair on vellum, with red ink, as I remember.

The codicils or waxen table books of the ancients; which were thin cedar boards about fourteen inches long, and five broad, six or eight of them glued together by shreds of parchement: the rims were a little raised, with a flat and broad border, the better to preserve the black wax, which was spread over them. I saw more of these afterwards in the king's library; and by the letter it is manifest, they were in use much later than I could have imagin'd. This was in Latin, and I could read here and there a word, for the ground was much torn up, as *Pro duobus Falconibus*, &c. The style or steel pen had cut through in many places; so that with a good eye-glass I could see the board bare. I take this paste to be nothing else, but what the etchers in copper use at this day to cover their plates with, to defend from the aqua-fortis; which is a composition of bitumen and bee's wax.

Here also I saw a manuscript of three or four leaves written upon true Egyptian paper, in which with an eye-glass it was easy to discern, how the flags were disposed, lengthways and across one over another. The letters which remained, which were but few, were large and fair square capitals. This fragment I take to be the most ancient writing they have.

I visited in this convent, at his chamber Pere Mabillon, who has so well deserved of the commonwealth of learning by his writings, and particularly that excellent book *De Re Diplomatica*; he seemed to me to be a very good natured and free-hearted man; and was very well pleased to hear, that our catalogue of English manuscripts was so forward in the press at Oxford. He thankfully owned the favour of the Cotton library; and was very sorry to hear of Dr. Bernard's death, of whom he spoke very kindly; but he expressed a wonderful esteem for Dr. Gale, the dean of York.

In another conversation I had with P. Mabillon (for he was my neighbour, and I was often with him) telling him the account we had brought us of Palmyra, and the traets that were written of it, and that more was intended to be published about it: he was much concerned, that those accounts, which were pure matters of learning in general, were written in English; and he told me, he was afraid it might be with us, as it was with them, since they cultivated their own language so much, they began to neglect the ancient tongues, the Greek and Latin.

He shewed me certain figures not ill taken with red chalk, of some very ancient monuments observed by some of the fathers of their order; one of which was present in the chamber, upon the mountain of Framond near Salme, which lies in the middle of that tract of the mountain, called la Vague, betwixt Alsace and Lorraine. There were great remains of an ancient city. These figures, which the fathers shewed me, were about twelve in all; but five or six of them were of Mercury; a cock at his foot; a chlamys knotted upon the right shoulder, hanging at his back; his hair laid in curls about his face, and tied with a ribband, whose two ends might be seen on the

top of his head, like horns; a caduceus in his hand, which was very differently represented in all the figures of him; sometimes held up, other times the point resting at his feet; sometimes the snakes were twisted about a stick; and again in others without one, or the designer had taken no notice of it; sometimes the tail of the serpent spread and flying about, and again in others close twisted with many braids; a girdle came round the bottom of his belly, and which had in the middle of it two rings, one fastened to the other, and hanging betwixt his legs. These many statues of Mercury in a French country are a confirmation of what Cæsar says of the religion of the Gauls, in his sixth book, *Deum maxime Mercurium colunt; hujus sunt plurima simulacra.*

There were some few Roman letters on some of them, which were so imperfect, that I could make nothing of them.

The library of St. Genevieve is a very large and fair gallery, upon the very top of the house, well stored with books on both sides up to the top, and kept in cases wired with brass; which is a good security, and hinders not the books from being seen.

Also it is adorned with fair bustos of the ancient men of learning.

The museum is a little closet on the side of this gallery; of which there is a book lately published: I saw in it very little of natural history, that was remarkable. They keep half a dozen joints of a large cornu ammonis, which they shew as a rarity. But it is well stored with ancient idols, and sacrificing vessels, lacrymatoirs, pateras, strigils; also ancient weights and measures; coins, and particularly the As, and its first and latter divisions.

There we saw an ancient As, with Etruscan letters of a kind of red copper; the letters seem to be a kin to the old Greek characters. These are the capital letters about the coin going round, and bringing every letter before you.

As quasi Æs: this is very reasonable; for before the Greeks had invented double letters, the Romans were skilled in their writing. So Vitruvius\* tells us Ærugo was in the Etruscan tongue called Eruca. Whence undoubtedly by translation the common caterpillar had its name, from its blueness; which also is an evidence, that the Tuscan writing was in the old Greek character.

But nothing pleased me more than to have seen the remains of the cabinet of the noble Pieresc: the greatest and heartiest Mæcenas, to his power, of learned men of any of this age.

Amongst the first and very old brass Roman coins there was a sextans, with a caduceus of Mercury on one side, and a scallop shell on the other; probably, because they might have at first had the use of shell money, as some parts of both the Indies and Africa have at this day, till Mercury, whose emblem that staff is, taught them the use of metallic money.

Also in this cabinet are wet measures, as the ancient congius, of which they have an old one, and an exact copy of that of the capitol; also a sextarius, and a quartarius. Now the congius containing 120 ounces; the sextarius 20 ounces; the hemina ten ounces; the quartarius five ounces. I doubt not, but the cyathus, by reason of the aforesaid division, held two ounces and an half; which is the measure, so frequently to be met with in old physic authors, and of so great concern in doses.

In that Etruscan as before mentioned, one cap coifs or covers the double head of Janus. I saw an ancient statue of Mercury in the garden belonging to the king's library in Paris, where Mercury has upon his head a long cap doubled, or laid double

\* De Architect. 1. 7. c. 2. Ed. Barbari.

upon his head, as though there were some affinity betwixt those two inventors of trade, arts and learning.

Here also we saw the steel dyes of the Paduan brothers, by which they stamped and falsified the best ancient medals so well, that they are not to be distinguished but by putting them into those moulds; which makes them very valuable, there being 100 and more of them, and are prized at 10,000 crowns. They stamped upon old medals whereby the cheat was the greater; for by this means they were of the ancient metal, had the green coat, and the same ragged edges.

I saw a picture here of about six inches over, finely painted in Mosaic, the very little squares were scarcely visible to the naked eye, but the whole appeared like the finest hatchings in stamps; yet by the application of a good eye-glass, I could readily distinguish the squares of all colours, as in other Mosaics. This sort of painting has a very admirable effect, besides the duration.

Here was also the leg of a mummy well preserved, the toes only bare, black and shining as pitch: the bandage was very curious, and was disposed in oblique circles, decussated; but the filleting very narrow. I told the father, that it was still flesh; and that mummy therefore in Venice treacle did break lent, if given at that time: he answered, he did not believe it: I told him how he should be convinced, viz. if that leg was kept a good while in a damp cellar, it would yield and stink like very carrion, though it was at least 3000 years old; which thing happened to one in London, so carelessly laid by.

There was one thing very curious, and that was an ancient writing instrument of thick and strong silver-wire, wound up like a hollow bottom or screw; with both the ends pointing one way, and at a distance; so that a man might easily put his fore-finger betwixt the two points, and the screw fills the ball of his hand. One of the points was the point of a bodkin, which was to write on waxed tables: the other point was made very artificially, like the head and upper beak of a cock, and the point divided in two, just like our steel pens; from whence undoubtedly the moderns had their patterns; which are now made also of fine silver and gold, or princes metal; all which yet want a spring, and are therefore not so useful as of steel, or a quill: but a quill soon spoils. Steel is undoubtedly the best, and if you use China ink, the most lasting of all inks, it never rusts the pen, but rather preserves it with a kind of varnish, which dries upon it, though you take no care in wiping of it.

I saw the library of the late Monsieur Colbert, that great patron of learning. The gallery, wherein the printed books are kept, is a ground-room, with windows on one side only, along a fine garden. It is the neatest library in Paris, very large and exceedingly well furnished. At the upper end is a fair room, wherein the papers of state are kept; particularly those of the administration of Cardinal Mazarine, and his own accounts, when he was in employment. These make up many hundred folios, finely bound in red maroquin and gilt.

The manuscript library is above stairs, in three rooms, and is the choicest of that kind in Paris: It contains 6610 volumes. The catalogue of them Monsieur Baluze shewed me; which he said was designed shortly for the press.

He shewed me many rare books, Carolus Calvus's bible, a vast folio in vellum, and his prayer book or hours, all writ in gold letters.

Also the Missa Beati Rhenani, whereof all the copies were burnt but four. The original deed of the agreement of the Greek and Roman church at Florence, the Regalia agreed upon at Lyons, and many others, which I have forgot.

I saw neither Greek nor Latin manuscript, but what had the marks of the Goths upon them: that is, the letters maimed, and consequently not very ancient.

He shewed us Servieto's book, for which he was burnt at Geneva; which cost Monsieur Colbert at an auction in England twenty-five crowns. The title is, *De Trinitatis Erroribus Libri 7. per Michaellem Servieto alias Revos ab Aragonia Hispanum 1531.* I had forgot the particular place where the circulation of the blood through the lungs is mentioned; but he told me very civilly, I should have it transcribed at any time.

We told him, we came to see him as well as the library: he replied, it was his hap to have more reputation than merit. He was a little old man, but very cheerful, and of a quick wit.

He complained much of the refusal of the emperor's people concerning the manuscripts of Vienna, in order to the publication of the capitulaires: for he said, letters were never at war: that for his part he had most willingly given leave for at least twenty-four manuscripts to be collated for Dr. Mill's edition of the New Testament.

The library of the Sorbonne is a very long and large gallery, reasonably well stored with books; no catalogue printed.

Amongst the manuscripts, they shew, Titus Livy in French, upon vellum, in a very large folio, bound in two books: the first is almost throughout illuminated with very fine miniatures. The book is dedicated to king John, by Peter Berchorius: and in the title page is a very curious design of that king receiving the present from the author of the translation.

Amongst the illuminations and ornamental pictures in the margin, I could not but take notice of a brass cannon fired, well painted, with two large arms or gudgeons one on each side near the touch-hole; which evinces cannon to have been in use at that time.

This manuscript confirms the loss of Titus Livy, and that it was deficient in that age, as to what is now wanting, there being nothing more in this than what is in the printed copy. This was the gift of cardinal Richelieu to the library; who in a manner rebuilt the whole college, and beautified it as it is. His tomb is in the middle of the choir, before the great altar, in white marble; and is for plainness and exquisite performance, the best thing of that kind I ever saw.

I saw the library of St. Victor: this most ancient convent is the best seated of any in Paris; has very large gardens, with shady walks, well kept. The library is a fair and large gallery; it is open three days a week, and has a range of double desks quite through the middle of it, with seats and conveniences of writing for forty or fifty people.

The catalogue was not finished, nor intended to be printed; which yet I think is always necessary in all corporations, for check of loss of books, for the use of strangers, for benefactions.

In a part of it, at the upper end, are kept the manuscripts; they are said to be 3000; which, though not very ancient, have yet been found very useful for the most correct editions of many authors. This is one of the pleasantest rooms that can be seen, for the beauty of its prospect, and the quiet and freedom from noise in the middle of so great a city.

In this convent is very prettily lodged, in an outward court, Monsieur Morin, another physician of that name. In his apartment, he hath a large and excellent collection of physic books and natural history. He saluted me with the greatest kindness imaginable; and at first word, asked me, if there was any more of Sir Francis Willoughby's works printed besides his history of fishes, and that other of birds; both which he had. He had in another room a well stored museum of natural history, of all sorts, and of comparative anatomies: a cabinet of shells, another of seeds, among which were some from China: variety of skeletons, &c.

I saw the Celestins. The library is an upper gallery, very pleasant, and plentifully furnished with books. This is a very fine convent; with the noblest Dortoire, having open galleries round: also, very large gardens, with alleys and shady groves; and divers kitchen-gardens, well cultivated. Also a vineyard of white-wine grapes, well kept; which is the only thing of that kind within the walls of Paris.

Here I also saw the closet or cell of P. Hocheureau; who had a very choice collection of original paintings, of very many of the best masters: amongst the rest, I took notice of the originals of Rembrant, excellent pieces. St. Peter and the cock: the nativity of our Saviour: and the massacre of the innocents. His colouring is not to be imitated: his invention great and natural, and the design most correct.

I was to visit Pere Mallebranche of the fathers of the oratory: they live very neatly together in a kind of community, but under no rule: he was very handsomely lodged, in a room well furnished: he is a very tall, lean man, of a ready wit and cheerful conversation.

After an hour's discourse, he carried me into the public library of the house: a fair gallery well lighted, and well furnished with books; with an apartment at the upper end for manuscripts, where were many Greek and Hebrew. Amongst the rest, the library-keeper shewed us the Samaritan Pentateuch, of which Morin made use. It seemed to me to be much later than that of Sir John Cotton's library with us, because it was of a much smaller letter, and more broken in the writing, which was all I am capable to judge by.

They were busy in reforming the disposition of the library; and making a good catalogue, according to the method of the late archbishop of Rheims; and which I liked well of, they had drawn out some hundreds of books, and exposed them in the middle of the library, upon a long table, for sale, as being duplicates; and from the sale of them to furnish themselves with what they wanted.

The books which were written by protestants, I observed, they were locked up in wire cases, not to be come at without particular leave.

The freedom and nature of this order puts me in mind of what I heard of a certain rich and learned man, Monsieur Pinet, of the law; who put himself at length into religion, as they say, amongst the fathers; but first persuaded his cook to do so too; for he was resolved not to quit his good soups, and such dishes as he liked, whatever became of his penance and retirement. This compliment the elegant and learned Monsieur Peletier, in Monsieur Colbert's place, comptroller general of the finances made his guests at his country house near Choisy, having voluntarily quitted all his employments at court: he said, he reserved his cook, though he retrenched the rest of his retinue; they might therefore expect a slender philosopher's dinner, though well drest.

It is wonderful to consider how most of the rest of the orders abuse themselves for God's sake, as they call it. Hunger and ill diet not only destroys a man's health, but mangles all his devotion, put him out of humour, and makes him repine and envy the rest of mankind: and well if it do not make him also curse in his heart his Maker; Job is not every man's roll to act. The origin and rise of natural philosophy and physic was to invent a more wholesome and better food, than the beasts have, and to eat bread and flesh instead of herbs and corn; to drink wine instead of water; those and a thousand other things were the blessings of physic, and still the good management of these things, both in health and sickness, are under the directions of the physicians. Now for a sort of melancholy and wilful men, to renounce these comforts,



and destroy their healths, and all this upon a pretended principle of religion and devotion, seems to me, I confess, great ingratitude to God the author of it.

Indeed I heartily pitied F. P. an industrious honest man, after his return from the Indies, who was nothing but skin and bone; and yet by the rules of his order he could not eat any thing that was wholesome and proper for his cure; nothing but a little slimy nasty fish and herbs: and though he took, as he told me, hypocochoana five times, it had no effect upon him. It is true, I never heard him complain; but what will not blind prejudice do against all the reason of mankind!

I know some of these men have been useful to mankind by their studies; but the very same men would have been much more, had they staid with their neighbours, and taught the world by their conversation and example; wisdom, and justice, and innocence, and temperance, which they highly pretend to, are not things to be hid in corners, but to be brought forth to instruct and adorn the age we live in: to abandon the world, and all the conveniences of life and health, is (let them say what they please) the height of chagrin, and not religion.

There were some other public libraries I saw, as that of the Grand Augustins, College Mazarin, College Navarre, and a great many more I did not see for want of an opportunity; but there is nothing particular I remember about them.

There is such a passion of setting up for libraries, that books are come to most unreasonable rates.

I paid to Anisson thirty-six livres for Nizoleus; twenty livres for the two small quartos of the memoirs of the Academie de Sciences, that is, as I may say, for two years philosophic transaction; for they began those monthly memoirs in imitation of ours, out of the registers of the academy, but did not think fit to continue them above two years.

As to stamps, I had a mind to have bought a complete set of Melans, that incomparable master; but I was asked 200 livres, and twelve excepted, which might amount to as much more; for some of his gravings in octavo done at Rome, they asked me a pistole a-piece; and for the head of Justinianus a louis; which yet is his master-piece.

I was at an auction of books in the Rue St. Jaques, where were about forty or fifty people, most abbots and monks. The books were sold with a great deal of trifling and delay as with us, and very dear; for Hispania illustrata Aud. Sciotti, of the Frankfurt edition, from twenty livres, at which it was set, they bid up by little and little to thirty-six livres; at which it was sold. The next was a catalogue of French books in thin fol. in an old parchment cover by De la Croix de Maine, eight livres. And so I left them to shift it amongst themselves.

After having said so much of the public libraries, I cannot but congratulate their happiness, to have them so well secured from fire; it being one of the perfections of this city to be so built and furnished, as not to have suffered by it these many ages; and, indeed, I cannot see how malice itself could destroy them, for the houses here are all built of stone, walls, floors, staircases and all, some few rooms excepted; no wainscot; woollen or silk hangings, which cannot be fired without giving notice by the intolerable stench, and the supply of much fuel. It is well for us in London, that there are very few public libraries, and those small and inconsiderable, and that the great number of books are distributed into a thousand hands (no country in Europe can compare to us for private libraries) for if they were together in such vast quantities as in Paris, learning would run the hazard of daily suffering. Here with us, methinks, every man that goes to bed, when asleep, lies like a dead Roman upon a funeral pile, dreading

some unexpected apothecosis ; for all is combustible about him, and the paint of the deal boards may serve for incense, the quicker to burn them to ashes.

In the next place I will account for what I saw, that seemed to me singular and new in the improvement of arts, or wanting in our country.

I saw the pottery of St. Cloud, with which I was marvellously well pleased, for I confess I could not distinguish betwixt the pots made there, and the finest China ware I ever saw. It will, I know, be easily granted me, that the paintings may be better designed and finished (as indeed it was) because our men are far better masters in that art than the Chinese ; but the glazing came not in the least behind theirs, not for whiteness, nor the smoothness of running without bubbles ; again, the inward substance and matter of the pots was to me the very same, hard and firm as marble, and the self same grain, on this side vitrification. Farther, the transparency of the pots the very same.

I saw them also in the mould, undried, and before the painting and glazing was applied, they were as white as chalk, and melted upon the tongue like raw tobacco-pipe clay, and felt betwixt the teeth soft like that, and very little gritty ; so that I doubt not but they are made of that very clay.

As to the temper of the clay, the man freely owned to me, it was three or four times well beaten and wet, before it was put to work on the wheel ; but I believe it must first be melted in fair water, and carefully drawn off, that the heaviest part may first sink ; which also may be proper for coarser works.

That it required two, and sometimes three or four fires to bake it, to that height we saw it in the most finished pots ; nay some of them had had 11 fires.

I did not expect to have found it in this perfection, but imagined this might have arrived at the Gomron ware ; which is indeed little else but a total vitrification ; but I found it far otherwise, and very surprising, and which I account part of the felicity of the age to equal, if not surpass, the Chinese in their finest art.

As for the red ware of China, that has been, and is done in England, to a far greater perfection than in China, we having as good materials, viz. the soft hæmatites, and far better artists in pottery. But in this particular we are beholden to two Dutchmen, brothers, who wrought in Staffordshire (as I have been told) and were not long since at Hammersmith.

They sold these pots at St. Cloud at excessive rates ; and for their ordinary chocolate cups asked crowns apiece. They had arrived at the burning on gold in neat chequer works. He had sold some furnitures of tea tables at 400 livres a set.

There was no moulding or model of China ware, which they had not imitated ; and had added many fancies of their own, which had their good effects, and appeared very beautiful.

Monsieur Morin in conversation told me, that they kept their sand as a secret to themselves ; but this could not be for other purposes than colouring ; also he said they used salt of kelp in the composition, and made a thing not unlike frit for glass, to be wrought up with white clay ; neither could this be, for I did not taste it in the raw pots.

The ingenious master told me, he had been twenty-five years about the experiment, but had not attained it fully till within these three years. I and other gentlemen brought over of these pots with us.

The glass-house out of the gate of St. Antoine well deserves seeing ; but I did lament the foundery was no longer there, but removed to Cherborne in Normandy for cheapness of fuel. It is certainly a most considerable addition to the glass-making. For I

saw here one looking-glass foiled and finished, eighty-eight inches long, and forty-eight broad, and yet but one quarter of an inch thick. This I think could never be effected by the blast of any man; but I suppose to be run or cast upon sand, as lead is; which yet, I confess, the toughness of glass metal makes very much against.

There they are polished: which employs daily six hundred men, and they hope in a little time to employ one thousand in several galleries. In the lower they grind the coarse glass with a sand-stone, the very same they pave the streets in Paris; of which broken they have great heaps in the courts of the work-houses: this stone is beat to powder, and sifted through a fine tamis. In the upper gallery, where they polish and give the last hand, they work in three rows, and two men at a plate, with ruddle or powdered hæmatites in water.

The glasses are set fast in white putty, upon flat tables of stone, sawed thin for that purpose. The grinding of the edges and borders is very troublesome, and odious for the horrid grating noise it makes, and which cannot be endured to one that is not used to it; and yet by long custom these fellows are so easy with it, that they discourse together as though nothing were. This is done below, and out of the way of the rest.

It is very diverting to see the joint labour of so many men upon one subject. This has made glass for coaches very cheap and common; so that even many of the fiacres or hackneys, and all the remises have one large glass before.

Amongst the bioux made at Paris, a great quantity of artificial pearl is to be had, of divers sorts; but the best are those which are made of the scales of bleaks. These bleaks they fish in the river Seine at Paris, and sell them to the pearl-makers for that purpose.

Monsieur Favi, at the Pearl d'Angleterre, told me, that he paid for the fish only of the little river Yier of Ville Neuve St. George, four leagues off of Paris, by the year 110 pistoles. This fish in French is called de la Bellette; sometimes in winter he has had thirty hampers of the fish brought him, for the scales only, which he uses in pearl-making. He sells some strings for a pistole; and they have formerly been sold much dearer. This sort is very neat and lasting.

Inquiring of a goldsmith, a great dealer in pearl, about those which were made of the scales of fishes, he told me that it was so; that the scales were beat to powder, and that made into a liquid paste with ising-glass, and cast into the hollow glass beads, and so gave the colour by way of foil from the inside.

I asked him if he had any fresh-water and muscle pearl; and he forthwith shewed me one of twenty-three grains, of a bluish colour or faint carnation, perfectly globular; he told me, he valued it at 400l. for that it would mix or match better with the oriental sea pearl, than the bluish ones. Further, he assured me, he had seen pearl of sixty odd grains of fresh-water muscles; and some pear-fashioned. That in Lorraine, and at Sedan, they fished many pearls in the rivers thereabout.

The formerly so famous a work-house, the Goblins, is miserably fallen to decay; perhaps because the king, having furnished all his palaces, has little more to do for them.

Here I saw the making marble tables, inlaid with all sorts of coloured stones.

Also the Atteliers or work-houses of two of the famous sculptors Tuby; in which was a Laocoon copied in white marble admirably; also that other of Quoisivox, in which was, amongst other rare pieces, Castor and Pollux, in white marble, exceedingly beautiful and large; a copy also of the antique.

At Hubin's, the eye-maker, I saw drawers full of all sorts of eyes, admirable for the contrivance, to match with great exactness any Iris whatsoever; this being a case where mis-matching is intolerable.

He himself also formerly wrought in false pearl, and affirmed, that the glass pearls were painted within with a paste made of the scales of the bleak only; which he said was a good trade here to the fishermen, who sold the scales for so much the ounce. These necklaces were formerly sold at great prices, two or three pistols a-piece.

I saw the plâtrerie, or plaster quarries near Montmartre, and the manner of burning of it. It is burnt with open fire set up against it; the hardest stone is burnt enough in two or three hours' time.

The top band or bed is very hard like a free-stone: they distinguish the beds by several names, i. e. 1. Mutton, 2. Lane, 3. Buzier, 4. Clikar, 5. Grosban, 6. Pillier-noir, &c.

That which they call Lane is like Talk, or Selenites transparent, and splits in thin flakes; but there is but little of it, and the beds are small; this seems to be but a fluor to the greater beds of gray-stone. This rock is covered with a kind of gray sand to a great depth; which is not of the nature of plaster.

Though this plaster burnt is never used (that I could learn) to fertilize either corn-ground or pasture, as our lime-stone is; yet I see no reason why it may not, it being full of nitre, if it has lain long in damp eaves.

This is not peculiar to Paris only: for I have seen quarries of it near Clifford-Moore in Yorkshire; where it is called hall-plaster.

I cannot omit the mill-stones, which they grind their wheat with at Paris, as upon the river of the Gobelins, out of the gate St. Bernard, where it falls into the Seine, and all throughout Picardy down to Calais, where I have seen great numbers of them.

These mill-stones are very useful, and so sweet, that not the least grit is ever found in their bread: they are mostly made up of pieces, two, three, or more set together by a cement, and hooped round with iron to keep the pieces fast together. They are made of a kind of honey-comb stone, wrought by the petrification of water, or stalactites. The very self-same stone I have seen rocks of on the river banks at Knaresborough, at the dropping-well in Yorkshire; therefore I advise my countrymen to put these excellent stones in practice; for certainly no place stands in more need of it; for the bread in the north of England is intolerably gritty, by reason of those sand or moor stones with which they grind their corn.

These stones are sold at 500 livres a pair; whence they come I forgot to be informed.

In the next place, we will see how the Parisians eat, drink, and divert themselves.

#### OF THE FOOD OF THE PARISIANS.

The diet of the Parisians consists chiefly of bread and herbs; it is here as with us, finer and coarser. But the common bread, or pain de gonesse, which is brought twice a week into Paris from a village so called, is purely white, and firm, and light, and made altogether with leaven; mostly in three pound loaves, and 3d. a pound. That which is baked in Paris is coarser and much worse.

As for the fine manchet, or French bread, as we call it, I cannot much commend it; it is of late, since the quantity of beer that is brewed in Paris, often so bitter, that it is not to be eaten, and we far exceed them now in this particular in London.

The gray salt of France (which there at table is altogether in every thing made use of) is incomparably better and more wholesome, than our white salt. This I the rather mention, because it seems not yet to enter fully into the consideration and knowledge of our people; who are nice in this particular to a fault. But I must take leave to tell them, that our salt spoils every thing that is intended to be preserved by it, be it fish or flesh. For whether boild from the inland salt-pits, or the sea water, it is little less than quicklime, and burns and reeses all it touches; so that it is pity to see so much good fish, as is caught upon the northern line of coast, particularly the cod and ling, and herring, now of little value, which were formerly the most esteemed commodities of England. It is certain, there is no making good salt by fierce and vehement boiling, as is usual; but it must be kernal either by the heat of the sun, as in France; or by a full and over-weighty brine, as at Milthrope in the Washes of Lancashire; for in no other place in England I ever saw it right made; but yet that is not there understood to purpose; for they also boil the brine, which possibly by some slight artifice might be brought to give its salt without stress of fire.

In lent the common people feed much on white kidney beans, and white or pale lentils, of which there are great provisions made in all the markets, and to be had ready boiled. I was well pleased with this lentil; which is a sort of pulse we have none of in England. There are two sorts of white lentils sold here, one small one from Burgundy, by the cut of Briare; and another bigger, as broad again, from Chartres; a third also much larger, is sometimes to be had from Languedoc. Those excepted, our seed shops far exceed theirs, and consequently our gardens, in the pulse-kind for variety; both pea and bean.

The roots differ much from ours. There are here no round turnips, but all long ones and small; but excellently well tasted, and are of a much greater use, being proper for soups also; for which purpose ours are too strong: we have indeed of late got them into England; but our gardeners understand not the managing of them. They sow them here late after midsummer; and at martinmas or sooner, before the frost begin, they dig them up, cut off the tops, and put them into sand in their cellars, where they will keep good till after Easter, nay till Whitsuntide; whereas, if the frost take them, they are quite spoiled; and that piece of ill husbandry makes them to be despised here; having lost their taste, and they soon grow sticky in the ground. The sandy plains of Vaugerard near Paris are famous for this sort of most excellent root. After the same manner they keep their carrots.

After we had been two or three days' journey in France, we found no other turnips, but the navet; and still the nearer Paris the better. These as I said, are small long turnips, not bigger than a knife-haft, and most excellent in soups, and with boiled and stewed mutton. I think it very strange that the seed should so much improve in England, as to produce roots of the same kind six or ten times as big as there; for I make no question but the long turnips, of late only in our markets, are the same.

The potatoe is scarce to be found in their markets, which are so great a relief to the people of England, and very nourishing and wholesome roots; but there are stores of Jerusalem artichokes.

They delight not so much in cabbage as I expected, at least at the season, while we were there, from December to Midsummer. I never saw in all the markets once sprouts, that is, the tender shoots of cabbages; nor in their public gardens any reserves of old stalks. The red cabbage is esteemed here, and the savoy.

But to make amends for this, they abound in vast quantities of large red onions and garlick. And the long and sweet white onion of Languedoc are to be had also here. Also leeks, rockhamboy, and shallots are here in great use.

It has been observed, that the northern people of Europe much delight in cabbage, as the Russes, Poles, Germans, &c. It is certain, the cabbage thrives best in cold countries, and is naturally a northern plant, and the keel is to be found wild upon the maritime rocks, as I have seen it at Whitby, and the cold ripens it, and makes it more tender and palatable.

The southern people are pleased with the onion kind, for the same reason, for that the great heats meliorate them, but give a rankness to the cabbage. The leeks are here much smaller than with us; but to recompence this, they are blanched here with more care and art, and are three times as long in the white part, which is by sinking them early so deep in mellow earth. There is no plant of the onion kind so hardy as this, and so proper for the cold mountains, witness the use the Welsh have made of them from all ages; and indeed it is excellent against spitting of blood, and all diseases of the throat and lungs.

Though the lettuce be the great and universal sallad, yet I did not find they came near our people, for the largeness and hardness of them; indeed, about a week before we left Paris, the long Roman lettuce filled their markets, which was incomparable, and I think beyond our Silesian.

April and May the markets were served with vast quantities of white beets, an herb rarely used with us, and never that I know of, in that manner for soups. The leaves grow long and large, and are tied up, as we do our Silesian or Roman lettuce to blanch, and then cut by the root. The stalks are very broad and tender, and they only are used, stripped of the green leaves. They cook those stalks in different manners.

The asparagus here are in great plenty, but for the first month they were very bitter and unpleasant; from whence that proceeded I cannot guess; afterwards I did not much perceive it.

They are so great lovers of sorrel, that I have seen whole acres of it planted in the fields; and they are to be commended for it; for nothing is more wholesome, and it is good to supply the place of lemons, against the scurvy, or any ill habit of the body.

But after all, the French delight in nothing so much as mushrooms, of which they have daily, and all the winter long, store of fresh and new gathered in the markets. This surprised me; nor could I guess, where they had them, till I found they raised them on hot beds in their gardens.

Of forced mushrooms they have many crops in a year; but for the months of August, September, October, when they naturally grow in the fields, they prepare no artificial beds.

They make in the fields and gardens out of the bar of Vaugerard (which I saw) long narrow trenches, and fill those trenches with horse dung two or three feet thick, on which they throw up the common earth of the place, and cover the dung with it, like the ridge of a house, high pitched; and over all they put long straw or long horse litter. Out of this earth springs the champignons, after rain; and if rain comes not, they water the beds every day, even in winter.

They are six days after their springing or first appearance, before they pull them up for the market.

On some beds they have plenty, on others but few, which demonstrate they come of seed in the ground; for all the beds are alike.

A gardener told me, he had the other year near an acre of ground ordered in this manner, but he lost a hundred crowns by it; but mostly they turn to as good profit as any thing they can plant.

They destroy their old beds in summer, and dung their grounds with them.

They prepare their new beds the latter end of August, and have plentiful crops of mushrooms towards Christmas, and all the spring, till after March.

I saw in the markets the beginning of April, fresh gathered moriglios, the first of that kind of mushroom, that I remember ever to have seen: though formerly I had been very curious and inquisitive about this kind of plant, and had distinguished and described thirty species of them growing in England; yet I do not remember ever to have found this species with us; it is blackish, and becomes much blacker when boiled, whence probably it had its name; but there are some few of them that are yellow. They are always of a round pyramidal figure, upon a short thick foot stalk. The foot-stalk is smooth, but the outside of the mushroom is all deeply plated and wrinkled like the inside of a beast's maw. The moriglio split in two from top to bottom is all hollow and smooth, foot, stalk, and all. In this hollowness is sometimes contained dangerous insects. The taste raw, is not ungrateful, and very tender. This mushroom seems to me to be produced of the tree kind.

This sort of mushroom is much esteemed in France, and is mostly gathered in woods at the foot of the oaks. There were some of them as big as turkey eggs. They are found in great quantities in the woods in Champagne, about Rheims, and Nostre Dame de Liesse.

They string them, and dry them; and they seem to me to have a far better relish than the champignons.

The French say, there are no bad moriglios; but there are bad mushrooms. At first I was very shy of eating them; but by degrees, and that there was scarce any ragouts without them, I became pleased with them, and found them very innocent. I am persuaded the harm that comes from eating them, is from the noxious insects and vermin that feed upon them, and creep into them. I have often found them full of such animals. Possibly the garden or forced mushrooms, being that is done in winter, and in the spring, may be much freer of this mischief, at what time insects are dead, or not much stirring, than the wild mushrooms of August.

The city is well served with carp, of which there is an incredible quantity spent in the lent. They are not large, and I think are the better for it, but they are very clean of mud, and well tasted.

They have a particular way of bringing fresh oysters to town, which I never saw with us; to put them up in straw baskets of a peck, suppose, cut from the shell, and without the liquor. They are thus very good for stewing, and all other manner of dressing.

There is such plenty of macreuse, a sort of sea ducks, in the markets all lent, that I admire, where they got so many; but these are reckoned and esteemed as fish, and therefore they take them with great industry. They have a rank fishy taste, yet for want of other flesh were very welcome. I remember we had at our treat at the king's charge at Versailles, a macreuse pie near two feet diameter, for it was in lent; which being high seasoned, did go down very well with rare burgundy. There is a better argument in Leewenhoeke for birds participating something of the nature of fish, though their blood is hot, than any the council of Trent could think of, and that is, that the globuli of the blood of birds are oval, as those of fishes are; but this will take in all the bird kind: which also in time those gentlemen may think fit to grant.

As for their flesh, mutton, and beef, if they are good in their kind, they come little short of ours, I cannot say they exceed them. But their veal is not to be compared with ours, being red and coarse; and I believe no country in Europe understands the management of that sort of food like the English. This was once proper to Essex;

but now it is well known, that nothing contributes more to the whiteness and tenderness of the flesh of calves, than often bleeding them, and giving them much food of milk and meal, besides sucking the dam. By much bleeding the red cake of the blood is exhausted, and becomes all white serum or chyle. The same effect cramming hath upon poultry, so as the blood is well near all chyle; and the livers of geese, so fed by force, will become for the same reason, vastly great and white and delicious.

I cannot but take notice here of a great prejudice the French lie under, in relation to our flesh. It is generally said amongst them, that our meat in England will not make so strong broth as the French by a third part. If they say not so salt and savoury, and strong tasted, I agree with them; and yet the French meat is never the better. For first their meat is mostly leaner and more dry, and (which is all in all in this matter of soups) is long kept before it be spent, which gives it a higher and salter taste; for as meat rots, it becomes more urinous and salt. Now our people, by custom, covet the freshest meat, and cannot endure the least tendency to putrefaction; and we had good reason to do so, because our air is twice as moist as theirs, which does often cause in the keeping of meat a mustiness, which is intolerable to all mankind. Whereas the air of France being so much drier, keeping of meat, not only makes it tender, but improves the taste. So that could we secure our meat, in keeping it from that unsavoury quality, it would far outdo the French meat, because much more juicy.

I do not remember I eat of above two sorts of flesh, but what we have as good or better in England, and that was of the wild pigs, and the red legged partridge. Of these last I eat at St. Cloud, taken thereabout; as to bigness, they are much degenerated from those in Languedoc, and less; but far excel the gray partridge in taste.

As for their fruits, our journey was in the worst time of the year, from December to Midsummer, so that we had little save winter fruits; some few bon chritens we tasted, not much better than ours, but something freer of stones. The Virguleus pears were admirable, but to our sorrow they did not last long after our arrival.

The Kentish pippin, as we call it, was here excellent; but two other sorts of apples stock the markets. The winter calvil or quening, which though a tender and soft apple, yet continued good till after Easter. Also the Pome d'Apis, which is served here for shew, more than use; being a small flat apple, very beautiful, very red on one side, and pale or white on the other, and may serve the French ladies at their toilets for a pattern to paint by. However this tender apple was not contemptible after Whitsuntide; and which is its property, it never smells ill, though the ladies keep it (as sometimes they do) about them.

I never met with any thing peculiar in their sweetmeats but a marmalade of orange flowers; which indeed was admirable. It was made with those flowers, the juice of lemons, and fine sugar.

#### THE WINES FOLLOW, AND WATER TO DRINK.

The wines about Paris are very small, yet good in their kind; those de Surene are excellent some years; but in all the taverns they have a way to make them into the fashion of Champagne and Burgundy.

The tax upon wines is now so great, that whereas before the war they drank them at retail at five-pence the quart, they now sell them at 1s. 3d. the quart, and dearer, which has enhanced the rates of all commodities, and workmen's wages; and also has caused many thousand private families to lay in wines in their cellars at the cheapest hand, which used to have none before.



The wines of Burgundy and Champagne are most valued, and indeed not without reason; for they are light and easy upon the stomach, and give little disturbance to the brain, if drawn from the hogshead, or loose bottled after their fashion.

The most esteemed are Vin de Bonne of Burgundy, a red wine; which is *dolce piquante* in some measure, to me it seemed the very best of wine I met with.

Volne, a pale Champagne, but exceedingly brisk upon the palate. This is said to grow upon the very borders of Burgundy, and to participate of the excellency of both counties.

There is another sort of wine, called Vin de Rheims, this is also a pale or gray wine; it is harsh, as all Champagne wines are.

The white wines of value are those of Mascon in Burgundy.

Mulso in Champagne, a small and not unpleasant white wine.

Chabri is a quick and sharp white wine, well esteemed.

In March I tasted the white wines called Condrieu, and d'Arbois, but found them both in the must, thick and white as our wines use to be, when they first come from the Canaries; very sweet; and yet not without a grateful flavour; they clear towards summer, and abate much of the flavour and sweet taste. Those wines thus in the must are called in the prints Vin des Liqueurs.

There is a preparation or rather stifling of the white wine in the must, used in Burgundy and elsewhere, which they call Vin Bouru; it gives a sweet taste, and it is foul to the eye; those also are called Vin des Liqueurs. This is only drunk a glass in a morning, as an equivalent to brandy.

Vin de Turene en Anjou of two years old, was one of the best white wines I drank in Paris.

Gannetin from Dauphine: this is a very pale and thin white wine, very like the Verde of Florence, sweet, and of a very pleasant flavour, especially while it is Des Liqueurs.

The red wines of Burgundy, Des quatre feuilles, as they say, or of four years old, are rare; but they are esteemed much more wholesome, and are permitted to the sick, in some cases to drink of; they are fine, and have a rough but sound taste; not pricked, as I expected. The term Des quatre feuilles is used also to Folne, or any other sort of wine, which is kept any time.

There are also in esteem stronger wines at Paris, as Camp de Perdris.

Coste Bruslee, both red wines from Dauphine, of very good taste, and hot upon the stomach.

De l'Hermitage upon the Rosne.

But the most excellent wines for strength and flavour are the red and white St. Laurence, a town betwixt Toulon and Nice in Provence. This is a most delicious Muscat. These are of those sorts of wines, which the Romans called Vinum Passum, that were made of half sun dried grapes: for the grapes (especially the white Muscadine grapes) being usually sooner ripe than the common grapes of the country, called Esperan, viz. the latter end of August (as I have seen them in the vintage at Vic, Mirabel, and Frontiniac, three towns near the sea in Languedoc, where this sort of wine is made) they twist the bunches of grapes, so breaking the stalks of them, that they receive no longer any nourishment from the vine, but hang down and dry in the then violently hot sun, and are in few days almost turned into raisins of the sun; hence, from this insolation, the flavour of the grape is exceedingly heightened, and the strength and oiliness, and thick body of the wine is mightily improved. I think the red St. Laurin was the most delicious wine I ever tasted in my life.

Besides these, here are also the white wines of Orleans, Bourdeaux, Claret, and those excellent wines from Cahors: also Cabreton, white and red, from about Bayone, strong and delicious wines: and all sorts of Spanish wines, as sack, palme, mountaine, malaga, red and white, sherries, and indeed the French are, of late, very desirous to drink of the strongest wines.

Besides wines, there is no feasting without the drinking at the desert all sorts of strong waters, particularly ratafia's; which is a sort of cherry brandy made with peach and apricot stones, highly piquant, and of a most agreeable flavour.

The pungent and acrimonious quality of these and such like kernels was not unknown to the ancients, and very poisonous to some animals. Dioscorides tells us, a paste made of the kernels of bitter almonds will throw hens into convulsions, and immediately kill them. Birds have but little brain, and so are the stronglier affected with this volatile venom. Not unlike effects it is possible ratafia may have in some tender and more delicate constitutions, and weak and feeble brains, and may be one cause of so many sudden deaths, as have been observed of late.

Vattee is a sort of perfumed strong water from Provence, made (as it is pretended) of muscat wine distilled with citron pills and orange flowers.

Fenouillet de l'Isle de Ree is valued much, it is much like our anniseed water.

These and many more sorts of strong waters, and strong wines, both of France and Italy and Spain, are wont to be brought in at the latter end of the desert in all great feasts, and they drink freely of them. Which custom is new: when I was formerly in France, I remember nothing of it. But it is the long war that has introduced them; the nobility and gentry suffering much in those tedious campaigns, applied themselves to these liquors to support the difficulties and fatigues of weather and watchings; and at their return to Paris, introduced them to their tables. Sure I am, the Parisians, both men and women, are strangely altered in their constitutions and habit of body; from lean and slender, they are become fat and corpulent, the women especially: which, in my opinion, can proceed from nothing so much as the daily drinking strong liquors.

Add to these drinks the daily use of coffee with sugar, tea, and chocolate, which now is as much in use in private houses in Paris, as with us in Loudon: and these sugared liquors also add considerably to their corpulency.

I must not forget, that amongst the drinks that are in use in Paris, cyder from Normandy is one. The best I drank of that kind, was of the colour of claret, reddish or brown; the apple that it was made of was called Frequins, which is round and yellow, but so bitter that it is not to be eaten; and yet the cyder that is made of it, is as sweet as any new wine. It keeps many years good, and mends of its colour and taste. I drank it often at a private house of a Norman gentleman, of whose growth it was; otherwise if I had not been assured to the contrary, I could not have believed, but that it had been mixed with sugar.

There are also very many public coffee-houses, where tea also and chocolate may be had, and all the strong waters and wine above-mentioned, and innumerable ale-houses. I wonder at the great change of this sober nation in this particular; but luxury like a whirlpool draws into it the extravagances of other people.

It was necessity, and the want of wine (either naturally, as in a great part of Persia and the Indies; or from their religion, as in Turkey) that put men upon the invention of those liquors of coffee and tea: chocolate, indeed, was found out by the poor starved Indians, as ale was with us. But what else but a wanton luxury could dispose these people, who abound in excellent wines, the most cordial and generous of all drinks, to ape the necessity of others.

Mighty things indeed are said of these drinks, according to the humour and fancy of the drinkers. I rather believe they are permitted by God's providence for the lessening the number of mankind by shortening life, as a sort of silent plague. Those that plead for chocolate, say, it gives them a good stomach, if taken two hours before dinner. Right! who doubts it? you say, you are much more hungry having drank chocolate, than you had been if you had drunk none; that is, your stomach is faint, craving, and feels hollow and empty, and you cannot stay long for your dinner. Things that pass thus soon out of the stomach, I suspect, are little welcome there, and nature makes haste to get shut of them. There are many things of this sort which impose upon us by procuring a false hunger.

The wild Indians, and some of our people, no doubt digest it; but our pampered bodies can make little of it, and it proves to most tender constitutions perfect physic, at least to the stomach, by cleansing that into the guts; but that wears it out, and decays nature.

It is very remarkable with what greediness the Spaniards drink it, and how often in a day, five times, says Gage, at least. The women drank it in the churches, and the disorder could scarce be remedied. This shows how little it nourishes.

The old Romans did better with their luxury; they took their tea and chocolate after a full meal, and every man was his own cook in that case. Cæsar resolved to be free, and eat and drink heartily, that is, to excess, with Tully; and for this purpose Cicero tells his friend Atticus, that before he lay down to table, Emeticen agebat, which I construe, he prepared for himself his chocolate and tea; something to make a quick riddance of what they eat and drank, some way or other.

There are two sorts of water which they drink at Paris; water of the river Seine, which runs through the town; and the water brought in by the aqueduct of Arcueil, which, by the by, is one of the most magnificent buildings in and about Paris, and worth going to see. This noble canal of hewn stone conveys the water fifteen miles to Paris.

The river water is very pernicious to all strangers, not the French excepted, that come from any distance, but not to the natives of Paris, causing looseness, and sometimes dysenteries. I am apt to think the many ponds and lakes that are let into it to supply the sluices upon the canal De Briare, are in part the cause of it. But those who are careful of themselves purify it by filling their cisterns with sand, and letting it sink through it; which way clears it, and makes it very cool and palatable.

As for the spring water from the Maison des Eaux, it is wholesome in this respect, and keeps the body firm; but it is very apt to give the stone, which the people of this town are infinitely subject to. An instance of this I had by chance, when coming from seeing the aqueduct of Arcueil, in the very road near the wall of the aqueduct, a great number of earthen pipes which had served to convey that water to some house, were cast to mend the highways. I observed, that of four inches diameter the hollow of the pipes were all stopped up to the breadth of a shilling, with a firm stone petrified; so that they were forced to break up the pipes being altogether useless. Now what petrifies in the water-pipes is apt in some weak constitutions to petrify also in the kidneys and bladder. I think I have put this beyond dispute in my treatise De Calculo Humano, and elsewhere.

In the next place we will see how the Parisians divert themselves; which consists chiefly in plays, gaming, and walking, or coaching.

The plays here are divided into two houses: one for the operas, and the other for the comedies.

I did not see many operas, not being so good a Frenchman as to understand them when sung. The opera, called *l'Europe Gallante*, I was at several times, and it is looked upon as one of the very best. It is extremely fine, and the music and singing admirable: the stage large and magnificent, and well filled with actors; the scenes well suited to the thing, and as quick in the removal of them as can be thought: the dancing exquisite, as being performed by the best masters of that profession in town: the clothing rich, proper, and with great variety.

It is to be wondered, that these operas are so frequented. There are great numbers of the nobility that come daily to them, and some that can sing them all. And it was one thing, that was troublesome to us strangers, to disturb the box by these voluntary songs of some parts of the opera or other; that the spectators may be said to be here as much actors, as those employed upon the very stage.

The comedies have another house in another part of the town; for the operas are under the roof of Monsieur, and it is part of the Palais Royal.

The disposition of the theatre is much the same; but something less. And here the stage itself is to be let; where for strangers, the places are most commodious to hear and see.

I heard many tragedies, but without gust for want of language: but after them, the little plays were very diverting to me, particularly those of Moliere, *Vendange de Suresne*, *Pourcegnac*, *Crispin Medicin*, *le Medecin malgre luy*, *le Malade Imaginaire*, &c.

In this all agree, that though Moliere's plays have less of intrigue in them; yet his characters of persons are incomparable, so true and just, that nothing can be more. And for this reason, so many of them are only of two or three acts; for without an intrigue well laid, the characters would have failed him, in which was his excellency.

However, this is now so much become a custom on the French stage; that you ever have one of these little pieces tacked to the tragedy, that you may please yourself according to your appetite.

It is said Moliere died suddenly in acting the *Malade Imaginaire*: which is a good instance of his well personating the play he made, and how he could really put himself into any passion he had in his head. Also of the great danger strong and vehement passions may cause in weak constitutions, such as joy and fear; which history tells us, have killed many very suddenly. He is reported to have said, going off the stage, Messieurs, *J'ay joue le Malade Imaginaire; mais je suis veritablement fort Malade*; and he died within two hours after. This account of Moliere is not in his life by Perault, but it is true: and he yet has blamed him for his folly, in persecuting the art of physic, not the men, in divers of his plays.

Moliere sent for Dr. M——, a physician in Paris of great esteem and worth, and now in London, a refugee. Dr. M—— sent him word, he would come to him, upon two conditions; the one, that he should answer him only to such questions as he should ask him, and not otherwise discourse him; the other that he should oblige himself to take the medicines he should prescribe for him. But Moliere finding the doctor too hard for him, and not easily to be duped, refused them. His business, it seems, was to make a comical scene in exposing one of the most learned men of the profession, as he had done the quacks. If this was his intention, as in all probability it was, Moliere had as much malice as wit; which is only to be used to correct the viciousness and folly of men pretending to knowledge, and not the arts themselves.

This I must needs say, that obscenity and immorality are not at all upon the French stage, no more than in the civil conversation of people of fashion and good breeding.

One afternoon in Lent, I was to hear a sermon at La Charite, preached by an abbot, a very young man. His text was about the angel's descent into the pool of Bethesda, and troubling the waters. I am not so good a Frenchman as to understand all he said, but he had many good arguments about the necessity of grace, and the means to attain it. I was strangely surprised at the vehemency of his action, which to me appeared altogether comical, and like the actors upon the stage, which I had seen a few days before: besides, his expressions seemed to be in too familiar a style. I always took a sermon to the people to require a grave and ornate kind of eloquence, and not verba quotidia, with a certain dignity of action; but it is possible this way here best suits with the customs and manners of the people; who are all motion, even when they say the easiest and most intelligible things.

Gaming is a perpetual diversion here, if not one of the debauches of the town: but games of mere hazard are strictly forbid upon severe fines to the master of the house, as well private as public, where such playing shall be discovered. This was done upon the account of the officers in the army; who, during the winter used to lose the money, which was given them to make their recruits, and renew their equipages in the spring. And indeed, such quick games, as basset, hazard, &c. where fortune in a manner is all in all, are great temptations to ruin, by the sudden passions they are apt to raise in the players. Whereas games, where skill, and cunning, and much thought are employed, as well as luck, give a man time to cool, and recover his wits, if at any time great loss shall have dismounted his reason: for he must quickly come to himself again, or forfeit his skill and reputation in conducting the game, as well as husbanding his money.

We were in Paris at the time of the fair of St. Germain. It lasts six weeks at least; the place where it is kept well bespeaks its antiquity; for it is a very pit or hole, in the middle of the Faubourg, and belongs to the great abbey of that name. You descend into it on all sides, and in some places above twelve steps; so that the city is raised above it six or eight foot.

The building is a very barn, or frame of wood, tiled over; consisting of many long allies, crossing one another, the floor of the allies unpaved, and of earth, and as uneven as may be: which makes it very uneasy to walk in, were it not the vast croud of people which keep you up. But all this bespeaks its antiquity, and the rudeness of the first ages of Paris, which is a foil to its politeness in all things else now.

The fair consists of most toy-shops, and Bartholomew-fair ware; also fance and pictures, joiner's work, linen and woollen manufactures; many of the great ribband shops remove out of the Palais hither; no books; many shops of confectioners, where the ladies are commodiously treated.

The great rendezvous is at night, after the play and opera are done; and raffling for all things vendible is the great diversion; no shop wanting two or three raffling boards. Monsieur, the dauphin, and other princes of the blood come, at least once in the fair-time to grace it.

Here are also coffee-shops, where that and all sorts of strong liquors above-mentioned are sold.

Knavery here is in perfection as with us; as dexterous cut-purses and pick-pockets. A pick-pocket came into the fair at night, extremely well clad, with four lacqueys with good liveries attending him: he was caught in the fact, and more swords were drawn in his defence than against him; but yet he was taken, and delivered into the hands of justice, which is here sudden and no jest.

I was surprised at the impudence of a booth, which put out the pictures of some Indian beasts with hard names; and of four that were painted, I found but two, and those very ordinary ones, viz. a leopard, and a rakkoon. I asked the fellow, why he deceived the people, and whether he did not fear cudgelling in the end: he answered with a singular confidence, that it was the painter's fault; that he had given the rakkoon to paint to two masters, but both had mistaken the beast; but however (he said) though the pictures were not well designed, they did nevertheless serve to grace the booth and bring him custom.

I saw here a female elephant betwixt eight and nine foot high, very lean and ill kept. Nothing could be more docile, than this poor creature. I observed, she bent the joints of her legs very nimbly in making her salutes to the company; also that the nails of her fore-toes were large, and almost five inches long. This was from the continent, having the ears entire. I had seen one about thirteen years ago in London much less, from the island of Ceylon, of another species with scallopt ears, and the tail with two rows of large, thick, and stiff black hairs.

Coaching in visits is the great and daily business of people of quality: but in the evenings, the Cours de la Reyne is much frequented, and a great rendezvous of people of the best fashion. The place indeed is very commodious and pleasant, being three alleys set with high trees of a great length, all along the bank of the river Seine, inclosed at each end with noble gates; and in the middle a very large circle to turn in. The middle alley holds four lines of coaches at least, and each side alley two a-piece: these eight lines of coaches may, when full, supposing them to contain near eighty coaches a-piece, amount to about six or seven hundred. On the field side, joining close to the alleys of the coaches, there are several acres of meadow planted with trees, well grown, into narrow alleys in quincunx order, to walk in the grass, if any have a mind to light; and this must needs be very agreeable in the heats of summer, which we staid not to enjoy.

One thing this Cours is short of ours in Hyde-Park, for if full, you cannot in an hour see the company twice you have a mind to see, and you are confined to your line; and oftentimes, the princes of the blood coming in, and driving at pleasure, make a strange stop and embarras.

Besides, if the weather has been rainy, there is no driving in it, it is so miry and ill gravelled.

Those, who have a mind to drive further out of town for the air, have woods, one to the west, and another to the east, most convenient. I mean, the Bois de Bologne, and the Bois de Vincennes; this last is very opaque and pleasant. There are some ancient Roman statues in the first court of this house.

But for the castle in the Bois de Bologne, called Madrid, it was built by Francis the First, and it is altogether moresque, in imitation of one in Spain: with at least two rows of covered galleries running quite round, on the outside the four faces of the house; which sure in a very hot country are greatly refreshing and delightful: and this is said to be built on purpose for a defence against a much hotter elimate, than where it stands; which that king had no mind to visit a second time.

But let us return to Paris. Towards eight or nine o'clock in June most of them return from the Cours, and land at the garden gate of the Tuilleries, where they walk in the cool of the evening. This garden is of the best ordinance, and now in its full beauty, so that Mons. Le Nostre has seen it in its infaney, for it is all of his invention, and he enjoys his labours in perfection. Certainly the moving furniture of it at this

time of the evening, is one of the noblest sights, that can be seen. The night I came away from Paris, a lady of quality, Madam M—— when I took my leave of her, asked me, what I had seen in Paris that most pleased me; I answered her civilly, as I ought to do; but she would not take my compliment, but urged me for answer: I told her (since she would have it so) that I just then came from seeing what pleased me best; that was, the middle walk of the Tuilleries in June, betwixt eight and nine at night. I did not think that there was in the world a more agreeable place, than that alley at that hour, and that time of the year.

And now we are got into the gardens of Paris I shall give you a short taste of all of them of note, at least of such as I saw.

This of the Tuilleries is vastly great, has shaded terraces on two sides, one along the river Seine, planted with trees, very diverting, with great parterres in the middle, and large fountains of water, which constantly play; one end is the front of that magnificent palace the Louvre; the other is low, and for prospects, open to the fields. The rest is disposed into alleys, and grass-plots, and copses of wood; with a great number of seats up and down in all parts, for the accommodation of the weary.

In the Tuilleries there is one thing, which I much liked, and that was an amphitheatre of cut hedges, with the stage, pits, and seats, and the scenes leading into the stage very pretty; from all sides close alleys leading into it.

Nothing can be more pleasant, than this garden, where in the groves of wood the latter end of March, black-birds and throstles, and nightingales sing most sweetly all the morning, and that as it were within the city; for no birding is suffered here near this city, and the fields round the town, are all, every where, full of partridges, and hares, and other game.

The garden of the palace of Luxembourg is also vastly great, and has something of champatre in it, like St. James's-park; it is also filled with people daily of good quality; but because the hard winters have destroyed many of the walks, by killing the pole hedges, it is not so frequented, as formerly; yet it hath its fountains and parterres, and some well shaded alleys; and for air, I prefer it before the Tuilleries, because it is seated upon a high ground next the fields, in the Fauxbourg of St. Germain.

As to the king's physic garden, it is a very great piece of ground, well furnished with plants, and open also to walk in, to all people of note. There is great variety of ground in it, as woods, ponds, meadows, mounts, besides a vast level, by which it is fitted for the reception and growth of most sorts of plants.

I first saw it in March with Dr. Tournefort, and Mr. Breman, a very understanding and painful gardener. The green-houses well stored with tender exotics, and the parterres with simples; though but few of them then to be seen: yet by the trees and shrubs, and some plants, which did not lose their heads, I could well judge of the furniture.

Dr. Tournefort told me, that he shew'd a hundred plants every lesson, and he had in the summer thirty lessons, which made three thousand plants; besides the very early and late plants, which he reckoned could not be less than a thousand more.

I took particular notice of these plants in the green-houses at that time:

*Jasminum Asoricum flore albo viridarii Regis Lusitanici.*

*Marum Cortusii*, which had been potted thirty years.

*Caryophyllus Creticus arborescens.*

*Smilax fructu nigro.*

*Iris bulbosa flore luteo.*

*Symphytum minus Boraginis flore.*

*Fraxinus Americana florida.*

*Stæchas folio serrato Bauhini.*

This garden is endowed by the king and duke of Orleans, and has 2000*l.* a year sterling rents belonging to it, whereof 500*l.* is given to the chief physician who overlooks all, and the rest to the botanic reader, Dr. Tournefort, and under-gardeners; with lodgings for all.

Mr. Breman told me, he had the beginning of April made an end of sowing his hot-beds, and had put into the ground two thousand species of seed.

From the mount in the king's garden, on the other side of the river, upon the declivity of a high ridge of hills, I had a fair view of the palace or country-house of father la Chaise, the king's confessor; it is very finely seated against the south sun, and well wooded on both sides. A fit seat for a contemplative person.

The garden of the Palais Royal, considering it is in the middle of the town, is very large, has two or three great basins with their jet d'eaux, but not well kept; nor hath any thing elegant in it, but the good order and disposition of its shady walks and parterres. It is ever full of good company.

The garden of the arsenal is much larger, and finer kept; has the prospects of the fields, and lies open to the ramparts. It is also much frequented for the beauty of its walks.

There are also divers convents, which have spacious and well kept gardens, which are always open and public to people of any note; as the Carthusians, which is vast and champestre. The Celestians, very fine and large; that of St. Genevieve, which is great, and very well kept; and the terrace for length and breadth is incomparable; extremely well planted with horse chesnuts; having also on the south side upon the terrace, three or four square copses of the same trees; which have a marvellous effect for shade in summer.

These private gardens I saw in Paris.

D'Aumont. Its green house opened into the dining room: the orange trees seemed to have suffered, and had their leaves withered; for the room was too broad by half.

The treillage, at the upper end of the garden, was very well adorned with gilding, and had in the middle a pavilion, in which was an old Roman statue of a young man, very well preserved. The fashion of the toga here was so evident, that it might well pass for a conviction to those, who have thought it to be a plaid, or a garment open before like a cloak.

This treillage is performed with that variety of ornaments, that it resembles file green work, and is large. The painting of these works in green is not well performed in all places alike; it is either too yellow, or of a sad dirty green, or sea green; few have hit the right grass green colour. To do it well, it is to be primed in yellow, and then to be covered with Vert de Montagne or Lapis Armeniacus; of which last colour we have plenty in England, about Malham in Craven, in Yorkshire.

This is the great benefit of treillage in cities, that besides the beauty of it to the eye, it takes away and hides the ill prospect of the neighbouring houses.

Here are very many fig trees well grown in square boxes; and parterres well stocked with flowers; each sort by themselves; as tulips a-part; junkills a-part; anemonies a-part; ranunculuses a-part; daffadils a-part.

Puissart. This garden is very neat, and open at the end to the Tuilleries. The treillage walk or arbour at the upper end is very fine, seventy paces long, and eight



broad, hath three pavilions all open at the top. It is all of iron painted green, and cost fifteen thousand livres.

The gardener was an artist; and had some plants in cases in good order, not to be seen elsewhere, as large rosemary bushes, *jacobæa maritima*, *marum syriacum*, &c.

The walls were well covered with fruit trees; he had not cut his peaches; when I asked him the reason, he told me, it was his way, not to cut them till after flowering, which he found by experience to improve the fruit; whereas he said, the early cutting stocked them, and impaired the fruit.

The orangery here was the most beautiful room, for the bigness, I had seen, paved with marble, and neatly wainscotted with oak, from the top to the bottom, after our English manner, I make no doubt it served to eat in in summer, when cleared of trees.

Bouvillier. I found not any thing more remarkable here, than the treillage at the end.

Cormartin. The treillage in this garden was most admirable in the fashion of a triumphal arch; half of it was an aviary, with a fountain in it, well stored with birds.

Here were large iron vases upon pedestals, the first I had seen of the kind, painted over of a copper colour.

Les Diguieres. This is the only house in Paris, I saw kept, in all the parts of it, with the most exact cleanliness and neatness, gardens and all.

In the garden there were several pieces of treillage; that at the upper end was very noble, and cost ten thousand livres; another piece of it cost six thousand. And I saw a small one of iron leaves painted green, the only one of the kind. Here also were great vases of treillage upon pedestals.

The fountains in this garden were very curious, though small, with proper ornaments, which had a marvellous effect, when the spouts played off.

The first court was set about with cases of extraordinary large *laurus tinus*, and in the gardens there were some cut into square pyramids.

A person of quality came into the garden to me, who with great civility conducted me up to the apartments.

In the apartment of the duchess, which was all of her own contrivance, and had an air of state and agreeableness beyond any thing I had seen, I observed hanging down in the middle of the bed-chamber the finest chrysal candlestick in France: the pieces were all bought single by her, and the contrivance and setting them together was her own: it cost twelve thousand crowns.

But before I left the garden, in an obscure parterre I saw the tomb of a cat, viz. a black cat couchant upon a white marble cushion, fringed with gold, and gold tassels hanging at the corners upon a square black marble pedestal. On one of the sides of that marble is writ in letters of gold:

Cy gist Menine la plus amiable & la  
Plus aimee de toutes les chattes.

On the other side.

Cy gist une chatte jolie;  
Sa maistresse, qui n'aimoit rien,  
L'aime jusques a la folie  
Pour quoy dire! on le voit bien.

This is not the first instance of this kind of folly ; I have seen something of it in England, and have read much more in history.

If you blame me for transcribing this epitaph, I will submit ; but I could never have forgiven myself, if I had transcribed the many fine inscriptions I met with at Paris, though in most elegant and truly Roman words ; others in pure court French. You may read them in the Description of Paris.

De Lorge. We had the good fortune here to find the marshal himself walking in his garden ; who entertained us with great civility, viz. the dean of Winchester and myself. This garden was not finished, and the house itself was but building ; but it is one of the finest in Paris, and has the advantage of a most free and extended prospect of the fields and Montmartre : at the end of the garden rises a terrace equal with the rampart.

That which was in this house and garden very commodious and noble, was that betwixt the two courts the coaches drive through a stately hall upon pillars, and might land on either side, up a step or two, which lead to the staircases and other apartments ; and then in the furthest court, which is only divided from the garden by high palisades of iron, they turn, and take up the company again ; so that no weather offends them. Which is much wanting here ; and more with us at London, where we most need it.

This hall is open upon arches to the garden, and the staircase itself is so contrived, that you enjoy a full prospect of the garden and Montmartre in descending.

The marshal very obligingly shewed us his own apartment ; for all the rest of the house was full of workmen ; and in his bed-chamber his little red damask field-bed, which he lay in now, and which also served him, when he commanded upon the Rhine.

He shewed us his great sash windows ; how easily they might be lifted up and down, and stood at any height ; which contrivance of pullies he said he had out of England, by a small model brought on purpose from thence : there being nothing of this poise in windows in France before.

He also had us into a set of small closets or rooms, after the English fashion, very prettily furnished, neatly kept, and retired, with his English keys to them, as he told us ; and from thence we descended a back pair of stairs. We did all we could to hinder him from seeing us take coach : he sent his page after us, to invite us some day to eat with him.

Hostel Pelletier. The garden here was very neat, with a treillage at the end, after the manner of a triumphal arch, but not very high, nor well painted ; yet its beauty and finishings differ much from any I had seen before. In the two niches were placed great iron vases or flower pots, right before the middle of a basin of water, which was set a playing for our entertainment, which is a compliment the French are willing to oblige strangers with.

In the orangery were very large trees, and two pair of myrtles in cases, cut globe-wise, the best and biggest I had seen : large bushes in pots of *Marum Syriacum*. Great store of tulips, anemonies, ranunculuses, and other flowers in beds, in the parterre, each by themselves.

Also anemonies and ranunculuses in little earthen pots, as with us ; but in very light mould. Great and very fair *laurus tinuses* in cases. And, which was singular, along one of the garden walls were planted Abel trees, whose tops were disposed and spread by an iron treillage into arches at equal distances, which had a very good effect.

The garden of the Hostel-sullie had nothing remarkable in it.

The best piece of treillage of iron bars and wood intermixed, is that in the garden of feu Mons. Louvois. And this is one of the neatest gardens in Paris. The whole upper end is adorned with a noble treillage after the manner of a triumphal arch; it cost a great sum of money. There are four statues disposed on pedestals under it, which have a good effect; these are antique, rarely good. One of the first empresses, a Diana, an Apollo, &c. Here the walks are hard gravel, but not rolled. On one side of the treillage is a large aviary well stored with birds.

The walls of the green-house are matted; and large pans of iron hang down in the middle of the house, at equal distances, to every window one; they have pullies to let them down, or run them up to what height they please. This way may very well correct the moistness of the air, which the breath of the plants cause, and sufficiently warm them. Hot beds puff up plants; yet a warm air over their heads may be as useful to refresh and nourish them in winter.

The last private garden I saw was that of Mr. Furnier, a few days before we left the town, nothing could be prettier. At the upper end a noble treillage, two great vases of iron, printed of a brass colour, and gilt.

Here I saw an apple-tree potted, as the figs and oranges used to be; it was the white queenen (or calvil d'este) the stem of the bigness only of my thumb, full of fruit the first of June.

Many pots of *Sedum Pyramidale*, now a most elegant ornament. But nothing is here so pompous as double red and striped stocks; which they multiply with care, and their pains are justly rewarded; with a thousand other things, which my short turn in the garden would not give me leave to remember.

There are great numbers of these private gardens in Paris, which deserve seeing; but the season of the year not much favouring our curiosity, we did not much inquire after them.

Hitherto I have given a short account of what I saw mostly in Paris, as to the people, abroad and at home; the country round about it, is full of populous and neat towns, and many palaces of the king and princes of the blood, which are not to be equalled with any thing we have in England. But I am unwilling to lead you any further, it being much out of my way and humour to go to court; but because it was my fortune to be at Versailles, St. Cloud, Marli, and Meudon, I will venture to say something of each.

These four royal palaces and their gardens possess a barren and hilly country, as big as most counties in England; two of them, Meudon and St. Cloud, have the prospect of Paris under them; but the former hath it much more open and fully than the latter.

This district may be said to be les Bereau des Roys, or the nursery of kings; for the chief of the blood royal are lodged here, viz. the king, Monseigneur the dauphin, and the three grandsons, the dukes of Burgundy, d'Anjou, and Berry, Monsieur or the king's brother, and his son the duke of Chartres, and Mademoiselle his daughter. All these are, or will be (as it is easy to guess by the growth and proportions of the youngest) very large and well shaped beautiful people. The other branch of the blood royal, of the house of Bourbon, as the prince of Conde, the duke of Bourbon, and the princesses his daughters, the prince of Conti, are all of less stature, but very well shaped and handsome.

The duke du Maine and the conte de Toulouse I did not see; but the princess dowager of Conti often, who is without dispute one of the most graceful and handsomest

women in France, and methinks exceedingly like the king her father, as I remember him in his full beauty, when I first saw him in the year 65.

These four palaces are all entirely built and furnished in this king's time, and all the gardens, and what belongs to them.

St. Cloud is the nearest Paris, and the castle is very magnificent, and most commodious. The great saloon and the gallery are extremely well painted.

The gardens are of a vast extent, twelve or fifteen miles in compass.

The natural woods on the south-west side of the house, are well husbanded, and cut into smaller and bigger alleys to save the trees; which they have had so great a care of, they have kept them standing not only in the alleys, but in the very steps of stone which are made to descend into the alleys.

In the other parts of the garden the alleys are mostly treble, and well shaded, run out in vast lengths of several miles, every where basins and jets d'eau; but there is a cascade, which I saw several times play, and is said to be the most beautiful and best furnished with water of any in France. In the middle of the large basin amongst the woods, I saw a jet d'eau, which threw up a spout of water ninety feet high, and did discharge itself with that force, that it made a mist and coolness in the air a great compass round about, and gave now and then cracks like the going off of a pistol; such force the vent of wind in the pipes had.

The pipes which convey the water are composed of iron cylinders three feet long, some ten, some twenty inches diameter, till they divide; and then they are of lead.

I was once kindly invited to St. Cloud by Madame's physician, Monsieur Arlof, who sent his coach for me to Paris, and nobly treated me; before dinner he carried me in his coach (for this privilege is granted him) into all parts, and round the gardens; which were well furnished with alleys and walks, adorned with cypress, pines, and firs, cut into pyramids; and water-works every where playing in abundance, particularly the gerbes d'eau were very fine, that is, great and thick, seeming streams of water thrown up into the air. This is done to husband the water by a great number of small pipes like a sheaf, to represent a solid pillar of water.

Monsieur has added, and taken into this vast garden, a new acquisition of a mountainous plain, which overlooks all the country round; and will no doubt, when it is modelled by that admirable contriver Mons. le Nostre, make one of the most delightful places in the world.

From the balustrade in the upper garden, the river Seine, and a vast plain bounded by Paris, is to be seen, and makes a most delightful prospect.

These vast riding gardens are unknown to us in England, and se promener a cheval, ou en carrosse, is not English. We cannot afford to lose so much country as those gardens take up. I saw in some of the quarters not only partridges and hares plentifully, but, which I wondered at, five biches or female red-deer feeding.

The orangery belonging to this garden is very large and magnificent, paved with marble, and was filled with vast trees in cases, not to be brought in or out without proper engines, but in it there was nothing but those orange trees, oleanders, and laurus tinuses. He goes out of the end of his apartment, that is, the noble painted gallery, is continued upon a level with the orangery, which leads directly into an ascending walk of a vast length; and also fronts or flanks all along the parterre or flower garden, where they are disposed of in summer. At this treat I eat of a preserve or wet sweatmeat, made of orange flowers, incomparable: and the lady obliged me with the manner of making it.

Though there were high and proper walls for fruit in many parts of the garden, yet nothing of that nature was to be found, only ordinary and infructiferous greens were fastened to the treillage, which are the linings of most walls here. In the garden are many arbours of treillage, pavilions, &c. of iron mixed with wood, painted green, with honey-suckles running up them. These gardens have above one hundred and fifty people always employed to keep them in order; which stands in 40,000 livres a year.

Another time I dined with the captain of the castle, who shewed me all the apartments at leisure. I ate here of the red-legged partridge taken here upon these hills; they are much less here than in Languedoc, but yet far better tasted than the gray partridges taken in the same place. This was the beginning of April, and we drank our wine in ice, which I was not aware of, till I found the bad effect of it in my throat; and the next day much more; but it went off again without any great trouble. There is no animal that abuses itself in meat and drink as man does; we daily drink excessive hot and excessive cold; in other creatures it is instinct that guides them, but as for us we neither act by instinct nor reason; but betwixt both loosely, and therefore oftener are caught to our own destruction.

At the end of the apartments of Monsicur, are a fine set of closets: the first you enter is furnished with great variety of rock crystals, cups, agates upon small stands, and the sides of the rooms are lined with large panes of looking-glass from top to the bottom, with japan varnish and paintings of equal breadth intermixt; which had a marvellous pretty effect. The other room had in it a vast quantity of bijou, and many of very great price; but the Siam pagods, and other things from thence, were very odd.

There was also one very small Roman statue of white marble, not ten inches high, which cost 20,000 crowns; one leg of it was a little injured. It seemed a piece of admirable workmanship. It was a boy, who had in the skirt of his tunic a litter of puppies, and the bitch lying at his feet and looking up.

I cannot say much of Meudon, because I was not within the house or park; it will require yet some time to bring it to that perfection which is designed; for that Monsiegnur has been but lately possessed of it. The road from Paris to it is yet unpaved; but the situation is admirable; and the esplanade before the house is like a vast bastion, and commands the full view of all the champagne, and Paris under it. The gardens are very great, but I only coasted them and the house.

As to the palace of Versailles (which is yet some miles further within the mountainous country, not unlike Blackheath or Tunbridge) it is without dispute the most magnificent of any in Europe. Yet what of it was first built, and much admired thirty years, is now no longer relished. However this king intends to rebuild it where it is faulty. It is, as I said, placed in a very ungrateful soil, without earth proper for herbs, or water; but he hath brought that to it in abundance, and made the ground too to be fruitful.

There are books writ to describe this famous palace in every part; to which I refer the reader. The way to it is new, and in some places the mountains are cut down forty feet, so that now you enjoy it a mile in prospect before you come to it; it opens and closes in three courts, the more remotest, narrower and narrower; which is a fault; and is, as I was told, designed to be pulled down, and made into one noble large square court, of the same order of building as that magnificent front is which looks upon the gardens. The gilded tiles and roof have a marvellous effect in prospect. The esplanade towards the gardens and parterres are the noblest things that can be seen, vastly great,

with a very large basin of water in the middle; low walled round with white marble, on which are placed a great number of incomparable brazen vases, and large brass figures couchant, of the best masters in sculpture; it were endless to tell all the furniture of these gardens, of marble statues, and vases of brass and marble, the multitude of fountains, and those wide canals like seas running in a straight line from the bottom of the gardens, as far as the eye can reach.

In a word, these gardens are a country laid out into alleys and walks, groves of trees, canals and fountains, and every where adorned with ancient and modern statues and vases innumerable.

May the 17th, the waters were ordered to play for the diversion of the English gentlemen. The playing of the spouts of water, thrown up into the air, is here diversified after a thousand fashions. The theatre des eaux, and the triumphal arch are the most famous pieces. But in the groves of the left hand, you have Æsop's fables, in so many pieces of water-works, here and there in winding alleys. This might be said to be done in usum delphini. It is pretty to see the owl washed by all the birds; the monkey hugging her young one, till it spouts out water with a full throat, and open mouth, &c.

The orangery, or winter conservatory for tubs of winter greens, is what corresponds to the greatness of the rest. It is a stupendous half square of under-ground vaults, like the naves of so many churches put together, of exquisite workmanship in hewn stone, well lighted and open to the south sun. It contains three thousand cases of greens; whereof near two thousand are orange trees, and many hundreds of them are as big as generally they naturally grow in the earth. Hence amongst them are some, which are said to be in cases from the time of Francis the First.

They did not think fitting to put them out this year till the latter end of May; and indeed their oleanders, laurels, lenticeuses, and most other greens, had suffered miserably.

In the pottagerie (which is part of these gardens, and hath its magnificence also) there are seven hundred cases of figs, besides wall fruit of all other kinds. By all the gardens in and about Paris, I perceived they are very fond of this fruit.

I observed in small fianee or painted pots a vast number of the narrow leaved *Laurus Alexandrina*; also *Thlapsi flore albo*, *Leucosii folio*, *latifolium*; also the *Sedum Pyramidale*. These are not yet ornaments in our gardens, that I know of, nor a great many other plants, which I observed in flower there; and at my return gave a catalogue of them to Mr. London that he might send for them, if he pleased. The plants I observed were vivace or perennial.

The 15th of May my lord ambassador went to Marli, where the waters played for his diversion.

I must needs say it is one of the pleasantest places I ever saw, or, I believe, is in Europe; it is seated in the bosom or upper end of a high valley, in the midst of and surrounded with woody hills. The valley is closed at the upper end, and gently descends forwards by degrees, and opens wider and wider, and gives you the prospect of a vast plain country, and the river Seine running through it.

Marli is a square house raised upon steps, and terraced on all sides: the four fronts all alike; and the doors opening into the garden all the same. In the middle an octagon-hall, running up domewise, in which all the side rooms meet; which are all rooms of state. Above are twelve lodgings, with a narrow gallery leading to them. In the lower rooms at Marli, particularly in the octagon-saloon, are extraordinary large, (six feet at least) marble, or rather agate tables; to the best of which they may be

compared. They are veined like wood, and of an amber colour: these are the admirable effect of petrification. Of this very stone I have seen great blocks in the banks of the dropping well at Knaresborough in Yorkshire. I forgot to ask here whence they had them.

In one of the ground rooms was a semicircular gilt bar or rail, which took off and inclosed the upper end of the room: within the bar was disposed several rows of porcellain or fine china on gilt shelves. Here at the corners, within the bar, opened two small doors, whence the ambassador and his retinue were plentifully served with chocolate, tea, and coffee, in a most obliging manner. Many of the nobility and gentlemen of France were ordered to attend him there.

The two side fronts of the house have in prospect great alleys cut through the woods, and paved for the more commodious coming down to the house; which is descending all the way.

On each side the valley, close under the woods, run along in a line, six square pavillions or smaller palaces of the very same figure and beauty with the Mother House; at equal, but large distances, as five hundred paces. The six on the right hand the garden are for the men; the other six on the left are for the women of quality whom the king weekly appoints, upon a list given, to attend him, and enjoy the pleasure of this retirement, as I may say, from court. Before those pavillions, and betwixt them, are the finest alleys and walks imaginable, with fountains, and all the decorations of treillage and flowers. Such a shew of not ordinary tulips in broad beds, of one thousand paces long, every where, all this vast garden over, in their full beauty, was a most surprising sight. I could not forbear to say to the duke de Villeroy, who was pleased much to accompany me in this walk, that sure all the gardens in France had contributed to this profusion of flowers; which he took so well, that the Marishal his father, afterwards detached himself to single me out, and very obligingly embraced me, and saluted me with a kiss, and followed it with very kind and familiar discourse.

The cascade coming down from the brow of the hill, on that front of the house which respects and stands near it, was new and singular, and of the king's own invention, as indeed, all the garden besides. From the house it appeared a broad river, quietly gliding down the hill; but when I went near it, I found it composed of fifty-two large square and shallow basins of water, disposed at right angles, and not declining, but falling over one into another.

In the garden were many fountains, nobly adorned, and had variety of water pipes playing up into the air in them. Here are some gerbes of a singular fashion, with a circle of a great number of large pipes, within at least two feet diameter; which made the appearance of a vast pillar of water. There was one jet d'eau in the bottom of the garden, which we were told threw up water 120 feet high; for of 50 and more fountains, we saw but those on the side alleys to play; most of the great basins in the middle were mending and dry. To furnish all this water, there is a most stupendous machine, which was invented by two Liegois. This machine forces the water up 560 feet, from the river Seine, to the top of the tower or aqueduct. It throws up 5700 inches of water by almost continued ructations or quick pulses. It is wrought by 14 wheels of 32 feet diameter each, set in the river, and carried about night and day by its stream.

This invention is the same with what is practised in the deep coal-pits about Lceds in Lower-Germany; so that to see the engines, and a great number of iron cylinders or water-pipes, lying bare above ground, and running up a vast mountain, is to imagine a deep coal-mine turned wrongside outward.

The tree most in use here, was the small-leaved horne-beam; which serves for arcades, berceaux; and also standards with globular heads: at the foot of which they have planted little sprigs of the same of a foot and half high; and also in some places in like manner, whole areas full of them; which cut smooth and level make the finest green hedges I ever saw; some of these low hedges were twelve feet broad, and in a barren and dry climate supply very artificially the use of grass-plots.

It is certainly very commendable in the king, who pleases himself in planting and pruning the trees with his own hand, to make use of no other trees but what the neighbouring woods afford; so that it is admirable to see whole alleys of pole hedges of great height, and long rows of goodly standard globes of eighteen months growth only.

If this great king, as he grows older, should take a fancy to place himself in a warmer climate (and he has a good one of his own, as any under the sun, in Languedoc) as he does his winter greens in proper houses; (and methinks, this instance alone should be sufficient, to convince him of the necessity there is to cherish decaying nature, and that a naturally warm air is a better defence than clothes or fire) what wonders would not his purse and passion for planting do there.

The next woods in Languedoc would afford laurel, and myrtles for pole hedges; lentiscus's and phylarea's in as great abundance, as hazel or thorn with us. Also jasmins for arbors and treillage; cistus's and rosemary, and a hundred other sweet smelling woody shrubs grow every where in the fields, to furnish the pots and vasa.

There the tall cypress's grow of themselves, to 60 and 100 feet high, like so many towers; and also tonsil at pleasure, for the most beautiful pole hedges imaginable. The very fields are most excellent, and well furnished parterres of flowers, and are naturally pottageries, or kitchen gardens. The vineyards are very orchards; and all the most tender fruits with us are there standards; as figs, and grapes of all sorts, apricots, peaches, nectarines, jujubs, &c. The delicious and large cherries; and whatever has been said to the contrary, pippins and pears there are in far greater perfection than with us, or in any parts of France else, besides that happy climate.

What was it for so great a king to make a walk from Marli to Montpellier, or (if I might choose) to Pescenas, seated in the bosom of a well watered valley, inclosed with perfumed hills. It is not half so far as betwixt Lahor and Agria, two seats the Mogul has thus joined. This would eternise his name, above any palace he has yet built, and bring to himself much health in his old age. The gardens of the Hesperides, and the labyrinths of Cande, so famous in history, would be nothing to such wonderful performances, as his abilities and happy genius is capable of. For besides the natural product of the country, the climate also is capable of producing, and nourishing with small art and expence, whatever plants both the Indies can afford. Whereas, at this end of the world, we drudge in vain; and force a pleasure which is dead and gone before we can well enjoy it: we have indeed a kind of shew of the summer delights, but all on a sudden we drop into a long and tedious winter again. But we love the places we are used to, or born in. Man, to say the truth, is a very animal, as any quadruped of them all; and most of his actions are resolvable into instinct, notwithstanding the principles which custom and education have superinduced.

The pleasure of seeing is scarce to be tired; but yet after two or three hours walk in so fine and great a garden, I was forced to make a halt behind the company, and glad to retire to the gilt bureau in the palace again, to refresh myself, where I found some of the king's officers waiting, and some other gentlemen of the household, who had made several campaigns in Flanders. I had now more a mind to a glass of cool Burgundy, than the insignificant Indian liquors; which though I knew was against the



sanctity of the place, yet nothing was denied me a stranger. Here being alone, we fell into discourse of the English, and of their king. They willingly allowed the English to be truly brave; and now in peace they found also, that they were as civil, and well bred, as brave; that no nation had given the king and his court that satisfaction that the English had done; being curious and inquisitive after all good things: they did see a great difference between them and other nations; they did not stare, and carelessly run about, or hold up their heads, and despise what they saw; but had a true relish of every good thing, and made a good judgment of what was commendable; and therefore the king took pleasure to have them shew every thing. This discourse of the English they concluded with a great encomium of king William.

As for their own king they were much in the praise of him, as one may easily imagine; that his retirement hither was mostly for his health; that he left Versailles every Tuesday night, and came hither with a select company of lords and ladies; that he returned not till Saturday night, and sometimes intermitted ten or fourteen days; so that he spent half of his time here in repose; that he was the most affable prince in the world, and never out of humour, of a pleasant and open conversation where it pleased him; easy of access, and never sent any one away discontented; the most bountiful master in the world, of which there were ten thousand instances; nothing of merit in any kind, but he most readily and cheerfully rewarded, ever, of late years at least, preferring the virtuous; so on the other hand, he never spared the rebellious and obstinate; that the government of his people could not be carried on with less severity and strictness; nor the taxes which were necessary to support it, raised; that he delighted not in blood or persecution; but that the art of government had different rules, according to the climate and nature of the people, where and upon whom it was to be put in practice. His great wisdom appeared in nothing more, than in preserving himself amidst his troops, his converts, his court and numerous family, all in a manner fit for the throne. The greatness of his mind, and magnificence in his buildings. This was the sum of the discourse these gentlemen were pleased to entertain me with.

At my return to Paris I was to see the pipinerie, or royal nursery of plants, in the Fauxbourg of St. Honore; where I met the master or comptroller of it, Monsieur Morley, one of the ushers of the bed-chamber to the king.

He, like the rest of the French nation, was civil to me; and shewed me a written almanac of flowering plants for the whole year, which he said was an original; it might indeed, be so in French, but we have had almanacs for fruit and flowers, for every month in the year, printed divers times, for above this 30 years, thanks to Mr. Evelyn.

This ground inclosed with high walls is vastly big, as it ought to be, to supply the king's gardens; here are several acres of young pines, cypresses, vives, &c. also vast beds of stock July flowers, of all sorts of bulbs, as tulips, daffodills, crocus's, &c. and therefore I could easily believe him when he told me, he had sent from hence to Marli alone, in four years time, eighteen millions of tulips and other bulbous flowers, for which he offered to shew me his memoirs.

He further told me, that the furnishing the Trianon (a peculiar house of pleasure with its parterres at the end of the gardens at Versailles) with flower pots in season, every fourteen days in the summer, took up no less than ninety-two thousand pots from hence.

Also from hence he could plant and furnish in fourteen days time, any new garden the king should cause to be made.

Here besides the plants common to us and them, I saw a multitude of pots well conditioned of *stæchas citrina folio latiusculo*.

Also a sort of cotila, which bore large sun flowers or marigolds, propagated by slips, called by him Amaroutre.

In this ground are several houses to lodge the tender winter greens; amongst the rest there is one very large, which I may call the infirmary of sick orange trees; which coming from Genoa by sea, are here deposited in a peculiar green house; and there were in it, and then actually carrying out into the air (it was the 22d of May our style) 300 trees in cases as thick as a man's thigh; but after ten, and some after seventeen years cherishing, had not yet got heads decent enough to be removed, and to appear at court, they being often forced to lop both tops and root, that they might recover them.

After all, it must be said, that this magnificence, and the number of these palaces and gardens, are the best and most commendable effect of arbitrary government. If these expences were not in time of peace, what would be this king's riches, and the extreme poverty of the people? for it is said, that every three years, some say much oftener, he has all the wealth of the nation in his coffers; so that there is a necessity he should have as extravagant and incredible ways of expending it, that it may have its due circulation amongst the people.

But when this vast wealth and power is turned to the disturbance and destruction of mankind, it is terrible; and yet it hath its use too; we and all Europe have been taught, by the industry of this great king, mighty improvements in war; so that Europe has been these twelve years an over-match for the Turk; and we for France by the continuation of the war. The forty millions sterling which the late war hath, and will cost England, before all is paid, was well bestowed, if it had been for no other end, than to teach us the full use and practice of war; and in that point to equal us with our neighbours.

It was observed by Polybius of the Romans, that wherever they met with an enemy, that had better weapons than themselves, they changed with them; this docility gained them the empire of the world. On the contrary, those late eastern tyrants have despised learning, and consequently must submit to the more refined valour of Europe. I say, the effects of arbitrary government, both in war and peace, are stupendous.

The Roman emperors, because absolute lords of the people, far out did the commonwealth in magnificent buildings, both public and private. Augustus left Rome a marble city, which he found of brick only. Nero burnt it and rebuilt it, and a golden palace for himself, like a city. Vespasian and Titus built amphitheatres and baths far surpassing any buildings now upon the face of the earth; in one of which 120,000 persons might see and hear, and be seated with more convenience than upon our stages. Adrian visited most parts of the world, on purpose to build cities. Trajan had his name on every wall, which he either restored or built. His pillar, and bridge over the Danube are stupendous monuments of his expences.

The Egyptian kings built them monuments, wherein they slaved their whole nation, and which are the wonders of the world to this day, the obelisks I mean, and pyramids.

The Asiatic emperors of China and Japan have outdone the Europeans in this kind of immense buildings, as the wall in China, the cut rivers, and sluices, and bridges there. In Japan the buildings are no less incredibly great.

Of this absolute dominion we have examples in those two American empires, of Mexico and Peru. In this last, mere nature forced impossibilities without art, tools, or science. The Cuseo fortress was a master piece, where stones were laid upon stones, which no engine of ours could carry, or raise up; or tools better polish, and fit together; where a country near as big as all Europe, was turned into a garden, and cultivated better than Versailles, and water works brought to play and overspread some

thousands of miles, where it never rains. This was the only arbitrary government well applied to the good of mankind, I ever met with in history; where roads and store-houses of food and raiment were the guides, and numbered the miles for the travellers, and the whole empire turned into an useful and intelligible map.

As for the turks, Persians, and Mogul, the whole empire is intended solely for the pleasure of one man; and here even tyranny itself is foully abused.

Yet I should be loth to see them in any kind exemplified in England. In our happy island we see such palaces and gardens, as are for the health and ease of man only; and what they want in magnificence, they have in neatness. There is not such a thing as a gravel walk in or about Paris, nor a roller of any sort; when it rains the Tuilleries are shut up, and one walks in dirt some days after. The grass plots, or, as they call them bowling greens, are as ill kept, they clip them and beat them with flat beaters as they do their walks. This puts me in mind of what I saw in the garden of the prince of Conde in Paris; where there was a grassy circle of about four feet wide, round one of the fountains in the middle of the garden; to keep this down, and make it of a finer turf, the gardener had tethered two black lambs, and two white kids, at equal distances, which fed upon it. Whatever the effect was, I thought it looked pretty enough; and the little animals were as ornamental as the grass.

All the paintings and prints made of late years of the king make him look very old; which in my mind is not so; for he is plump in the face, and is well coloured, and seems healthy, and eats and drinks heartily, which I saw him do; this is certainly an injury to him, and possibly in complaisance to the dauphin, or worse. This is the meanest compliment I have known the French guilty of towards their prince; for there are every where expressions of another nature all over Paris. See the Description of Paris, where they are collected and at large. The Romans under Augustus (the first absolute master of that people, as this king is of the French) had upon this subject from the people a much finer thought, and wish, *De nostris annis tibi Jupiter augeat annos.*

However it be, the king seems not to like Versailles so well as he did; and has an opinion, that the air is not so good, as elsewhere; he leaves it (as I said) every week on Tuesday night, and goes mostly to Marli, or Meudon, and sometimes to the Trianon, which is but at the end of the gardens, and returns not to Versailles till Saturday night: besides his extraordinary removes to Fontainebleau. I wonder nobody puts him in mind of that paradise of France, Languedoc, where he may be with ease in four days, at the rate that kings use to travel. I had this discourse at table with one of the introducers to the ambassador at Versailles; but he could not bare it, it being against the interest of all settled courts to remove, though it were never so good for their prince's health. I remember but of one instance in history, and that was Aurenzebe the Great Mogul, who in his middle age fell desperately sick, and long languished at Lahor; but took advice of somebody about him, and went in his own kingdom a progress of one thousand miles to Casimire, a very mild and temperate climate, where he recovered and lived to above a hundred years old, and is yet alive for aught I know.

The king now seldom or never plays, but contents himself sometimes with looking on; but he hath formerly been engaged, and has lost great sums. Monsieur S. rooked him of near a million of livres at basset, by putting false cards upon him; but was imprisoned and banished for it some years.

Before I give over the business of gardens and country, I will add some remarks, which seemed particular and new to me.

In the kitchen gardens at and near Paris, are a great number of apricot standards; but kept low; very full of blossoms, and good bearers.

They make a conserve of the fruit ; which I like above any of their wet sweetmeats ; it was made by cutting them into thin slices, and throwing away the stone ; which our people spare sometimes, and leave in the flesh entire, and spoils the sweetmeat, and sets it a fretting.

They employ the stones in brandy, and distil them in spirits.

In the beginning of April we had a store of asparagus, but they were often so bitter, to me at least, that there was little pleasure in eating them. It is certain they were much worse, than ours in England in that particular. Which puts me in mind of the wild asparagus, which grows plentifully with us on the sea coast in Lincolnshire. This is very fair to the eye ; yet no culture of our gardens, by often transplanting, could make it catable. I fancy the asparagus recovers something of its natural force in a warmer climate ; for the sweet taste is as it were a mark of degeneration. If they would have them good here, they must renew the seed from England or Holland.

The wild asparagus of Languedoc is another plant called *Corruda*.

I procured out of Languedoc a sort of *Præcox* vine, about fifty plants, by the Clermont carrier ; the which I gave to Mr. London, our king's gardener, for my lord ambassador. This grape is white, very thin skinned, and clear as a drop of water ; it is usually ripe at St. John's-mass in July at Montpellier, where it is called *Des Unics*.

There are also in this town *Præcox* grapes, as Dr. Tournefort told me in the physic garden ; but whether the same with the *Unics* I know not.

I have said they delight much in figs in pots or cases ; but here is another way of preserving the fig trees set in the ground, which is much practised ; and that is to lap, and tie them up in long straw, from top to bottom ; for which they are placed at a little distance from the walls. This also is practised to such trees as stand in the middle of the parterre ; they did not open them till mid-May.

The exotic trees, which the Parisians most delight in, for their garden walks, and for the shade in their courts, are the *Maroniers*, or horse chesnuts, of which they have innumerable ; for the fruit ripens very well here, and comes up of itself. Also the *Acacia Rovini*, which is very common, and makes pretty alleys, and which they lop and turn to pollards, with good effect ; but of these last the leaves are late in putting forth, it being the 15th of May our style, when these trees were scarce green.

May 25. When I took my leave of Monsicur Valliant, I found him in his flower garden ; he shewed me a parcel of *ranunculuses*, in full flower, which he had received but two years before from Constantinople ; they were very beautiful and rare, at least such as I had never seen ; as pure white, white and green, white and striped with carnation, pure carnation or rose-colour, striped carnation, &c.

Of these he had sold some a pistole a root, and hoped in a year or two to be more plentifully stocked with them, that he might afford them cheaper. I did see afterwards a few of them in the royal pipinerie, and also in the seedsman's garden, Monsieur Le Febre : but both came from him.

I also took notice of his iron cradles or hoops over his beds, which were removable, and to be made higher and lower, according to the height and nature of the flowers they were designed to cover. This, me thought, was far beyond all the inventions of wooden covers, and might with sail-cloths and mats well serve for a sort of portable green house, to the less tender plants.

I saw Le Febre's flower-garden, May 9. The tulips were in their prime ; indeed, he had a very large and plentiful collection. The penache or striped tulips were many, and of great variety. He observed to me, that from his large and numerous beds of self-flowered tulips, that is, of one colour, as red, yellow, &c. they expected

yearly some striped ones, which if perfect, that is, striped in all the six leaves, would but doubtfully continue, and perhaps return to their former state the next year; but if they laboured, or did not finish the stripings of all the six leaves the first year, there were better hopes of their continuing in that state.

Though I had no mind to descend into the stone-pits, which are like our mines, well-fashion, and the stones wound up with great wheels, to husband the soil over them: yet I went to Vanre, three miles from the town, which is a ridge of hills that runs along to the observatory. Here the quarries are open on the side of the hill, as with us. In those I observed two or three layers of stone, two or three foot thick, mostly made up of shells, or stones in the fashion of shells. Amongst these shell-stones the most remarkable for bigness was a certain smooth and long buccinum, tapering with very many spires. I measured one whose first spire was eight inches diameter, the full length I could not so well come at; yet holding proportion with those of the kind which lay flat, and which we could see in their full length, it must have been a foot long at least. There is no buccinum in any of our seas a quarter so big. Here are many of this species. Also other large turbinated stones, which come near some of the West India kinds of music shells, of which genus yet there are none in the European seas.

These layers of stone mixed with shell-figured bodies, are at certain distances in the rock, and other rocks void of shells interposed.

Fanciful men may think what they please of this matter; sure I am, until the history of nature, and more particularly that of minerals and fossils is better looked into, and more accurately distinguished, all reasoning is in vain. It is to be observed where men are most in the dark, there impudence reigns most, as upon this subject: they are not content fairly to dissent, but to insult every body else. In like manner upon the subject of mineral waters; how many scribblers have there been without any knowledge of fossils?

I know not whether it be worth the noting, but it shews the humour of the French, that I saw in some country towns near Paris, the church wall near the top had a two feet broad mourning list, which compassed the whole church like a girdle, and on this was at certain distances, painted the arms of the lord of the manor, who was dead.

I shall conclude what I have to say further, with the air of Paris, and the state of health and physic there.

The air of Paris is drier than that of England, notwithstanding the greatest part of the city is placed in a dirty miry level; the muddy banks of the river Seine witness this; also the old Latin name of Paris, Lutetia; but some of them are unwilling to derive it from Lutum, though there are several other towns in France, formerly more considerable than it, of that very name; but from the Greck original, as Tolon, Tolousa, which in that language signify black dirt. We have an undoubted experiment of the different temper of the air in our Philosophic Transactions; where it is demonstrated that there falls twice as much rain in England, as at Paris; registers of both having carefully been kept, for so many years, both here and in France.

From this quantity of rain with us, our fields are much greener; and it was a pleasing surprise to me at my return, sailing up the river Thames, to see our green fields and pastures on every side; but we pay dearly for it, in agues and coughs, and rheumatic distempers.

The winter was very rude and fierce, as was ever known in the memory of man; the cold winds very piercing; and the common people walk the streets all in muffis, and

multitudes had little brass kettles of small-coal kindled, hanging on their arms; and yet you should scarce hear any one cough.

I never saw a mist at Paris in the six months I staid there, but one; though a very broad river runs through the middle of the city, nor any very strong winds; but this may be accidental, and the temper of some one year by chance.

We were very sensible by the 20th of February our style, though the nights were cold, and the white frosts great in the mornings, that the sun at noon had a much stronger force and heat, than with us, at that time of the year.

Another argument of the dryness of the air at Paris, we had from the alteration of health; such as were thick breathed, and coughed and spit much, soon recovered; and the insensible perspiration of the skin was so clear and free, that the kidneys had little to do; so that it was observed by most, that though we drank pretty freely of the thin wines of Champagne and Burgundy, yet they never broke our sleep to get shut of them; and that very little passed that way in the morning.

Lastly, a sign of the dryness and great goodness of the air of Paris is, the vast number of iron bars all over the city; which yet are mostly entire, and the least decayed with rust, I ever saw in any place; whereas ours in London are all in a few years all over rusty, and miserably eaten.

We were sufficiently alarmed at our first coming to Paris, with the unwholesomeness of the river water, and cautioned against drinking it; and yet it was almost impossible to avoid the bad effects of it; for within the month two thirds of the family fell into fluxes, some into dysenteries, and some very ill of it. The French that come out of other remote countries suffer as well as the strangers. We were told boiling it was a good remedy to prevent its griping quality; but that is a mere notion, for we know mineral waters boiled have a stronger effect, and this quality can proceed from nothing less.

The well waters here are much worse than the river waters, because more mineral. But our safety was in the water brought from the Maison des Eaux, where the aqueduct of Arcueil empties itself to serve the great palaces and city fountains.

The disease of the dysentery being one of the most common in Paris, the most celebrated drug for its cure is now the ipecacuanha; though I never once made use of it to any of our people, but cured them all as soon, and as well with our usual remedies. Indeed they have great need of it here, for the poorer sort of people, through ill diet, this water, and herbs, are very subject to it; this root is said to cure it with as much certainty, and as readily, as the jesuit's powder an ague; of this most of the physicians and apothecaries agreed. They give it in powder from ten grains to forty, which is the largest dose. It most commonly vomits, and sometimes purges, but both gently. It is sold here from twenty to fifty crowns a pound. They divide it into four sorts, according to its goodness.

Another popular disease here is the stone; and there are men well practised in the cutting for it. There are also two hospitals, where great numbers are cut yearly, as La Charite, and Hostel-Dieu, in both of these there are wired chests full of stones cut from human bodies; and in the chest of La Charite is one, which exceeds all belief; it was cut from a monk, who died in the very operation; it is as big as a child's head. It is but the model or pattern of the stone which is kept in the chest; which has this inscription on it:

Figure & grosseur de la pierre, pesant 51 ounces, qui font trois livres trois ounces, qui a este tiree dans cet Hospital au mois de Juin 1690, & que l'on conserve dans le Couvent de la Charite.

But that which I shall here most insist upon is the new way, practised by Pere Jaques, a monk. About the 20th of April he cut in the Hostel-Dieu ten in less than an hour's time: the third day after, all were hearty and without pain but one.

He cuts both by the grand and little appareil; in both he boldly thrusts in a broad lancet or stiletto into the middle of the muscle of the thigh near the anus, till he joins the catheter or staff, or the stone betwixt his fingers; then he widens the incision of the bladder in proportion to the stone with a silver oval hoop; if that will not do, he thrusts in his four fingers and tears it wider; then with the duck's bill he draws it out.

I saw him cut a second time in the Hostel-Dieu; and he performed it upon nine persons in three quarters of an hour, very dexterously. He seemed to venture at all; and put me into some disorder with the cruelty of the operation; and a stouter Englishman than myself. However I visited them all in their beds, and found them more amazed than in pain.

Pere Jaques cut also his way in the other hospital La Charite, much about the same time, eleven at twice. Here Monsieur Marshal, the best of the surgeons for this operation now in Paris, harangued against him before the governors, who coldly answered, they would be determined by the event, which way was best.

Atque hac ratione Fæminis Calculi omnium facillime exciduntur; nempe scalpello intra vaginam uteri in vesicam adacto.

Of those cut in La Charite one died; and being dissected, it was found he had his bladder pierced in four or five places; also the musculus psous sadly mangled; also the left vesiculæ seminales cut.

Notwithstanding this, if this method was well executed by a skilful hand, it might be of good use to mankind.

This way of cutting for the stone, puts me in mind of what I formerly wrote and published in the Phil. Transactions, about cutting above the os pubis, in the fund of the bladder.

Also of that experiment of cutting for the stone of an alderman at Doncaster in the gluteus major, he was twice cut in the same place, and out-lived both. I saw the first stone, which was very large, and in some measure transparent, crystal like. This experiment is printed in Dr. Willes's Scarborough Spaw, fourteen years ago at least, and is a fair hint for this new method.

Since my return I had a letter from Mr. Probie, a very learned and industrious young gentleman, who was with me to see the operation, that part relating to this matter I shall here transcribe. Indeed, I mightily longed for an account of this matter, the success of which I came away too soon to learn any thing for certain.

Paris, Aug. 2, 98.

“ PERE JAQUES' reputation mightily slackens, out of forty-five that he cut at the Hostel-Dieu, but sixteen of them survive; and of nineteen in the Charite, but eleven. He has practised at the hospital at Lyons, but, it is said, with worse success than at Paris. I am sensible he has got abundance of enemies, which makes me very often question, what I may hear said of him. Dr. Fagon, the king's physician, told Dr. Tournefort, when he went to present his book to him, that he had cut seven at Versailles, and that six of them are alive, and as well as if never cut. The person that died was so distempered, that he was not expected to live, and it was thought, if he had not been cut, he had not lived so long: the surgeons have a great mind to cry down the man, though they practise his method. For Marshal has since cut after Pere Jaques' manner, only with this difference, that Marshal's catheter was cannulated. Le Rue, the second surgeon of the Charity hospital cut after the old manner, at the

same time when Marshal cut Pere Jaques' way, but had not so good success as Marshal had; for all that Marshal cut are alive and very well, whereas the other lost one or two of his number; besides, those that lived were not so soon cured, no, not by a month or six weeks." Thus far Mr. Probie.

The pox here is the great business of the town; a disease which in some measure hath contributed to the ruin of physie here, as in London. This secret service hath introduced little contemptible animals of all sorts into business, and hath given them occasion to insult families, after they had once the knowledge of these misfortunes. And it is for this reason the quacks here, as with us, do thrive vastly into great riches beyond any of the physicians, by treating privately these calamities.

It was a pleasant diversion to me to read upon the walls every where about the town, but more particularly in the Fauxbourgh of St. Germain, the quacks' bills printed in great uncial letters.

As,

De par l'ordre du Roy.

Remede infallible & commode pour la gerison des maladies secretes sans garder la chambre.

Another,

Par permission de Roy.

Manniere tres aisee & tres sure pour guerir sans incommodite, & sans que persone en appereive, les maladies veneriennes, &c.

Another,

Par privilege du Roy.

L'Antivenerien de medecin Indien, pour toutes les maladies veneriennes, telles quelles puissent estre, sans aucun retour, & sans garder la chambre. Il est tres commode & le plus agreable de monde.

Another,

Remede assure de Sieur de la Brune privilege du Roy, &c. sans qu'on soit contraint de garder la chambre, &c.

By these bills it is evident, there is yet a certain modesty and decorum left in the concealing this disease, even amongst the French: they would be cured secretly, and as though nothing were doing; which those wretches highly promise. But this is that handle which gives those mean people an occasion to insult their reputation, and injure them in their health for ever.

Every body here puts their helping hand, and meddles with the cure of this disease, as apothecaries, barbers, women, and monks; yet I did not find by all the inquiry I could make, that they had other remedies than we. Nay, there is something practised in the cure of this distemper in England, which they at Paris know nothing of; but this old verse forbids me to say any thing further:

Artem pudere proloqui, quam factites.

The apothecaries' shops are neat enough, if they were but as well stored with medicines; and some are very finely adorned, and have an air of greatness, as that of Monsieur Geofferie, who has been provost des merehands, in the Rue Burtebur, where the entry to the Basse Cour is a port-cochier, with vasas of copper in the niches of the windows; within are rooms adorned with huge vasas and mortars of brass, as well for sight, as for use. The drugs and compositions are kept in cabinets disposed round the room. Also laboratories backwards in great perfection and neatness. I must needs commend this gentleman for his civility towards me; and for his care in educating his



son, who came over with count Tallard, a most hopeful and learned young man; whom our society at Gresham-college, at my request, honoured with admitting him fellow, according to his deserts.

I had the opportunity of conversing with many of the physicians in this city; who all agree in the low condition and disesteem it was in, from the boundless confidence and intruding of quacks, women, and monks. Monsieur d'Achin, the late chief physician, has been ill thought on for taking money, and giving protection to these sort of cattle: but the chief physician now, Monsieur Fagon, is a man of great honour and learning, and very desirous to promote the art.

It is here as with us, some practise out of mere vanity, others to make a penny any way to get bread. The cause of all this is, I think, the great confidence people have of their own skill, an arrogance without thinking. To pass a judgment upon cures, and the good and evil practice of physic, without doubt is one of the nicest things, even to men of the faculty; but a jury, that is, the very ordinary men in England, are suffered now to undertake the question; when I may truly say, that I have ever found, no disparagement to them, the most learned men of the nation, the most mistaken in these matters; and can it be otherwise in so conjectural an art, when we ourselves scarce know, when we have done ill or well.

Another cause of the low esteem of physic here, are the sorry fees that are given to physicians: which makes that science not worth the application and study. The king indeed is very liberal, as in all things else, in his pensions to his chief physician, and gives his children good preferments.

Also Mr. Burdelot, who is also well pensioned, and lodged at Versailles, physician to the duchess of Burgundy, a learned man; he is perfectly well skilled in the history of physic; and we may shortly (as he told me) expect from him, another supplement to Vauder Linden, of many thousand volumes, which have escaped that catalogue, and are not accounted for.

Monsieur, and the dauphin, and all the princes of the blood, have their domestic physicians; some of whom I knew, as Monsieur Arlot, Monsieur Minot, to the prince of Conti, of my acquaintance formerly at Montpellier. The two Morins very learned men; also Monsieur Grimodet, &c.

Others have the practice of nunneries and convents, which gives them bread; others have parishes; and some such shifts they make; but all is wrong with them, and very little encouragement given to the faculty.

April 14. The prince of Conti sent his gentleman and coach at midnight to fetch me to his son, and to bring with me the late king Charles's drops to give him. This was a very hasty call. I told the messenger, I was the prince's very humble servant; but for any drops or other medicines I had brought nothing at all with me, and had used only such as I found in their shops, for all the occasions I had to use any. I desired he would tell him, that I was ready to consult with his physicians upon his son's sickness, if he pleased to command me, but for coming upon any other account I desired to be excused; but I heard no more of the matter, and the young prince died. By this it is evident, there is as false a notion of physic in this country, as with us; and that it is here also thought a knack, more than a science or method; and little chemical toys, the bijoux of quacks, are mightily in request. This heresy hath possessed the most thinking, as well as the ignorant part of mankind; and for this we are beholden to the late vain expositors of nature, who have mightily inveighed against and undervalued the ancient Greek physicians in whose works only this art is to be learnt, unless single persons could live over as many ages, as those wise men did.

Men are apt to prescribe to their physician, before he can possibly tell what he shall in his judgment think fitting to give; it is well if this was in negatives only; but they are prejudiced by the impertinence of the age, and our men, who ought to converse with the patient and his relations with prognostics only, which are the honour of physic; and not play the philosopher by fanciful and precarious interpretations of the natures of diseases and medicines, to gain a sort of credit with the ignorant: and such certainly are all those that have not studied physic thoroughly, and in earnest.

Those drops were desired of me by other persons of quality, as the princess d'Espinoyn, the duchess of Bouillon, Monsieur Sesac, &c. and having bethought myself how my master, the late king Charles, had communicated them to me, and shewed me very obligingly the process himself, by carrying me alone with him into his elaboratory at Whitehall, while it was distilling: also Mr. Chevins another time shewed me the materials for the drops in his apartment newly brought in, in great quantity, that is, raw silk: I caused the drops to be made here. Also I put Dr. Tournefort upon making of them; which he did in perfection, by distilling the finest raw silk he could get. For my part I was surpris'd at the experiment often repeated, having never tried it before. One pound of raw silk yielded an incredible quantity of volatile salt, and in proportion the finest spirit I ever tasted; and that which recommends it is, that it is when rectified, of a far more pleasant smell, than that which comes from sal ammoniac or hartshorne; and the salt refined and cohobated with any well scented chemical oil, makes the king's salt, as it is used to be called. This my lord ambassador gave me leave to present in his name; and the doctor now supplies those which want. Silk, indeed is nothing else, but a dry jelly from the insect kind, and therefore very cordial and stomachic no doubt. The Arabians were wise, and knowing in the materia medica, to have put it in their Alkermes.

This must be said for the honour of this king, that he has ever given great encouragements for useful discoveries in all kinds, and particularly in physic. It is well known he bought the secret of the jesuit's powder, and made it public; as he lately did that of the hypococana.

To conclude, it was my good fortune here to have a bundle of original papers of Sir Theodore Mayerne, and his friends, who corresponded with him, presented me by the Reverend Dr. Wickar, Dean of Winchester, who marrying his kinswoman found them amongst other writings of law matters. I have not yet had the leisure to peruse them, but those who know the worth of that great man, will desire they may be made public; which if they are, they shall come forth entire, and not disguised, as some of his other papers have been, to the great detriment of physic; and I think it is the first example of this nature, that posthumous papers were ever abbreviated, and made what they never were before, an entire and full publication.

# TRAVELS DURING THE YEARS 1787, 1788, AND 1789,

UNDERTAKEN

MORE PARTICULARLY WITH A VIEW OF ASCERTAINING THE CULTIVATION, WEALTH, RESOURCES, AND NATIONAL PROSPERITY OF THE KINGDOM OF FRANCE. BY ARTHUR YOUNG, ESQ. F. R. S.

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## PREFACE.

IT is a question whether modern history has any thing more curious to offer to the attention of the politician, than the progress and rivalry of the French and English empires, from the ministry of Colbert to the revolution in France. In the course of those 130 years, both have figured with a degree of splendour that has attracted the admiration of mankind.

In proportion to the power, the wealth, and the resources of these nations, is the interest which the world in general takes in the maxims of political œconomy by which they have been governed. To examine how far the system of that œconomy has influenced agriculture, manufactures, commerce, and public felicity, is certainly an inquiry of no slight importance; and so many books have been composed on the theory of these that the public can hardly think that time misemployed which attempts to give the practice.

The survey which I made, some years past, of the agriculture of England and Ireland (the minutes of which I published under the title of *Tours*) was such a step towards understanding the state of our husbandry as I shall not presume to characterise; there are but few of the European nations that do not read these *Tours* in their own language; and notwithstanding all their faults and deficiencies, it has been often regretted, that no similar description of France could be resorted to either by the farmer or politician. Indeed it could not but be lamented, that this vast kingdom, which has so much figured in history, were like to remain another century unknown, with respect to those circumstances that are the objects of my inquiries. An hundred and thirty years have passed, including one of the most active and conspicuous reigns upon record, in which the French power and resources, though much overstrained, were formidable to Europe. How far were that power and those resources founded on the permanent basis of an enlightened agriculture? how far on the more insecure support of manufactures and commerce? how far have wealth and power and exterior splendour, from whatever cause they may have arisen, reflected back upon the people the prosperity they implied? very curious inquiries; yet resolved insufficiently by those whose political reveries are spun by their fire-sides, or caught flying as they are whirled through Europe in post-chaises. A man who is not practically acquainted with agriculture, knows not how to make those inquiries; he scarcely knows how to discriminate the circumstances productive of misery, from those which generate the felicity of a people; an assertion that will not appear paradoxical, to those who have attended closely to these subjects. At the same time, the mere agriculturist, who makes such journies, sees little or nothing of the connection between the practice in the fields, and the resources of the empire; of combinations that take place between operations apparently unimportant, and the general interest of the state; combinations so curious, as to convert, in some cases, well cultivated fields into scenes of misery, and accuracy of husbandry into the parent of national weakness. These are subjects that never will be understood from the speculations of

the mere farmer, or the mere politician; they demand a mixture of both; and the investigation of a mind free from prejudice, particularly national prejudice; from the love of system, and of the vain theories that are to be found in the closets of speculators alone. God forbid that I should be guilty of the vanity of supposing myself thus endowed! I know too well the contrary; and have no other pretension to undertake so arduous a work, than that of having reported the agriculture of England with some little success. Twenty year's experience since that attempt, may make me hope to be not less qualified for similar exertions at present.

The clouds that for four or five years past, have indicated a change in the political sky of the French hemisphere, and which have since gathered to so singular a storm, have rendered it more interesting to know what France was previously to any change. It would indeed have been matter of astonishment, if monarchy had risen, and had set in that region, without the kingdom having had any examination professedly agricultural.

The candid reader will not expect, from the registers of a traveller, that minute analysis of common practice, which a man is enabled to give, who resides some months, or years, confined to one spot; twenty men, employed during twenty years, would not effect it; and supposing it done, not one thousandth part of their labours would be worth a perusal. Some singularly enlightened districts merit their attention: but the number of them, in any country, is inconsiderable; and the practices that deserve such a study, perhaps, still fewer: to know that unlightened practices exist, and want improvement, is the chief knowledge that is of use to convey; and this rather for the statesman than the farmer. No reader, if he knows any thing of my situation, will expect, in this work, what the advantages of rank and fortune are necessary to produce—of such I had none to exert, and could combat difficulties with no other arms than unremitted attention, and unabating industry. Had my aims been seconded by that success in life, which gives energy to effort, and vigour to pursuit, the work would have been more worthy of the public eye; but such success must, in this kingdom, be sooner looked for in any other path than that of the plough; non ullus aratro dignus honos, was not more applicable to a period of confusion and bloodshed at Rome, than to one of peace and luxury in England.

One circumstance I may be allowed to mention, because it will shew, that whatever faults the ensuing pages contain, they do not flow from any presumptive expectation of success; a feeling that belongs to writers only, much more popular than myself: when the publisher agreed to run the hazard of printing these papers, and some progress being made in the journal, the whole MS. was put into the compositor's hand to be examined, if there were a sufficiency for a volume of 60 sheets; he found enough prepared for the press to fill 140: and I assure the reader, that the successive employment of striking out and mutilating more than the half of what I had written, was executed with more indifference than regret, even though it obliged me to exclude several chapters upon which I had taken considerable pains. The publisher would have printed the whole; but whatever faults may be found with the author, he ought at least to be exempted from the imputation of an undue confidence in the public favour; since to expunge was undertaken as readily as to compose. So much depended in the second part of the work on accurate figures, that I did not care to trust myself, but employed a schoolmaster, who has the reputation of being a good arithmetician, for examining the calculations, and I hope he has not let any material errors escape him.

The revolution in France was a hazardous and critical subject, but too important to be neglected; the details I have given, and the reflections I have ventured will, I trust, be received with candour by those who consider how many authors, of no inconsiderable ability and reputation, have failed on that difficult theme: the course I have steered is so

removed from extremes, that I can hardly hope for the approbation of more than a few; and I may apply to myself, in this instance, the words of Swift: "I have the ambition, common with other reasoners, to wish at least that both parties may think me in the right; but if that is not to be hoped for, my next wish should be, that both might think me in the wrong; which I would understand as an ample justification of myself, and a sure ground to believe that I have proceeded at least with impartiality, and perhaps with truth."

REDUCTION OF LIVRES, AT TEN-PENCE HALFPENNY EACH.

No.	L.	s.	d.	No.	L.	s.	d.	No.	L.	s.	d.	No.	L.	s.	d.	No.	L.	s.	d.	No.	L.	s.	d.
10	0	10	½	50	2	3	9	99	4	6	7	580	25	7	6	1700	74	7	6	300,000	13,125		
20	1	9		51	2	4	7½	100	4	7	6	590	25	16	3	1800	78	15	0	400,000	17,500		
30	2	7½		52	2	5	6	110	4	16	3	600	26	5	0	1900	83	2	6	500,000	21,875		
40	3	6		53	2	6	4½	120	5	5	0	610	26	13	9	2000	87	10	0	600,000	26,250		
50	4	4½		54	2	7	3	130	5	13	9	620	27	2	6	2100	91	17	6	700,000	30,625		
60	5	3		55	2	8	1½	140	6	2	6	630	27	11	3	2200	96	5	0	800,000	35,000		
70	6	1½		56	2	9	0	150	6	11	3	640	28	0	0	2300	100	12	6	900,000	39,375		
80	7	0		57	2	9	10½	160	7	0	0	650	28	8	9	2400	105	0	0	1,000,000	43,750		
90	7	10½		58	2	10	9	170	7	8	9	660	28	17	6	2500	109	7	6	2,000,000	87,500		
100	8	9		59	2	11	7½	180	7	17	6	670	29	6	3	2600	113	15	0	3,000,000	131,250		
110	9	7½		60	2	12	6	190	8	6	3	680	29	15	0	2700	118	2	6	4,000,000	175,000		
120	10	6		61	2	13	4½	200	8	15	0	690	30	3	9	2800	122	10	0	5,000,000	218,750		
130	11	4½		62	2	14	3	210	9	3	9	700	30	12	6	2900	126	17	6	6,000,000	262,500		
140	12	3		63	2	15	1½	220	9	12	6	710	31	1	3	3000	131	5	0	7,000,000	306,250		
150	13	1½		64	2	16	0	230	10	1	3	720	31	10	0	3100	135	12	6	8,000,000	350,000		
160	14	0		65	2	16	10½	240	10	10	0	730	31	18	9	3200	140	0	0	9,000,000	393,750		
170	14	10½		66	2	17	9	250	10	18	9	740	32	7	6	3300	144	7	6	10,000,000	437,500		
180	15	9		67	2	18	7½	260	11	7	6	750	32	16	3	3400	148	15	0	11,000,000	481,250		
190	16	7½		68	2	19	6	270	11	16	3	760	33	5	0	3500	153	2	6	12,000,000	425,000		
200	17	6		69	3	0	4½	280	12	5	0	770	33	13	9	3600	157	10	0	13,000,000	568,750		
210	18	4½		70	3	1	3	290	12	13	9	780	34	2	6	3700	161	17	6	14,000,000	612,500		
220	19	3		71	3	2	1½	300	13	2	6	790	34	11	3	3800	166	5	0	15,000,000	656,250		
231	0	1½		72	3	3	0	310	13	11	3	800	35	0	0	3900	170	12	6	16,000,000	700,000		
241	1	0		73	3	3	10½	320	14	0	0	810	35	8	9	4000	175	0	0	17,000,000	743,750		
251	1	10½		74	3	4	9	330	14	8	9	820	35	17	6	4100	179	7	6	18,000,000	787,500		
261	2	9		75	3	5	7½	340	14	17	6	830	36	6	3	4200	183	15	0	19,000,000	831,250		
271	3	7½		76	3	6	6	350	15	6	3	840	36	15	0	4300	188	2	6	20,000,000	875,000		
281	4	6		77	3	7	4½	360	15	15	0	850	37	3	9	4400	192	10	0	30,000,000	1,312,500		
291	5	4½		78	3	8	3	370	16	3	9	860	37	12	6	4500	196	17	6	40,000,000	1,750,000		
301	6	3		79	3	9	1½	380	16	12	6	870	38	1	3	4600	201	5	0	50,000,000	2,187,500		
311	7	1½		80	3	10	0	390	17	1	3	880	38	10	0	4700	205	12	6	60,000,000	2,625,000		
321	8	0		81	3	10	10½	400	17	10	0	890	38	18	9	4800	210	0	0	70,000,000	3,062,500		
331	8	10½		82	3	11	9	410	17	18	9	900	39	7	6	4900	214	7	6	80,000,000	3,500,000		
341	9	9		83	3	12	7½	420	18	7	6	910	39	16	3	5000	218	15	0	90,000,000	3,937,500		
351	10	7½		84	3	13	6	430	18	16	3	920	40	5	0	6000	262	10	0	100,000,000	4,375,000		
361	11	6		85	3	14	4½	440	19	5	0	930	40	13	9	7000	306	5	0	200,000,000	8,750,000		
371	12	4½		86	3	15	3	450	19	13	9	940	41	2	6	8000	350	0	0	300,000,000	13,125,000		
381	13	3		87	3	16	1½	460	20	2	6	950	41	11	3	9000	393	15	0	400,000,000	17,500,000		
391	14	1½		88	3	17	0	470	20	11	3	960	42	0	0	10,000	437	10	0	500,000,000	21,875,000		
401	15	0		89	3	17	10½	480	21	0	0	970	42	8	9	20,000	875	0	0	600,000,000	26,250,000		
411	15	10½		90	3	18	9	490	21	8	9	980	42	17	6	30,000	1312	10	0	700,000,000	30,625,000		
421	16	9		91	3	19	7½	500	21	17	6	990	43	6	3	40,000	1750	0	0	800,000,000	35,000,000		
431	17	7½		92	4	0	6	510	22	6	3	1000	43	15	0	50,000	2187	0	0	900,000,000	39,375,000		
441	18	6		93	4	1	4½	520	22	15	0	1100	48	2	6	60,000	2625	0	0	1,000,000,000	43,750,000		
451	19	4½		94	4	2	3	530	23	3	9	1200	52	10	0	70,000	3062	10	0	2,000,000,000	87,500,000		
462	0	3		95	4	3	1½	540	23	12	6	1300	56	17	6	80,000	3500	0	0	3,000,000,000	131,250,000		
472	1	1½		96	4	4	0	550	24	1	3	1400	61	5	0	90,000	3937	0	0	4,000,000,000	175,000,000		
482	2	0		97	4	4	10½	560	24	10	0	1500	65	12	6	100,000	4375	0	0	5,000,000,000	218,750,000		
492	2	10½		98	4	5	9	570	24	18	9	1600	70	0	0	200,000	8750	0	0	6,000,000,000	262,500,000		

## TRAVELS, &c.

THERE are two methods of writing travels ; to register the journey itself, or the result of it. In the former case it is a diary, under which head are to be classed all those books of travels written in the form of letters. The latter usually falls into the shape of essays on distinct subjects. Of the former method of composing, almost every book of modern travels is an example. Of the latter, the admirable essays of my valuable friend Mr. professor Symonds, upon Italian agriculture, are the most perfect specimens.

It is of very little importance what form is adopted by a man of real genius ; he will make any form useful, and any information interesting. But for persons of more moderate talents, it is of consequence to consider the circumstances for and against both these modes.

The journal form hath the advantage of carrying with it a greater degree of credibility ; and, of course, more weight. A traveller who thus registers his observations is detected the moment he writes of things he has not seen. He is precluded from giving studied or elaborate remarks upon insufficient foundations : if he sees little he must register little : if he has few good opportunities of being well informed, the reader is enabled to observe it, and will be induced to give no more credit to his relations than the sources of them appear to deserve : if he passes so rapidly through a country as necessarily to be no judge of what he sees, the reader knows it : if he dwells long in places of little or no moment with private views or for private business, the circumstance is seen ; and thus the reader has the satisfaction of being as safe from imposition either designed or involuntary, as the nature of the case will admit : all which advantages are wanted in the other method.

But to balance them, there are on the other hand some weighty inconveniences ; among these the principal is, the prolixity to which a diary generally leads ; the very mode of writing almost making it inevitable. It necessarily causes repetitions of the same subjects and the same ideas ; and that surely must be deemed no inconsiderable fault, when one employs many words to say what might be better said in a few. Another capital objection is, that subjects of importance, instead of being treated de suite for illustration or comparison, are given by scraps as received, without order, and without connection ; a mode which lessens the effect of writing, and destroys much of its utility.

In favour of composing essays on the principal objects that have been observed, that is, giving the result of travels and not the travels themselves, there is this obvious and great advantage, that the subjects thus treated are in as complete a state of combination and illustration as the abilities of the author can make them ; the matter comes with full force and effect. Another admirable circumstance is brevity ; for by the rejection of all useless details, the reader has nothing before him but what tends to the full explanation of the subject : of the disadvantages I need not speak ; they are sufficiently noted by shewing the benefits of the diary form ; for proportionably to the benefits of the one, will clearly be the disadvantages of the other.

After weighing the pour and the contre, I think that it is not impracticable in my peculiar case to retain the benefits of both these plans.

With one leading and predominant object in view, namely agriculture, I have conceived that I might throw each subject of it into distinct chapters, retaining all the advantages which arise from composing the result only of my travels.

At the same time, that the reader may have whatever satisfaction flows from the diary form, the observations which I made upon the face of the countries through which I passed; and upon the manners, customs, amusements, towns, roads, seats, &c. may, without injury, be given in a journal, and thus satisfy the reader in all those points, with which he ought in candour to be made acquainted, for the reasons above intimated.

It is upon this idea that I have reviewed my notes, and executed the work I now offer to the public.

But travelling upon paper, as well as moving amongst rocks and rivers, hath its difficulties. When I had traced my plan, and begun to work upon it, I rejected, without mercy, a variety of little circumstances relating to myself only, and of conversations with various persons which I had thrown upon paper for the amusement of my family and intimate friends. For this I was remonstrated with by a person, of whose judgment I think highly, as having absolutely spoiled my diary, by expunging the very passages that would best please the mass of common readers; in a word, that I must give up the journal plan entirely, or let it go as it was written. To treat the public like a friend, let them see all, and trust to their candour for forgiving trifles. He reasoned thus: "Depend on it, Young, that those notes you wrote at the moment, are more likely to please than what you will now produce coolly, with the idea of reputation in your head: whatever you strike out will be what is most interesting, for you will be guided by the importance of the subject; and believe me, it is not this consideration that pleases so much as a careless and easy mode of thinking and writing, which every man exercises most when he does not compose for the press. That I am right in this opinion you yourself afford a proof. Your tour of Ireland (he was pleased to say) is one of the best accounts of a country I have read, yet it had no great success. Why? because the chief part of it is a farming diary, which, however valuable it may be to consult, nobody will read. If, therefore, you print your journal at all, print it so as to be read; or reject the method entirely, and confine yourself to set dissertations. Remember the travels of Dr. — and Mrs. —, from which it would be difficult to gather one single important idea, yet they were received with applause; nay, the bagatelles of Baretti, amongst the Spanish muleteers were read with avidity."

The high opinion I have of the judgment of my friend, induced me to follow his advice; in consequence of which, I venture to offer my itinerary to the public, just as it was written on the spot: requesting my reader, if much should be found of a trifling nature to pardon it, from a reflection, that the chief object of my travels is to be found in another part of the work, to which he may at once have recourse, if he wish to attend only to subjects of a more important character.

## JOURNAL....MAY 15, 1787.

THE streight that separates England, so fortunately for her, from all the rest of the world, must be crossed many times before a traveller ceases to be surprised at the sudden and universal change that surrounds him on landing at Calais. The scene, the people, the language, every object is new; and in those circumstances in which there is most resemblance, a discriminating eye finds little difficulty in discovering marks of distinction.

The noble improvement of a salt marsh, worked by Mons. Mouron of this town, occasioned my acquaintance some time ago with that gentleman; and I had found him too well informed, upon various important objects, not to renew it with pleasure. I spent an agreeable and instructive evening at his house. 165 miles.

The 17th. Nine hours rolling at anchor had so fatigued my mare, that I thought it necessary for her to rest one day; but this morning I left Calais. For a few miles the country resembles parts of Norfolk and Suffolk; gentle hills, with some inclosures around the houses in the vales, and a distant range of wood. The country is the same to Boulogne. Towards that town, I was pleased to find many seats belonging to people who reside there. How often are false ideas conceived from reading and report! I imagined that nobody but farmers and labourers in France lived in the country; and the first ride I take in that country shews me many country seats. The road excellent.

Boulogne is not an ugly town; and from the ramparts of the upper part the view is beautiful, though low water in the river would not let me see it to advantage. It is well known that this place has long been the resort of great numbers of persons from England, whose misfortunes in trade, or extravagance in life, have made a residence abroad more agreeable than at home. It is easy to suppose that they here find a level of society that tempts them to herd in the same place. Certainly it is not cheapness, for it is rather dear. The mixture of French and English women makes an odd appearance in the streets; the latter are dressed in their own fashion; but the French heads are all without hats, with close caps, and the body covered with a long cloak that reaches to the feet. The town has the appearance of being flourishing: the buildings good, and in repair, with some modern ones; perhaps as sure a test of prosperity as any other. They are raising also a new church, on a large and expensive scale. The place on the whole is cheerful, the environs pleasing, and the sea-shore is a flat strand of firm sand as far as the tide reaches. The high land adjoining is worth viewing by those who have not already seen the petrification of clay; it is found in the stony and argillaceous state, just as I described at Harwich. (*Annals of Agriculture*, vol. vi. p. 218.) 24 miles.

The 18th. The view of Boulogne from the other side, at the distance of a mile is a pleasing landscape; the river meanders in the vale, and spreads in a fine reach under the town, just before it falls into the sea, which opens between two high lands, one of which backs the town. The view wants only wood; for if the hills had more, fancy could scarcely paint a more agreeable scene. The country improves, more inclosed, and some parts strongly resembling England. Some fine meadows about Bonbrie, and several chateaus. I am not professedly in this diary on husbandry, but must just observe, that it is to the full as bad as the country is good; corn miserable, and yellow with weeds, yet all summer fallowed with lost attention. On the hills, which are at no great distance from the sea, the trees turn their heads from it, shorn of their foliage: it is not therefore to the S. W. alone that we should attribute this effect. If the French have not husbandry to shew us, they have roads; nothing can be more beautiful, or kept in



more garden order, if I may use the expression, than that which passes through a fine wood of Mons. Neuvillier's; and indeed for the whole way from Samer it is wonderfully formed: a vast causeway, with hills cut to level vales; which would fill me with admiration, if I had known nothing of the abominable corvees, that make me commiserate the oppressed farmers, from whose extorted labour this magnificence has been wrung. Women gathering grass and weeds by hand in the woods for their cows is a trait of poverty.

Pass turberries, near Montreuil, like those at Newbury. The walk round the ramparts of that town is pretty: the little gardens in the bastions below are singular. The place has many English; for what purpose not easy to conceive, for it is unenlivened by those circumstances that render towns pleasant. In a short conversation with an English family returning home, the lady, who is young, and I conjecture agreeable, assured me I should find the court of Versailles amazingly splendid. Oh! how she loved France! and should regret going to England if she did not expect soon to return. As she had crossed the kingdom of France, I asked her what part of it pleased her best: the answer was, such as a pair of pretty lips would be sure to utter, "Oh! Paris and Versailles."

Her husband, who is not so young, said "Touraine." It is probable, that a farmer is much more likely to agree with the sentiments of the husband than of the lady, notwithstanding her charms. 24 miles.

The 19th. Dined, or rather starved at Bernay, where for the first time I met with that wine of whose ill fame I had heard so much in England, that of being worse than small beer. No scattered farm-house in this part of Picardy, all being collected in villages, which is as unfortunate for the beauty of a country, as it is inconvenient to its cultivation. To Abbeville, unpleasant, nearly flat; and though there are many and great woods, yet they are uninteresting. Pass the new chalk chateau of Mons. St. Maritan, who, had he been in England, would not have built a house in that situation, nor have projected his walls like those of an alms-house.

Abbeville is said to contain 22,000 souls; it is old, and disagreeably built; many of the houses of wood, with a greater air of antiquity than I remember to have seen; their brethren in England have been long ago demolished. Viewed the manufacture of Van Robais, which was established by Louis XIV, and of which Voltaire and others have spoken so much. I had many inquiries concerning wool and woollens to make here; and, in conversation with the manufacturers, found them great politicians, condemning with violence the new commercial treaty with England. 30 miles.

The 21st. It is the same flat and unpleasing country to Flixcourt. 15 miles.

The 22d. Poverty and poor crops to Amiens; women are now ploughing with a pair of horses to sow barley. The difference of the customs of the two nations is in nothing more striking than in the labours of the sex; in England, it is very little that they will do in the fields except to glean and to make hay; the first is a party of pilfering, and the second of pleasure: in France, they plough and fill the dung cart. Lombardy poplars seem to have been introduced here about the same time as in England.

Picquigny has been the scene of a remarkable transaction, that does great honour to the tolerating spirit of the French nation. Mons. Colmar, a Jew, bought the seignory and estate, including the viscounty of Amiens, of the duke of Chaulnes, by virtue of which he appoints the canons of the cathedral of Amiens. The bishop resisted his nomination, and it was carried by appeal to the parliament of Paris, whose decree was in favour of Mons. Colmar. The immediate seignory of Picquigny, but without its dependancies, is resold to the count d'Artois.

At Amiens, view the cathedral, said to be built by the English; it is very large, and beautifully light and decorated. They are fitting it up in black drapery, and a great canopy, with illuminations for the burial of the prince de Tingry, colonel of the regiment of cavalry, whose station is here. To view this was an object among the people, and crowds were at each door. I was refused entrance, but some officers being admitted, gave orders that an English gentleman without should be let in, and I was called back from some distance and desired very politely to enter, as they did not know at first that I was an Englishman. These are but trifles, but they shew liberality, and it is fair to report them. If an Englishman receives attention in France, because he is an Englishman, what return ought to be made to a Frenchman in England, is sufficiently obvious. The chateau d'eau, or machine for supplying Amiens with water, is worth viewing; but plates only could give an idea of it. The town abounds with woollen manufactures. I conversed with several masters, who united entirely with those of Abbeville in condemning the treaty of commerce. 15 miles.

The 23d. To Breuil the country is diversified, woods every where in sight the whole journey. 21 miles.

The 24th. A flat and uninteresting chalky country continues almost to Clermont; where it improves; is hilly and has wood. The view of the town, as soon as the dale is seen, with the duke of Fitzjames's plantations, is pretty. 24 miles.

The 25th. The environs of Clermont are picturesque. The hills about Liancourt are pretty; and spread with a sort of cultivation I had never seen before, a mixture of vineyard (for here the vines first appear) garden and corn. A piece of wheat; a scrap of lucerne; a patch of clover or vetches; a bit of vines; with cherry, and other fruit-trees scattered among all, and the whole cultivated with the spade: it makes a pretty appearance, but must form a poor system of trifling.

Chantilly!—magnificence is its reigning character; it is never lost. There is not taste or beauty enough to soften it into milder features: all but the chateau is great; and there is something imposing in that; except the gallery of the Great Conde's battle, and the cabinet of natural history which is rich in very fine specimens, most advantageously arranged, it contains nothing that demands particular notice; nor is there one room which in England would be called large. The stable is truly great, and exceeds very much indeed any thing of the kind I had ever seen. It is five hundred and eighty feet long, and forty broad, and is sometimes filled with two hundred and forty English horses. I had been so accustomed to the imitation in water, of the waving and irregular lines of nature, that I came to Chantilly prepossessed against the idea of a canal; but the view of one here is striking, and had the effect which magnificent scenes impress. It arises from extent, and from the right lines of the water uniting with the regularity of the objects in view. It is lord Kaimes, I think, who says, that the part of the garden contiguous to the house should partake of the regularity of the building; with much magnificence about a place, this is almost unavoidable. The effect here, however, is lessened by the parterre before the castle, in which the divisions and the diminutive jets-d'eau are not of a size to correspond with the magnificence of the canal. The menagerie is very pretty, and exhibits a prodigious variety of domestic poultry, from all parts of the world; one of the best objects to which a menageric can be applied; these, and the Corsican stag, had all my attention.

The hameau contains an imitation of an English garden; the taste is but just introduced into France, so that it will not stand a critical examination. The most English idea I saw is the lawn in front of the stables; it is large, of a good verdure, and well,

kept; proving clearly that they may have as fine lawns in the north of France as in England. The labyrinth is the only complete one I have seen, and I have no inclination to see another: it is in gardening what a rebus is in poetry. In the *Sylvæ* are many very fine and scarce plants. I wish those persons who view Chantilly, and are fond of fine trees, would not forget to ask for the great beech; this is the finest I ever saw; straight as an arrow, and, as I guess, not less than eighty or ninety feet high; forty feet to the first branch; and twelve feet diameter at five from the ground. It is in all respects one of the finest trees that can any where be met with. Two others are near it, but not equal to this superb one. The forest around Chantilly, belonging to the prince of Conde, is immense, spreading far and wide; the Paris road crosses it for ten miles, which is its least extent. They say the capitainerie, or paramountship, is above one hundred miles in circumference. That is to say, all the inhabitants for that extent are pestered with game, without permission to destroy it, in order to give one man diversion. Ought not these capitaineries to be extirpated?

At Luzarch, I found that my mare, from illness, would travel no further; French stables, which are covered dung-hills, and the carelessness of *garçons d'ecuries*, an execrable set of vermin, had given her cold. I therefore left her to send for from Paris, and went thither post; by which experiment I found that posting in France is much worse, and even, upon the whole, dearer than in England. Being in a post-chaise I travelled to Paris, as other travellers in post-chaises do, that is to say, knowing little or nothing. The last ten miles I was eagerly on the watch for that throng of carriages which near London impede the traveller. I watched in vain; for the road, quite to the gates, is, on comparison a perfect desert. So many great roads join here, that I suppose this must be accidental. The entrance has nothing magnificent: ill built and dirty. To get to the *Rue de Varenne Fouxborough St. Germain*, I had the whole city to cross, and passed it by narrow, ugly, and crowded streets.

At the hotel de la Rochefoucauld I found the duke of Liancourt and his sons the count de la Rochefoucauld, and the count Alexander, with my excellent friend Monsieur de Lazowski, all of whom I had the pleasure of knowing in Suffolk. They introduced me to the duchess D'Estissac, mother of the duke of Liancourt, and to the duchess of Liancourt. The agreeable reception and friendly attentions I met with from all this liberal family were well calculated to give me the most favourable impression. \* \* \* \* \*. 42 miles.

The 26th. So short a time had I passed before in France, that the scene is totally new to me. Till we have been accustomed to travelling we have a propensity to stare and admire every thing—and to be on search for novelty, even in circumstances in which it is ridiculous to look for it. I have been upon the full silly gape to find out things that I had not found before, as if a street in Paris could be composed of any thing but houses, or houses formed of any thing but brick or stone—or that the people in them, not being English, would be walking on their heads. I shall shake off this folly as fast as I can, and bend my attention to mark the character and disposition of the nation. Such views naturally lead us to catch the little circumstances which sometimes express them; not an easy task, but subject to many errors.

I have only one day to pass at Paris, and that is taken up with buying necessaries. At Calais my abundant care produced the inconvenience it was meant to avoid; I was afraid of losing my trunk, by leaving it at Dessein's for the diligence; so I sent it to M. Mouron's. The consequence is, that it is not to be found at Paris, and its contents are to be bought again before I can leave this city on our journey to the Pyrenees. I believe it may be received as a maxim, that a traveller should always

trust his baggage to the common voitures of the country, without any extraordinary precautions.

After a rapid excursion, with my friend Lazowski, to see many things, but too hastily to form any correct idea, spent the evening at his brother's, where I had the pleasure of meeting Mons. de Broussonet, secretary to the royal society of agriculture, and Mons. Desmaret, both of the academy of sciences. As Monsieur Lazowski is well informed in the manufactures of France, in the police of which he enjoys a post of consideration, and as the other gentlemen have paid much attention to agriculture, the conversation was in no slight degree instructive, and I regretted that a very early departure from Paris would not let me promise myself a further enjoyment so congenial with my feelings, as the company of men, whose conversation shewed a marked attention to objects of national importance. On the breaking up of the party, went with count Alexander de la Rouchefoucauld post to Versailles, to be present at the fete of the day following (Whitsunday.) Slept at the duke de Liancourt's hotel.

The 27th. Breakfasted with him at his apartments in the palace, which are annexed to his office of grand master of the wardrobe, one of the principal in the court of France. Here I found the duke surrounded by a circle of noblemen, among whom was the duke de la Rouchefoucauld, well known for his attention to natural history; I was introduced to him, as he is going to Bagnere de Luchon in the Pyrenees, where I am to have the honour of being in his party.

The ceremony of the day was, the king's investing the duke of Berri, son of the count D'Artois, with the cordon blue. The queen's band was in the chapel where the ceremony was performed, but the musical effect was thin and weak. During the service the king was seated between his two brothers, and seemed by his carriage and inattention to wish himself a hunting. He would certainly have been as well employed as in hearing afterwards from his throne a feudal oath of chivalry, I suppose, or some such nonsense, administered to a boy of ten years old. Seeing so much pompous folly I imagined it was the dauphin, and asked a lady of fashion near me; at which she laughed in my face, as if I had been guilty of the most egregious idiotism: nothing could be done in a worse manner; for the stifling of her expression only marked it the more. I applied to Mons. de la Rouchefoucauld to learn what gross absurdity I had been guilty of so unwittingly; when, forsooth, it was because dauphin, as all the world knows in France, has the cordon blue put around him as soon as he born. So unpardonable was it for a foreigner to be ignorant of such an important part of French history, as that of giving a babe a blue slobbering bib instead of a white one!

After this ceremony was finished, the king and the knights walked in a sort of procession to a small apartment in which he dined, saluting the queen as they passed.

There appeared to be more ease and familiarity than form in this part of the ceremony; her majesty, who, by the way, is the most beautiful woman I saw to-day, received them with a variety of expression. On some she smiled; to others she talked; a few seemed to have the honour of being more in her intimacy. Her return to some was formal, and to others distant. To the gallant Suffrein it was respectful and benign. The ceremony of the king's dining in public is more odd than splendid. The queen sat by him with a cover before her, but ate nothing; conversing with the duke of Orleans, and the duke of Liancourt, who stood behind her chair. To me it would have been a most uncomfortable meal, and were I a sovereign, I would sweep away three-fourths of these stupid forms; if kings do not dine like other people, they lose much of the pleasure of life; their station is very well calculated to deprive them of much, and they submit to nonsensical customs, the sole tendency of which is to lessen

the remainder. The only comfortable or amusing dinner is a table of ten or twelve covers for the people whom they like; travellers tell us that this was the mode of the late king of Prussia, who knew the value of life too well to sacrifice it to empty forms on one hand, or to a monastic reserve on the other.

The palace of Versailles, one of the objects of which report had given me the greatest expectation, is not in the least striking: I view it without emotion; the impression it makes is nothing. What can compensate the want of unity? From whatever point viewed, it appears an assemblage of buildings; a splendid quarter of a town, but not a fine edifice; an objection from which the garden front is not free, though by far the most beautiful. The great gallery is the finest room I have seen; the other apartments are nothing; but the pictures and statues are well known to be a capital collection. The whole palace, except the chapel, seems to be open to all the world; we pushed through an amazing croud of all sorts of people to see the procession, many of them not very well dressed, whence it appears that no questions are asked. But the officers at the door of the apartment in which the king dined, made a distinction, and would not permit all to enter promiscuously.

Travellers speak much, even very late ones, of the remarkable interest the French take in all that personally concerns their king, shewing by the eagerness of their attention not curiosity only, but love. Where, how, and in whom those gentlemen discovered this I know not. It is either misrepresentation, or the people are changed in a few years more than is credible. Dine at Paris, and in the evening the duchess of Liancourt, who seems to be one of the best of women, carried me to the opera at St. Cloud, where also we viewed the palace which the queen is building; it is large, but there is much in the front that does not please me. 20 miles.

The 28th. Finding my mare sufficiently recovered for a journey, a point of importance to a traveller so weak in cavalry as myself, I left Paris, accompanying the count de la Rouchefoucauld and my friend Lazowski, and commencing a journey that is to cross the whole kingdom to the Pyrenees. The road to Orleans is one of the greatest that leads from Paris; I expected, therefore, to have my former impression of the little traffic near that city removed; but on the contrary it was confirmed; it is a desert compared with those around London. In ten miles we met not one stage or diligence; only two messengeries, and very few chaises; not a tenth of what would have been met had we been leaving London at the same hour. Knowing how great, rich, and important a city Paris is, this circumstance perplexes me much. Should it afterwards be confirmed, conclusions in abundance are to be drawn.

For a few miles the scene is every where scattered with the shafts of quarries, the stone drawn up by lanthorn wheels of a great diameter. The country diversified; and its greatest want to please the eye is a river; woods generally in view; the proportion of the French-territory covered by this production for want of coals, must be prodigious, for it has been the same all the way from Calais. At Arpajon, the Marechal duke de Mouchy has a small house, which has nothing to recommend it. 20 miles.

The 29th. To Estamps is partly through a flat country, the beginning of the famous Pays de Beauce. To Toury, flat and disagreeable, only two or three gentlemen's seats in sight. 31 miles.

The 30th. One universal flat, uninclosed, uninteresting, and even tedious, though small towns and villages are every where in sight; the features that might compound a landscape are not brought together. The Pays de Beauce contains, by reputation, the cream of French-husbandry; the soil excellent; but the management all fallow.

Pass through part of the forest of Orleans belonging to the duke of that name; it is one of the largest in France.

From the steeple of the cathedral at Orleans, the prospect is very fine. The town large, and its suburbs, of single streets, extend near a league. The vast range of country, that spreads on every side, is an unbounded plain, through which the magnificent Loire bends his stately way, in sight for fourteen leagues; the whole scattered with rich meadows, vineyards, gardens, and forests. The population must be very great; for, beside the city, which contains near forty thousand people, the number of smaller towns and villages strewed thickly over the plain is such as to render the whole scene animated. The cathedral, from which we had this noble prospect, is a fine building, the choir raised by Henry IV. The new church is a pleasing edifice; the bridge a noble structure of stone, and the first experiment of the flat arch made in France, where it is now so fashionable. It contains nine, and is four hundred and ten feet long, and forty-five wide. To hear some Englishmen talk, one would suppose there was not a fine bridge in all France; not the first, nor the last error I hope that travelling will remove. There are many barges and boats at the quay, built upon the river in the Bourbonnois, &c. loaded with wood, brandy, wine, and other goods; on arriving at Nantes, the vessels are broken up and sold with the cargo. Great numbers built with spruce fir. A boat goes from hence to that city, when demanded by six passengers, each paying a louis d'or: they lie on shore every night, and reach Nantes in four days and an half. The principal street leading to the bridge is a fine one all busy and alive, for the trade is brisk here. Admire the fine acacias scattered about the town. 20 miles.

The 31st. On leaving it, enter soon the miserable province of Sologne, which the French writers call the triste Sologne. Through all this country they have had severe spring frosts, for the leaves of the walnuts are black and cut off. I should not have expected this unequivocal mark of a bad climate after passing the Loire. To La Ferte Lowendahl, a dead flat of hungry sand gravel, with much heath. The poor people, who cultivate the soil here, are metayers, that is, men who hire the land without ability to stock it; the proprietor is forced to provide cattle and seed, and he and his tenant divide the produce; a miserable system, that perpetuates poverty and excludes instruction. At La Ferte is a handsome chateau of the marquis de Coix, with several canals, and a great command of water. To Nonant-le-Fuzelier, a strange mixture of sand and water. Much inclosed, and the houses and cottages of wood filled between the studs with clay or bricks, and covered not with slate but tile, with some barns boarded like those in Suffolk. Rows of pollards in some of the hedges; an excellent road of sand; the general features of a woodland country; and all combined to give a strong resemblance to many parts of England; but the husbandry is so little like that of England; that the least attention to it destroyed every notion of similarity. 27 miles.

June 1. The same wretched country continues to La Loge; the fields are scenes of pitiable management, as the houses are of misery. Yet all this country highly improveable, if they knew what to do with it: the property, perhaps, of some of these glittering beings, who figured in the procession the other day at Versailles. Heaven grant me patience while I see a country thus neglected; and forgive me the oaths I swear at the absence and ignorance of the possessors. Enter the generality of Bourges, and soon after a forest of oak belonging to the count d'Artois; the trees are dying at top, before they attain any size. There the miserable Sologne ends; the first view of Ver-

son and its vicinity is fine. A noble vale spreads at your feet, through which the river Cheere leads, seen in several places to the distance of some leagues; a bright sun burnished the water, like a string of lakes amidst the shade of a vast woodland. See Bourges to the left. 18 miles.

The 2d. Pass the rivers Cheere and Lave; the bridges well built; the stream fine, and with the wood, buildings, boats, and adjoining hills, form an animated scene. Several new houses, and buildings of good stone in Verson; the place appears thriving, and doubtless owes much to the navigation. We are now in Berri, a province governed by a provincial assembly, consequently the roads good, and made without corvees. Vatan is a little town that subsists chiefly by spinning. We drank there excellent Sancerre wine, of a deep colour, rich flavour, and good body, 20s. the bottle; but in the country ten. An extensive prospect before we arrived at Chateauroux where we viewed the manufactures. 40 miles.

The 3d. Within about three miles of Argenton come upon a fine scene, beautiful, yet with bold features; a narrow vale bounded on every side with hills, covered with wood, all of which are immediately under the eye, without a level acre, except the bottom of the vale, through which a river flows, by an old castle picturesquely situated to the right; and to the left a tower rising out of a wood.

At Argenton, walk up a rock that hangs almost over the town. It is a delicious scene. A natural ledge of perpendicular rock pushes forward abruptly over the vale, which is half a mile broad, and two or three long: at one end closed by hills, and at the other filled by the town with vineyards rising above it: the surrounding scene that hems in the vale is high enough for relief; vineyards, rocks or hills covered with wood. The vale cut into inclosures of a lovely verdure, and a fine river winds through it, with an outline that leaves nothing to wish. The venerable fragments of a castle's ruins, near the point of view, are well adapted to awaken reflections on the triumph of the arts of peace over the barbarous ravages of the feudal ages, when every class of society was involved in commotion, and the lower ranks were worse slaves than at present.

The general face of the country, from Verson to Argenton, is an uninteresting flat with many heaths of ling. No appearance of population, and even towns are thin. The husbandry poor and miserable. By the circumstances to which I could give attention I conceive them to be honest and industrious; they seem clean; are civil, and have good countenances. They appear to me as if they would improve their country, if they formed the part of a system, the principles of which tended to national prosperity. 18 miles.

The 4th. Pass an inclosed country, which would have a better appearance if the oaks had not lost their foliage by insects, whose webs hang over the buds. They are but now coming into leaf again. Cross a stream which separates Berri from La Marche; chesnuts appear at the same time; they are spread over all the fields, and yield the food of the poor. A variety of hill and dale, with fine woods, but little signs of population. Lizards for the first time also. There seems a connection relative to climate between the chesnuts and these harmless animals. They are very numerous, and some of them near a foot long. Sleep at La Ville au Brun. 24 miles.

The 5th. The country improves in beauty greatly; pass a vale, where a causeway stops the water of a small rivulet and swells it into a lake, that forms one feature of a delicious scene. The indented outlines and the swells margined with wood are beautiful; the hills on every side in unison; one now covered with ling the prophetic eye of

taste may imagine lawn. Nothing is wanted to render the scene a garden, but to clear away rubbish.

The general face of the country, for 16 miles, by far the most beautiful I have seen in France; it is thickly inclosed, and full of wood; the umbrageous foliage of the chesnuts gives the same beautiful verdure to the hills, as watered meadows (seen for the first time to day) to the vales. Distant mountainous ridges form the back ground, and make the whole interesting. The declivity of country, as we go down to Bassies, offers a beautiful view; and the approach to the town presents a landscape fancifully grouped of rock, and wood, and water. To Limoge, pass another artificial lake between cultivated hills; beyond are wilder heights, but mixed with pleasant vales; still another lake more beautiful than the former, with a fine accompaniment of wood; across a mountain of chesnut copse, which commands a scene of a character different from any I have viewed either in France or England, a great range of hill and dale all covered with forest, and bounded by distant mountains. Not a vestige of any human residence; no village; no house or hut, no smoke to raise the idea of a peopled country; an American scene; wild enough for the tomohawk of the savage. Stop at an execrable auberge, called *Maison Rouge*, where we intended to sleep; but, on examination, found every appearance so forbidding, and so beggarly an account of a larder, that we passed on to Limoge. The roads through all this country are truly noble, far beyond any thing I have seen in France or elsewhere. 44 miles.

The 6th. View Limoge, and examine its manufactures. It was certainly a Roman station, and some traces of its antiquity are still remaining. It is ill built, with narrow and crooked streets, the houses high and disagreeable. They are raised of granite, or wood with lath and plaster, which saves lime, an expensive article here, being brought from a distance of twelve leagues; the roofs are of pantiles, with projecting eaves, and almost flat; a sure proof we have quitted the region of heavy snows. The best of their public works is a noble fountain, the water conducted three quarters of a league by an arched aqueduct, brought under the bed of a rock 60 feet deep to the highest spot in the town, where it falls into a basin fifteen feet diameter, cut out of one piece of granite; thence the water is let into reservoirs, closed by sluices, which are opened for watering the streets, or in case of fires.

The cathedral is ancient, and the roof of stone; there are some arabesque ornaments cut in stone, as light, airy, and elegant as any modern house can boast, whose decorations are in the same taste.

The present bishop has erected a large and handsome palace, and his garden is the finest object to be seen at Limoge, for it commands a landscape hardly to be equalled for beauty: it would be idle to give any other description than just enough to induce travellers to view it. A river winds through a vale, surrounded by hills that present the gayest and most animated assemblage of villas, farms, vines, hanging meadows, and chesnuts blended so fortunately as to compose a scene truly smiling. This bishop is a friend of the count de la Rouchefoucauld's family; he invited us to dine, and gave us a very handsome entertainment. Lord Macartney, when a prisoner in France, after the Grenades were taken, spent some time with him; there was an instance of French politeness shewn to his lordship, that marks the urbanity of this people. The order came from court to sing *Te Deum* on the very day that lord Macartney was to arrive. Conceiving that the public demonstrations of joy for a victory that brought his noble guest a prisoner, might be personally unpleasant to him, the bishop proposed to the intendant to postpone the ceremony for a few days, in order that he might not meet it so abruptly;



this was instantly acceded to, and conducted in such a manner afterwards as to mark as much attention to lord Macartney's feelings as to their own. The bishop told me that lord Macartney spoke French better than he could have conceived possible for a foreigner, had he not heard him; better than many well educated Frenchmen.

The post of intendant here was rendered celebrated by being filled by that friend of mankind, Turgot, whose well earned reputation in this province placed him at the head of the French finances, as may be very agreeably learned, in that production of equal truth and elegance, his life by the marquis of Condorcet. The character which Turgot left here is considerable. The noble roads we have passed, so much exceeding any other I have seen in France, were amongst his good works; an epithet due to them because not made by corvees. There is here a society of agriculture, which owes its origin to the same distinguished patriot: but in that most unlucky path of French exertion he was able to do nothing; evils too radically fixed were in the way of the attempt. This society does like other societies, they meet, converse, offer premiums, and publish nonsense. This is not of much consequence, for the people, instead of reading their memoirs, are not able to read at all. They can however see; and if a farm was established in that good cultivation which they ought to copy, something would be presented from which they might learn. I asked particularly if the members of this society had land in their own hands, from which it might be judged if they knew any thing of the matter themselves: I was assured that they had; but the conversation presently explained it: they had metayers around their country seats, and this was considered as farming their own lands, so that they assume something of a merit from the identical circumstance, which is the curse and ruin of the whole country. In the agricultural conversations we had on the journey from Orleans, I have not found one person who seemed sensible of the mischief of this system.

The 7th. No chesnuts for a league before we reach Biere Buffiere, they say because the basis of the country is a hard granite; and they assert also at Limoge, that in this granite there grow neither vines, wheat, nor chesnuts, but that on the softer granites these plants thrive well: it is true, that chesnuts and this granite appeared together when we entered Limosin. The road has been incomparably fine, and much more like the well kept alleys of a garden than a common high way. See for the first time old towers, that appear numerous in this country. 33 miles.

The 8th. Pass an extraordinary spectacle for English eyes, of many houses too good to be called cottages without any glass windows. Some miles to the right is Pompadour, where the king has a stud; there are all kinds of horses, but chiefly Arabian, Turkish, and English. Three years ago four Arabians were imported, which had been procured at the expence of 72,000 livres (3149l.) the price of covering a mare is only three livres to the groom; the owners are permitted to sell their colts as they please, but if these come up to the standard height, the king's officers have the preference, provided they give the price offered by others. These horses are not saddled till six years old. They pasture all day, but at night are confined on account of wolves, which are so common as to be a great plague to the people. A horse of six years old, a little more than four feet six inches high, is sold for 70l.; and 15l. has been offered for a colt of one year old. Pass Uzarch; dine at Douzenac; between which place and Brive meet the first maize, or Indian corn.

The beauty of the country, through the thirty-four miles from St. George to Brive, is so various, and in every respect so striking and interesting, that I shall attempt no particular description, but observe in general, that I am much in doubt, whether there be any thing comparable to it either in England or Ireland. It is not that a fine view breaks

now and then upon the eye to compensate the traveller for the dullness of a much longer district; but a quick succession of landscapes, many of which would be rendered famous in England, by the resort of travellers to view them. The country is all hill or valley; the hills are very high, and would be called with us mountains, if waste and covered with heath; but being cultivated to the very tops, their magnitude is lessened to the eye. Their forms are various: they swell in beautiful semi-globes: they project in abrupt masses, which inclose deep glens: they expand into amphitheatres of cultivation that rise in gradation to the eye: in some places tossed into a thousand inequalities of surface; in others the eye reposes on scenes of the softest verdure. Add to this the rich robe, with which nature's bounteous hand has dressed the slopes, with hanging woods of chesnut. And whether the vales open their verdant bosoms, and admit the sun to illuminate the rivers in their comparative repose; or whether they be closed in deep glens, that afford a passage with difficulty to the water rolling over their rocky beds, and dazzling the eye with the lustre of cascades; in every case the features are interesting and characteristic of the scenery. Some views of singular beauty rivetted us to the spots; that of the town of Uzarch, covering a conical hill, rising in the hollow of an amphitheatre of wood, and surrounded at its feet by a noble river, is unique. Derry in Ireland has something of its form, but wants some of its richest features. The water-scenes from the town itself, and immediately after passing it, are delicious. The immense view from the descent to Douzenach is equally magnificent. To all this is added the finest road in the world, every where formed in the perfect manner, and kept in the highest preservation, like the well ordered alley of a garden, without dust, sand, stones, or inequality, firm and level, of pounded granite, and traced with such a perpetual command of prospect, that had the engineer no other object in view, he could not have executed it with a more finished taste.

The view of Brive, from the hill, is so fine, that it gives the expectation of a beautiful little town, and the gaiety of the environs encourages the idea; but, on entering, such a contrast is found as disgusts completely. Close, ill built, crooked, dirty, stinking streets, exclude the sun, and almost the air, from every habitation, except a few tolerable ones on the promenade. 34 miles.

The 9th. Enter a different country, with the new province of Quercy, which is a part of Guienne; not near so beautiful as Limosin, but, to make amends, it is far better cultivated. Thanks to maize, which does wonders! Pass Noailles, on the summit of a high hill, the chateau of the marshal duke of that name. Enter a calcareous country, and lose chesnuts at the same time.

In going down to Souillac, there is a prospect that must universally please: it is a bird's-eye view of a delicious little valley, sunk deep amongst some very bold hills that inclose it; a margin of wild mountain contrasts the extreme beauty of the level surface below, a scene of cultivation scattered with fine walnut trees; nothing can apparently exceed the exuberant fertility of this spot.

Souillac is a little town in a thriving state, having some rich merchants. They receive staves from the mountains of Auvergne by their river Dordonne, which is navigable eight months in the year; these they export to Bourdeaux and Libourn; also wine, corn, and cattle, and import salt in great quantities. It is not in the power of an English imagination to figure the animals that waited upon us here, at the Chapeau Rouge. Some things that called themselves by the courtesy of Souillac women, but in reality walking dunghills. But a neatly dressed clean waiting girl at an inn will be looked for in vain in France. 34 miles.

The 10th. Cross the Dordonne by a ferry; the boat well contrived for driving in at one end and out at the other, without the abominable operation, common in Eng-

land, of beating horses till they leap into them; the price is as great a contrast as the excellence; we paid for an English whisky, a French cabriolet, one saddle-horse, and six persons, no more than 50s. (2s. 1d.) I have paid half-a-crown a wheel in England for execrable ferries, passed over at the hazard of the horse's limbs. This river runs in a very deep valley between two ridges of high hills: extensive views, all scattered with villages and single houses; an appearance of great population. Chesnuts on a calcareous soil, contrary to the Limosin maxim.

Pass Peyrac, and meet many beggars, which we had not done before. All the country girls and women are without shoes or stockings; and the ploughmen at their work have neither sabots nor feet to their stockings. This is a poverty that strikes at the root of national prosperity; a large consumption among the poor being of more consequence than among the rich: the wealth of a nation lies in its circulation and consumption; and the case of poor people abstaining from the use of manufactures of leather and wool ought to be considered as an evil of the first magnitude. It reminded me of the misery of Ireland. Pass Pont-de-Rodez, and come to high land, whence an immense and singular prospect of ridges, hills, vales, and gentle slopes, rising one beyond another in every direction, with few masses of wood, but many scattered trees. At least forty miles are tolerably distinct to the eye, and without a level acre; the sun on the point of setting, illuminated part of it, and displayed a vast number of villages and scattered farms. The mountains of Auvergne, at the distance of a hundred miles, added to the view. Pass by several cottages, exceedingly well built, of stone and slate, or tiles, yet without any glass to the windows; can a country be like to thrive where the great object is to spare manufactures? Women picking weeds into their aprons for their cows, another sign of poverty I observed, during the whole way from Calais. 30 miles.

The 11th. See for the first time the Pyrenees, at the distance of one hundred and fifty miles. To me, who had never seen any object farther than sixty or seventy, I mean the Wicklow mountains, as I was going out of Holyhead, this was interesting. Wherever the eye wandered in search of new objects it was sure to rest there. Their magnitude, their snowy height, the line of separation between two great kingdoms, and the end of our travels altogether accounts for this effect. Towards Cahors the country changes, and has something of a savage aspect; yet houses are seen every where, and one-third of it under vines.

That town is bad; the streets neither wide nor straight, but the new road is an improvement. The chief object of its trade and resource are vines and brandies. The true Vin de Cahors, which has a great reputation, is the produce of a range of vineyards, very rocky, on a ridge of hills full to the south, and is called Vin de Grave, because growing on a gravelly soil. In plentiful years, the price of good wine here does not exceed that of the cask; last year it was sold at 10s. 6d. a barique, or 8d. a dozen. We drank it at the Trois Rois from three to ten years old, the latter at 30s. (1. 3d.) the bottle; both excellent, full bodied, great spirit, without being fiery, and to my palate much better than our ports. I liked it so well, that I established a correspondence with Mons. Andonry, the inn-keeper.\* The heat of this country is equal to the production of strong wine. This was the most burning day we had experienced.

On leaving Cahors, the mountain of rock rises so immediately, that it seems as if it would tumble into the town. The leaves of walnuts are now black with frosts that

\* I since had a barique of him; but whether he sent bad wine, which I am not willing to believe, or that it came through bad hands, I know not. It is however so bad, as to be item for folly.

happened within a fortnight. On inquiry, I found they are subject to these frosts all through the spring months; and though rye is sometimes killed by them, the mildew in wheat is hardly known; a fact sufficiently destructive of the theory of frosts being the cause of that distemper. It is very rare that any snow falls here. Sleep at Ventillac. 22 miles.

The 12th. The shape and colour of the peasants' houses here add a beauty to the country; they are square, white, and with rather flat roofs, but few windows. The peasants are for the most part land proprietors. Immense view of the Pyrenees before us, of an extent and height truly sublime: near Perges, a rich vale, that seems to reach uninterruptedly to those mountains, is a glorious scenery: one vast sheet of cultivation: every where chequered with those well built white houses; the eye losing itself in the vapour, which ends only with that stupendous ridge, whose snow-capped heads are broken into the boldest outline. The road to Caussade leads through a very fine avenue of six rows of trees, two of them mulberries, which are the first we have seen. Thus we have travelled almost to the Pyrenees before we met with an article of culture which some want to introduce into England. The vale here is all on a dead level; the road finely made, and mended with gravel. Montauban is old but not ill built. There are many good houses without forming handsome streets. It is said to be very populous, and the eye confirms the intelligence. The cathedral is modern, and pretty well built, but too heavy. The public college, the seminary, the bishop's palace, and the house of the first president of the court of aids are good buildings; the last large, with a most showy entrance. The promenade is finely situated; built on the highest part of the rampart, and commanding that noble vale, or rather plain, one of the richest in Europe, which extends on one side to the sea, and in the front to the Pyrenees; whose towering masses, heaped one upon another, in a stupendous manner, and covered with snow, offer a variety of lights and shades from indented forms, and the immensity of their projections. This prospect, which contains a semicircle of an hundred miles diameter, has an oceanic vastness, in which the eye loses itself; an almost boundless scene of cultivation; an animated, but confused mass of infinitely varied parts: melting gradually into the distant obscure, from which emerges the amazing frame of the Pyrenees, rearing their silvered heads far above the clouds. At Montauban, I met captain Plampin, of the royal navy; he was with major Crew, who has a house and family here, to which he politely carried us; it is sweetly situated on the skirts of the town, commanding a fine view; they were so obliging as to resolve my inquiries upon some points, of which a residence made them complete judges. Living is reckoned cheap here; a family was named to us, whose income was supposed to be about fifteen hundred louis a year, and who lived as handsomely as in England on 5000l. The comparative dearth and cheapness of different countries is a subject of considerable importance, but difficult to analyze. As I conceive the English to have made far greater advances in the useful arts, and in manufactures than the French have done, England ought to be the cheaper country. What we meet with in France, is a cheap mode of living, which is quite another consideration. 30 miles.

The 13th. Pass Grisolles, where are well built cottages without glass, and some with no other light than the door. Dine at Pompion, at the Grand Soleil, an uncommonly good inn, where captain Plampin, who accompanied us thus far, took his leave. Here we had a violent storm of thunder and lightning, with rain much heavier I thought than I had known in England; but, when we set out for Toulouse, I was immediately convinced that such a violent shower had never fallen in that king-

dom; for the destruction it had poured on the noble scene of cultivation, which but a moment before was smiling with exuberance, was terrible to behold. All now one scene of distress: the finest crops of wheat beaten so flat to the ground, that I question whether they can ever rise again; other fields so inundated, that we were actually in doubt whether we were looking on what was lately land, or always water. The ditches had been filled rapidly with mud, had overflowed the road, and swept dirt and gravel over the crops.

Cross one of the finest plains of wheat that is any where to be seen; the storm therefore, was fortunately partial. Pass St. Jorry; a noble road, but not better than in Limosin. It is a desert to the very gates of Toulouze; meet not more persons than if it were a hundred miles from any town. 31 miles.

The 14th. View the city, which is very ancient and very large, but not peopled in proportion to its size: the buildings are a mixture of brick and wood, and have consequently a melancholy appearance. This place has always prided itself on its taste for literature and the fine arts. It has had a university since 1215: and it pretends that its famous academy of J<sup>e</sup>us Floraux is as old as 1323. It has also a royal academy of sciences, another of painting, sculpture, and architecture. The church of the Cordeliers has vaults, into which we descended, that have the property of preserving dead bodies from corruption; we saw many that they assert to be five hundred years old. If I had a vault well lighted, that would preserve the countenance and physiognomy as well as the flesh and bones, I should like to have it peopled with all my ancestors; and this desire would, I suppose be proportioned to their merit and celebrity; but to one like this, that preserves cadaverous deformity, and gives perpetuity to death, the voracity of a common grave is preferable. But Toulouze is not without objects more interesting than academies; these are the new quay, the corn mills, and the canal de Brien. The quay is of a great length, and in all respects a noble work: the houses intended to be built will be regular like those already erected, in a stile awkward and inelegant. The canal de Brien, so called from the archbishop of Toulouze, afterwards prime minister and cardinal, was planned and executed in order to join the Garonne here with the canal of Languedoc, which is united at two miles from the town with the same river. The necessity of such a junction arises from the navigation of the river in the town being absolutely impeded by the wear which is made across it in favour of the corn mills. It passes arched under the quay to the river, and one sluice levels the water with that of the Languedoc canal. It is broad enough for several barges to pass a-breast. These undertakings have been well planned, and their execution is truly magnificent: there is however more magnificence than trade; for while the Languedoc canal is alive with commerce, that of Brien is a desert.

Among other things we viewed at Toulouze, was the house of Mons. du Barre, brother of the husband of the celebrated countess. By some transactions, favourable to anecdote, which enabled him to draw her from obscurity, and afterwards to marry her to his brother, he contrived to make a pretty considerable fortune. On the first floor is one principal and complete apartment, containing seven or eight rooms, fitted up and furnished with such profusion of expence, that if a fond lover, at the head of a kingdom's finances, were decorating for his mistress, he could hardly give in large any thing that is not here to be seen on a moderate scale. To those who are fond of gilding here is enough to satiate; so much that to an English eye it has too gaudy an appearance. But the glasses are large and numerous. The drawing-room very elegant (gilding always excepted). Here I remarked a contrivance which has a pleasing effect; that of a looking-glass before the chimnies, instead of those various screens

used in England: it slides backwards and forwards in the middle of the room. There is a portrait of Madame du'Barre, which is said to be very like; if it really is, one would pardon a king some follies committed at the shrine of so much beauty. As to the garden, it is beneath all contempt, except as an object to make a man stare at the efforts to which folly can arrive: in the space of an acre, there are hills of genuine earth, mountains of paste-board, rocks of canvas: abbees, cows, sheep, and shepherdesses in lead; monkeys and peasants, asses and altars, in stone. Fine ladies and blacksmiths, parrots and lovers in wood. Windmills and cottages, shops and villages, nothing excluded except nature.

The 15th. Meet Highlanders, who put me in mind of those of Scotland; saw them first at Montauban; they have round flat caps, and loose breeches: "pipers, blue bonnets, and oat-meal, are found," says Sir James Stuart, "in Catalonia, Auvergne, and Swabia, as well as in Lochabar." Many of the women here are without stockings. Meet them coming from the market, with their shoes in their baskets. The Pyrenees, at sixty miles distance, appear now so distinct, that one would guess it not more than fifteen; the lights and shades of the snow are seen clearly. 30 miles.

The 16th. A ridge of hills on the other side of the Garonne, which began at Toulouze, became more and more regular yesterday; and is undoubtedly the most distant ramification of the Pyrenees, reaching into this vast vale quite to Toulouze, but no farther. Approach the mountains; the lower ones are all cultivated, but the higher seem covered with wood: the road now is bad all the way. Meet many waggons, each loaded with two casks of wine, quite backward in the carriage, and as the hind wheels are much higher than the fore ones, it shews that these mountaineers have more sense than John Bull. The wheels of these waggons are all shod with wood instead of iron. Here, for the first time, see rows of maples, with vines, trained in festoons, from tree to tree; they are conducted by a rope of bramble, vine cutting, or willow. They give many grapes, but bad wine. Pass St. Martino, and then a large village of well built houses, without a single glass window. 30 miles.

The 17th. St. Gaudens is an improving town, with many new houses, something more than comfortable. An uncommon view of St. Bertrand; you break at once upon a vale sunk deep enough beneath the point of view to command every hedge and tree, with that town clustered round its large cathedral, on a rising ground; if it had been built purposely to add a feature to a singular prospect, it could not have been better placed. The mountains rise proudly around, and give their rough frame to this exquisite little picture.

Cross the Garonne, by a new bridge of one fine arch, built of hard blue lime-stone. Medlars, plums, cherries, maples in every hedge, with vines trained. Stop at Laurese; after which the mountains almost close, and leave only a narrow vale, the Garonne and the road occupying some portion of it. Immense quantities of poultry in all this country; most of it the people salt and keep in grease. We tasted a soup made of the leg of a goose thus kept, and it was not nearly so bad as I expected.

Every crop here is backward, and betrays a want of sun; no wonder, for we have been long travelling on the banks of a rapid river, and must now be very high, though still apparently in vales. The mountains, in passing on, grow more interesting. Their beauty, to northern eyes, is very singular; the black and dreary prospects which our mountains offer are known to every one; but here the climate clothes them with verdure, and the highest summits in sight are covered with wood; there is snow on still higher ridges.

Quit the Garonne some leagues before Sirpe, where the river Neste falls into it. The road to Bagnere is along this river, in a very narrow valley, at one end of which is built the town of Luchon, the termination of our journey; which to me has been one of the most agreeable I ever undertook; the good humour and good sense of my companions are well calculated for travelling; one renders a journey pleasing, and the other instructive. Having now crossed the kingdom, and been in many French inns, I shall in general observe, that they are on an average better in two respects, and worse in all the rest, than those in England. We have lived better in point of eating and drinking beyond a question, than we should have done in going from London to the Highlands of Scotland, at double the expence. But if in England the best of every thing is ordered, without any attention to the expence, we should for double the money have lived better than we have done in France; the common cookery of the French gives great advantage. It is true, they roast every thing to a chip, if they are not cautioned; but they give such a number and variety of dishes, that if you do not like some, there are others to please your palate. The desert at a French inn has no rival at an English one; nor are the liquors to be despised. We sometimes have met with bad wine, but upon the whole, far better than such port as English inns give. Beds are better in France; in England they are good only at good inns; and we have none of that torment, which is so perplexing in England, to have the sheets aired; for we never trouble our heads about them, doubtless on account of the climate. After these two points, all is a blank. You have no parlour to eat in; only a room with two, three, or four beds. Apartments badly fitted up; the walls white-washed, or paper of different sorts in the same room; or tapestry so old as to be a fit nidus for moths and spiders; and the furniture such, that an English innkeeper would light his fire with it. For a table, you have every where a board laid on cross bars, which are so conveniently contrived, as to leave room for your legs only at the end. Oak chairs with rush bottoms; and the back universally a direct perpendicular, that defies all idea of rest after fatigue. Doors give music as well as entrance; the wind whistles through their chinks; and hinges grate discord. Windows admit rain as well as light; when shut they are not easy to open; and when open not easy to shut. Mops, brooms, and scrubbing-brushes are not in the catalogue of the necessaries of a French inn. Bells there are none; the fille must always be bawled for; and when she appears is neither neat, well dressed, nor handsome. The kitchen is black with smoke; the master commonly the cook, and the less you see of the cooking, the more likely you are to have a stomach to your dinner; but this is not peculiar to France. Copper utensils always in great plenty, but not always well tinned. The mistress rarely classes civility or attention to her guests among the requisites of her trade. 30 miles.

The 28th. Having been now ten days fixed in our lodgings, which the count de la Rouchefoucauld's friends had provided for us, it is time to minute a few particulars of our life here. Monsieur Lazowski and myself have two good rooms on a ground floor, with beds in them, and a servant's room, for four livres (3s. 6d.) a-day. We are so unaccustomed in England to live in our bed-chambers, that it is at first awkward in France to find that people live no where else. At all the inns I have been in, it has been always in bed-rooms; and here I find, that every body, let his rank be what it may, lives in his bed-chamber. This is novel; our English custom is far more convenient, as well as more pleasing. But this habit I class with the œconomy of the French. The day after we came, I was introduced to the la Rouchefoucauld party, with whom we have lived; it consists of the duke and duchess de la Rouchefoucauld, daughter of the duke de Chabot; her brother, the prince de Laon and his princess,

the daughter of the duke de Montmorenci; the count de Chabot, another brother of the duchess de la Rouchefoucauld; the marquis d'Aubourval, with my two fellow-travellers and myself, make a party of nine at dinner and supper. A *traiteur* serves our table at four livres a head for the two meals, two courses and a good desert for dinner: for supper one course and a desert; the whole very well served, with every thing good in season; the wine separate, at six sous (3d.) a bottle. With difficulty the count's groom found a stable. Hay is little short of 5l. English per ton; oats much the same price as in England, but not so good; straw dear, and so scarce, that very often there is no litter at all.

The states of Languedoc are building a large and handsome bathing-house, to contain various separate cells, with baths, and a large common room, with two arcades to walk in, free from sun and rain. The present baths are horrible holes, the patients lie up to their chins in hot sulphurous water, which, with the beastly dens they are placed in, one would think sufficient to cause as many distempers as they cure. They are resorted to for cutaneous eruptions. The life led here has very little variety. Those who bathe, or drink the waters, do it at half after five or six in the morning; but my friend and myself are early in the mountains, which are here stupendous; we wander among them to admire the wild and beautiful scenes which are to be met with in almost every direction. The whole region of the Pyrenees is of a nature and aspect so totally different from every thing that I had been accustomed to, that these excursions were productive of much amusement. Cultivation is here carried to a considerable perfection in several articles, especially in the irrigation of meadows: we seek out the most intelligent peasants, and have many and long conversations with those who understand French, which however is not the case with all, for the language of the country is a mixture of Catalan, Provençal, and French. This, with examining the minerals (an article for which the duke de la Rouchefoucauld likes to accompany us, as he possesses a considerable knowledge in that branch of natural history) and with noting the plants with which we are acquainted, serves well to keep our time employed sufficiently to our taste. The ramble of the morning finished, we return in time to dress for dinner, at half after twelve or one; then adjourn to the drawing room of Madame de la Rouchefoucauld, or the countess of Grandval alternately, the only ladies who have apartments large enough to contain the whole company. None are excluded, as the first thing done by every person who arrives, is to pay a morning visit to each party already in the place; the visit is returned, and then every body is of course acquainted at these assemblies; which last till the evening is cool enough for walking. There is nothing in them but cards, trick-track, chess, and sometimes music; but the great feature is cards; I need not add, that I absented myself often from these parties, which are ever mortally insipid to me in England, and not less so in France. In the evening, the company splits into different parties, for their promenade, which lasts till half an hour after eight; supper is served at nine; there is after it an hour's conversation in the chamber of one of our ladies; and this is the best part of the day, for the chat is free, lively, and unaffected: and uninterrupted, unless on a post day, when the duke has such packets of papers and pamphlets, that they make us all politicians. All the world are in bed by eleven.

In this arrangement of the day, no circumstance is so objectionable as that of dining at noon, the consequence of eating no breakfast; for as the ceremony of dressing is kept up, you must be at home from any morning's excursion by twelve o'clock. This single circumstance, if adhered to, would be sufficient to destroy any pursuits, except the most frivolous. Dividing the day exactly in halves, destroys it for any expedition,



inquiry, or business that demands seven or eight hours attention, uninterrupted by any calls to the table or the toilette; calls which, after fatigue or exertion, are obeyed with refreshment and with pleasure. We dress for dinner in England with propriety, as the rest of the day is dedicated to ease, to converse, and relaxation; but by doing it at noon, too much time is lost. What is a man good for after his silk breeches and stockings are on, his hat under his arm, and his head *bien poudre*? Can he botanize in a watered meadow? Can he clamber the rocks to mineralize? Can he farm with the peasant and the ploughman? He is in order for the conversation of the ladies, which to be sure is in every country, but particularly in France, where the women are highly cultivated, an excellent employment; but it is an employment that never relishes better than after a day spent in active toil or animated pursuit; in something that has enlarged the sphere of our conceptions, or added to the stores of our knowledge. I am induced to make this observation, because the noon dinners are customary all over France, except with persons of considerable fashion at Paris. They cannot be treated with too much ridicule or severity, for they are absolutely hostile to every view of science, to every spirited exertion, and to every useful pursuit in life.

Living in this way, however, with several persons of the first fashion in the kingdom, is an object to a foreigner solicitous to remark the manners and character of the nation. I have every reason to be pleased with the experiment, as it affords me a constant opportunity to enjoy the advantages of an unaffected and polished society, in which an invariable sweetness of disposition, mildness of character, and what in English we emphatically call good temper, eminently prevail: seeming to arise, at least I conjecture it, from a thousand little nameless and peculiar circumstances not resulting entirely from the personal character of the individuals, but apparently holding of the national one. Besides the persons I have named, there are among others at our assemblies, the marquis and marchioness de Hautfort: the duke and duchess de Ville (this duchess is among the good order of beings;) the chevalier de Peyrac; Monsieur l'Abbe Bastard; Baron de Serres; Viscountess Duhamel; the bishops of Croire and Montauban; Monsieur de la Marche; the baron de Montagu, a chess player; the chevalier de Cheyron; and Monsieur de Bellecomb, who commanded in Pondicherry, and was taken by the English. There are also about half a dozen young officers, and three or four abbess.

If I may hazard a remark on the conversation of French assemblies, from what I have known here, I should praise them for equanimity, but condemn them for insipidity. All vigour of thought seems so excluded from expression, that characters of ability and of inanity meet nearly on a par: tame and elegant, uninteresting and polite, the mingled mass of communicated ideas has powers neither to offend nor instruct; where there is much polish of character, there is little argument; and if you neither argue nor discuss, what is conversation? Good temper, and habitual ease, are the first ingredients in private society; but wit, knowledge, or originality, must break their even surface into some inequality of feeling, or conversation is like a journey on an endless flat.

Of the rural beauties we have to contemplate, the valley of Larbousse, in a nook of which the town of Louchon is situated, is the principal, with its surrounding accompaniment of mountain. The range that bounds it to the north is bare of wood, but covered with cultivation; and a large village, about three parts of its height, is perched on a steep, that almost makes the unaccustomed eye tremble with apprehension, that the village, church, and people will come tumbling into the valley. Villages thus perched, like eagles' nests on rocks, are a general circumstance in the Pyrenees, which appear to be wonderfully peopled. The mountain that forms the western wall of the

valley, is of a prodigious magnitude. Watered meadow and cultivation rise more than one-third the height. A forest of oak and beech forms a noble belt above it; higher still is a region of ling; and above all snow. From whatever point viewed, this mountain is commanding from its magnitude, and beautiful from its luxuriant foliage. The range which closes in the valley to the east is of a character different from the others; it has more variety, more cultivation, villages, forests, glens, and cascades. That of Gouzat, which turns a mill as soon as it falls from the mountain, is romantic, with every accompaniment necessary to give a high degree of picturesque beauty. There are features in that of Montauban, which Claude Lorraine would not have failed transfusing on his canvas; and the view of the vale from the chesnut rock is gay and animated. The termination of our valley to the south is striking; the river Neste pours in incessant cascades over rocks that seem an eternal resistance. The eminence in the centre of a small vale, on which is an old tower, is a wild and romantic spot; the roar of the waters beneath unites in effect with the mountains, whose towering forests, finishing in snow, give an awful grandeur, a gloomy greatness to the scene; and seem to raise a barrier of separation between two kingdoms, too formidable even for armies to pass. But what are rocks, and mountains, and snow, when opposed to human ambition? In the recesses of the pendent woods, the bears find their habitation, and on the rocks above, the eagles have their nests. All around is great; the sublime of nature, with imposing majesty, impresses awe upon the mind; attention is rivetted to the spot; and imagination, with all its excursive powers, seeks not to wander beyond the scene.

Deepens the murmurs of the falling floods,  
And breathes a browner horror o'er the woods.

To view these scenes tolerably, is a business of some days; and such is the climate here, or at least has been since I was at Bagnere de Luchon, that not more than one day in three is to be depended on for fine weather. The heights of the mountains is such, that the clouds, perpetually broken, pour down quantities of rain. From June 26th to July 2d, we had one heavy shower, which lasted without intermission for sixty hours. The mountains, though so near, were hidden to their bases in the clouds. They do not only arrest the fleeting ones which are passing in the atmosphere, but seem to have a generative power; for you see small ones at first, like thin vapour rising out of glens, forming on the sides of the hills, and increasing by degrees, till they become clouds heavy enough to rest on the tops, or else rise into the atmosphere, and pass away with others.

Among the original tenants of this immense range of mountains, the first in point of dignity, from the importance of the mischief they do, are the bears. There are both sorts, carnivorous and vegetable-eaters; the latter are more mischievous than their more terrible brethren, coming down in the night and eating the corn, particularly buck-wheat and maize; and they are so nice in choosing the sweetest ears of the latter, that they trample and spoil infinitely more than they eat. The carnivorous bears wage war against the cattle and sheep, so that no stock can be left in the fields at night. Flocks must be watched by shepherds, who have fire-arms, and the assistance of many stout and fierce dogs: and cattle are shut up in stables every night in the year. Sometimes, by accident, they wander from their keepers, and if left abroad, they run a considerable risque of being devoured. The bears attack these animals by leaping on their back, force the head to the ground, and thrust their paws into the body in the

violence of a dreadful hug. There are many hunting days every year for destroying them; several parishes joining for that purpose. Great numbers of men and boys form a cordon, and drive the wood where the bears are known or suspected to be. They are the fattest in winter, when a good one is worth three louis. A bear never ventures to attack a wolf; but several wolves together, when hungry, will attack a bear, and kill and eat him. Wolves are here only in winter. In summer, they are in the very remotest parts of the Pyrenees; the most distant from human habitations: they are here, as every where else in France, dreadful to sheep.

A part of our original plan of travelling to the Pyrenees, was an excursion into Spain. Our landlord at Luchon had before procured mules and guides for persons travelling on business to Saragossa and Barcelona, and at our request wrote to Vielle, the first Spanish town across the mountains, for three mules and a conductor, who speaks French; and being arrived according to appointment, we set out on our expedition.

JULY 10. My friend and myself are mounted on the two best mules, which are, however, but small; his servant, with our baggage, is on a third, and the owner of the mules, our conductor, marches on foot, boasting that his legs are good for fifteen leagues a day; this is his business; but we are not a little disappointed to find his French is pretty much that of a Spanish cow, if I may use a common French expression. From Bagnere to Luchon, we ascended incessantly, and in our way, viewed the pastures in the French mountains, which the Spanish flock-masters hire for their sheep in summer; which in emigrating, make thirteen days march every year from the lower parts of Catalonia. The management of these flocks is an object which must be explained elsewhere. Having satisfied ourselves with the examination, we returned to the direct road for Vielle, which quits the river Neste, about a league from Bagnere; it enters soon after one of the most wooded regions of the Pyrenees, and, at the same time, the most romantic. The way so bad, that no horses but those of the mountains could pass it; but our mules trod securely amidst rolling stones on the edges of precipices of a tremendous depth; but though sure footed, they are not free from stumbling; and, when they happen in those situations to trip a little, they electrify their riders in a manner not altogether so pleasantly as Mr. Walker. Pass the frontier line which divides France from Spain, and still rising on the mountains, we see the Spanish valley of Aran, with the river Garonne winding through it in a beautiful manner. The town of Bostose and the Spanish custom-house are at the foot of the mountains. This valley of Aran is richly cultivated; nothing scarcely can be finer than the view of it from heights so great as to render the common objects interesting; the road leads under trees, whose natural arches present, at every ten paces, new landscapes. The thick woods give fine masses of shade; the rocks large, and every outline bold; and the verdant vale, that is spread far below at your feet, has all the features of beauty, in contrast to the sublimity of the surrounding mountains. Descend into this vale, and halt at our first Spanish inn. No hay, no corn, no meat, no glass in the windows; but cheap eggs and bread, and some small trout, 15s. (7½d. English.)

Follow hence the Garonne, which is already a fine river, but very rapid; the inhabitants of the mountains float trees to their saw-mills, which are at work cutting boards. The whole valley of Aran is well cultivated and highly peopled; it is a journey of eight hours, or about forty English miles in length, and has thirty-two villages, or rather little towns, which have a pretty appearance, the walls being well built, and the roofs well slated; but on entering, the spectacle changes at once, for we found them the abodes of poverty and wretchedness; not one window of glass to be seen in a whole town;

scarcely any chimnies; the rooms of both floors vomiting the smoke out of the windows.

Arrive at Vielle, the capital of this valley, and the passage from the part of France we had left, to Barcelona; a circumstance which has given it some trifling resources. We were here informed, that we could not go into Spain without a passport: we waited, therefore, on the commandant, lieutenant-colonel and knight of Calatrava, who presides over the whole valley, and its thirty-two towns; his house was the only one we had seen in this part that had glass windows. In his anti-room, under a canopy of state, hung the king's picture. We were received with the Spanish formality, and assured, that a few months ago there was an order to send every foreigner, found without a passport, to the troops, which shews well enough the number of foreigners here. On each side of his excellency's bed was a brace of pistols, and a crucifix in the middle; we did not ask in which he puts the most confidence.

At Bagnere we were told that the inn at Vielle was good. We found the lower floor a stable, from which we mounted to a black kitchen, and, through that, to a baking room, with a large batch of loaves for an oven, which was heating to receive them. In this room were two beds for all the travellers who might happen to come; if too numerous, straw is spread on the floor, and you may rest as you can. No glass to the windows, and a large hole in the ceiling to clamber into the garret above it, where the windows were without shutters to keep out either rain or wind. One of the beds was occupied, so that my companion laid on a table. The house, however, afforded eggs for an omlet, good bread, thick wine, brandy, and fowls killed after we arrived. The people very dirty, but civil. 26 miles.

The 11th. Left Vielle, and took that route to Barcelona, which is by the porte (passage across the mountains) of Piass; another somewhat shorter being represented as exceedingly steep and difficult, and the country to that city worse. Pass several of the thirty-two villages of the valley of Aran, that crowd on each other, so that the population must be very great. It results here, from the division of property and from the plenty of cattle and fuel yielded by the mountains belonging to every parish.

Pass Arteas and Jasa; cross the river that falls into the Garonne; there is a fine view of the mountains over the former of these places, of wood, rock, and snow. The trees floating down the Garonne strike their ends against the rocks in it, and make a most singular noise, very much like thunder. Pass Salardeau and Tradoze, which is the last village of the valley, and near it the source of the river Garonne to the left; but a stream to the right, which we passed, seems rather larger. All the villages we have seen appear equally wretched; chimnies too great a luxury to look for in any of them. Vast rocks of granite are rolled promiscuously from the mountains, and innumerable springs pour down their sides. We then mounted to the very top of the Pyrenees, much above some of the remaining snow, and from the summit have a tremendous view of ridges of mountains, one beyond another, in Catalonia, many of them with snowy tops, to the distance of fifty or sixty miles. It took us four hours and three quarters to get to the top of the highest ridge; yet when we began to ascend, we must have been, if we may judge from the rapidity of the Garonne for several hundred miles from hence to Bourdeaux on some of the highest land in Europe. No wood at the top, but pasturage, amongst rocks of micaceous schistus, for great herds of cows and oxen, that breathe the pure air of this elevated region.

The springs we now meet with flow towards the Mediterranean; pass a church that stands by itself in the descent, and a beautiful cascade of five or six different falls, which pour down a torrent not less than five hundred feet amongst wood; a vast rock above

it; the whole a great but savage view. The trees here (pines) are finer than on the French hills; they are all cut for the Toulouse market, being carried over the mountains; and floated down the Garonne; from which we may draw conclusions on the comparative demand of the two kingdoms.

Pass a spot where an earthquake threw down part of a mountain, stopped a stream, and formed a large pond: it must have been a dreadful convulsion, for the spot is now a waste of immense fragments of rock, large as cottages, that are tumbled about in such ruinous confusion as to be truly horrible to view. The tradition is, that four men and their mules were buried under them. Come to the valley of Esteredano, where wheat and rye are cut. Every scrap on the descent is cultivated; it commands an extensive savage view of mountains, with patches of culture scattered about the declivities. The prospect down the vale beautiful.

Cross an arch at the junction of two rivers, on which rafters are now formed of plank and trees, and floated down. Reach Scullow; the inn so bad, that our guide would not permit us to enter it; we therefore went to the house of the cure. A scene followed so new to English eyes, that we could not refrain from laughing very heartily. As our reverend host had a chimney in his kitchen, we did not quarrel with the want of glass in his windows: he ran to the river to catch trout; a man brought some chickens, that were put to death on the spot. For light, they kindled splinters of pine, and two merry wenches and three or four men collected to stare at us, as well as we at them, were presently busy to satisfy our hunger. They gave us red wine, so dreadfully putrid of the boraccio, that I could not touch it; and brandy, poisoned with anniseed. What then were we to do? seeing our distress, they brought out a bottle of rich, excellent white wine, resembling Mountain; all then was well: but when we came to examine the beds, there was but one to be found. My friend would again do the honours, and insisted on my taking it: he made his on a table, and what with bugs, fleas, rats, and mice, slept not. I was not attacked; and though the bed and a pavement might be ranked in the same class of softness—fatigue converted it to down. This town and its inhabitants appeared equally wretched; the smoke holes, instead of chimnies, the total want of glass windows, the cheerfulness of which, to the eye, is known only by the want; the dress of the women all black, with cloth of the same colour about their heads, and hanging half down their backs, no shoes, no stockings: the effect, upon the whole, as dismal and savage as their rocks and mountains. 32 miles.

The 12th. The hills on each side are now almost close, and just admit the river, the road, and a scrap of meadow. The rocks lamellated schistus, some micacious. Lavender, for the first time, spontaneous. Pass Briasca, a village perched on a mountain like an eagle's nest. Come to Laboursel, where is an iron work, steel and iron made at the same time, and the furnace blown by the fall of water simply, without bellows. The water falls about ten feet, and, by its motion, drives the air into a sort of tunnel, which points to the centre of the furnace; the bottom of the mass of melted metal is steel; the middle of it soft, and the upper part hard iron. They burn charcoal made of pine wood. Pass Rudass on the top of a rocky mountain, and come presently to vines and fruit trees, yet snow in sight. As we descend to the vale, every spot is cultivated that is capable of it. Cross the river to Realp, a long town with many shops, in which hemp fabrics seem a principal article. Hedges of pomegranates in blossom. Dine at a dreadful auberge, which, instead of satisfying, offended all the senses we were masters of.

Hitherto in Catalonia, we have seen nothing to confirm the character given of that province; for scarcely any thing has a tolerable appearance; the towns and the country appear equally poor and miserable.

Come to Jare, whose environs wear a better countenance, on account of an immense salt work belonging to the king. Here first meet with olives, and going up the mountain, which is all of pudding stone, find it cut into terraces, supported by walls, and planted with vines, mulberries, and olives.

The road then led through a pass in the mountains, which presented, I think, without exception, the most striking scene that I had ever beheld. I remember the impression that the ocean made on me the first time I saw it, and believe it to have been weaker than this; I shall not spend many words in attempting to describe what the pencil itself in the hands of a master would fail to convey an adequate idea. The pass is above a mile long; the rocks seem rent asunder to make way for the river, which entirely fills the bottom of the chasm. The road was cut out of the rock, and was wrought with gunpowder, a work of prodigious labour and expence. It passes on heights that vary the scene, and that give a depth below the eye enough to be interesting. The mountains of stone, which rise on either side, are the most tremendous in their height, magnitude, and pendant form, that imagination can conceive. Were all the rocks of England piled on one another, they would form but pigmy heaps, compared with these gigantic and stupendous masses. Rocks are commonly, even in their most bold appearances, detached parts of mountains; and, however great in themselves, have masses above them, which lessen their effect. It is otherwise here: if we suppose the skeletons of mountains laid bare to the eye, it will be but a vague idea. Vastness of size, perpendicularity of form—pendant—and protruding—every circumstance that can give a power to inanimate nature, to command and arrest attention, is spread forth with an imposing magnificence through every feature of this sublime scenery.

Pass Coolagase, the features of the country now begin to relax; the mountains are not so high, and the vales are wider. Arrive at La Pobla, after a fatiguing journey of thirty-six English miles, more than half of which, as in general, we made on foot. Here we fared sumptuously, for report made the inn so bad, that we took refuge with a shopkeeper. It seems an extraordinary circumstance, that in these parts of Spain you ride to the door of a private house, desire lodging and food, and pay of course what they demand. However, it must always be taken into the account of our fare, that the wine of all the country is so poisoned with the boraecio, that water is the best beverage, unless anniseed brandy should be to your taste. Sallads also, a principal dish with them, are not eatable by reason of the oil of the country being strong and rancid; a quality which the inhabitants seem to think essential to good oil, for they every where gave it the highest praises. This town has some good houses with glass windows; and we saw a well dressed young lady, attended in a gallant manner by two monks. 36 miles.

The 13th. Leave La Pobla, and cross the river, which is sixty yards wide; it compensates, by the use made of its waters in irrigation, the mischief it does in floods, for we passed two large tracts destroyed by it. The mountains around of bold and interesting features; the country in general a mixture of cultivation and waste, for some space pleasing enough to the eye; but they have no meadows, so that our mules have met with nothing like hay; straw and barley are their food; and they tell us, that all over Spain it is the same thing, with some exceptions in watered lands for lucerne. Much corn threshing every where.

The road leads by Monte Esquieu, the whole of which consists of a white stone and argillaceous marle. Look back over a great prospect, but destitute of wood. Our caso a poor place: there, as every where else, the first floor is a stable, which is cleaned out not more than once or twice a year, when the land is ready to receive the dung.

The delicious effluvia given to the rest of the house, in so hot a climate, may be conjectured: rising into the kitchen and the chambers it there meets with such a variety of other unsavory essences, as to form compounds sufficient to puzzle the most dexterous of the aerial philosophers to analyze. All their white wine here is boiled. Descend mountains terraced for olives, which grow well on rocks, but add no beauty to them; insomuch that clothing a country with the most ugly of all trees adds nothing to the pleasure of the eye.

Pass in sight of St. Roma, and cross a district of shells, and a large waste entirely covered with lavender.

Pass up a hill which commands a vast prospect of distant mountains, W. S. W. they are in Arragon; very high; and seen one beyond another to a great distance; also the snowy ones of the Pyrenees which we have left. Following the road, we see it opening to an immense view of what at first appears to be a plain, a great range of country towards the sea, but it is all broken in mountainous ridges, which seem low, merely on comparison with the greater heights from which we view. The Pyrenees in one great chain to the left, and the mountains of Tortosa to the right. Descend to Fulca, where we stop for the night, at an inn kept by a considerable farmer, and meet, for Spain, with tolerable accommodation. We had here, in the evening, a most tremendous tempest. The lightning which I have seen in England has been a mere glimmering, compared with the dreadful corruscations of this ardent and electric atmosphere. A range of the Pyrenees was in sight for one hundred miles in a line; the forked flashes of the lightning darted in streams of fire to the length of half that extent, and much of it from an immense height. The colour was of the brightest whiteness; the scene was great, awful and sublime. 28 miles.

The 14th. In the morning the hemisphere was all heavy with clouds, and some rain fell; we expressed apprehensions of being wet, but our landlord said we should have a very fine day; we had confidence, and it proved a clear burning one.

Here I may observe, that in above one hundred miles in Catalonia, we have seen but two houses that appeared decidedly to be gentlemen's, one the governor's at Vielle, and the other in the town of La Pobla; and in the same line of country not more than one acre probably in two hundred is cultivated. Thus far, therefore, we have experienced an entire disappointment in the expectation of finding this province a garden.

Pass the side of a mountain covered with rosemary, box, and brambles, and descend into a rich vale to the town of Pous. Cross the river Segre by a most commodious ferry boat, much better executed and contrived for carriages and horses, than any I have seen in England. I have crossed the Thames, the Severn, and the Trent, but never saw any in which the horses were not forced to leap through a narrow cut in the side of the boat to the imminent danger of being lamed: and I have known both cows, oxen, and horses killed in the operation. A carriage may be driven in and out of this ferry boat without taking off a horse, or a person moving from his seat. The boat crosses the river by a great rope passing over a lanthorn wheel. The care and attention given to irrigation here cannot be exceeded. Much silk winding.

They thresh their corn by driving mules in the oriental method on a circular floor of earth in the open air; a girl drives, three or four men turn the straw, move it away, and supply the floor.

Pass a waste of marle, with strata of talc in some places clear and and transparent, shining, and breaking into thin flakes. Deserts for several miles. Pass Ribelles, a vil-

lage whose white church and houses, on the pinnacle of a rocky hill, have a singular effect in the midst of an uncultivated dreary tract. Dine at Scnavia; the day excessively hot, and the flies so innumerable, as to be a perfect plague. They have a good contrivance for keeping them off the table you eat at, which is a moveable and very light frame of canvas, suspended from the ceiling by two pivots, and a girl keeps pulling it backwards and forwards while you are at table; the motion it gives the air drives off the flies. Where this invention is not adopted, she uses a hand-flapper for the same purpose, fanning in a droll manner, and far from disagreeable, when the girl is pretty. Pass many watered grounds, with peaches, apples, and ripe pears. Pomegranates in the hedges as large now as walnuts in the shell. To Biosca mostly desert hills, but with some broad vales. No where any wood to be seen, except olives, and evergreen oaks, which are almost as sad as olives. Towards Tora the country is more cultivated, and has some scattered houses, which I note as a new circumstance. Pass Castle Follit. The country improves to Calaf, where we arrived after a burning journey of forty English miles, having been fourteen hours on our mules. 40 miles.

The 15th. Sunday. To mass at four in the morning: the church almost full of muleteers; it was evident that we were in Spain, from the fervency of devotion with which they beat their breasts at some of the responses in the service. How far this violent attention to religion is connected with the waste state of their province, I shall leave to others to determine. One thing, which surprised me a good deal, was seeing great numbers of men going out of town with reap hooks to cut their corn, just as on any other day; this must be with the leave of their priests; and to give such permission, speaks more liberality than I had been taught to expect.

Cross a great waste, and mount a hill, from whence an extensive view over a naked country; and, for the first time, we see Montserrat, the outline of which is interesting. Dine at Camprat, in the midst of a rocky country, of a savage aspect, with so many wastes, that not one acre in an hundred is cultivated. Arrive at the foot of Montserrat, which, from the description given of it by Mr. Thickness, was one object of our journey.

It is a remarkably isolated mountain, but of an immense basis. An admirable winding road is made, by which we mounted to the convent; to make this way was a great effort in a country where so few good roads are to be found. Much of this is hewn out of the live rock. In other respects, it is one of the most singular in the world. On the right hand is a wall of mountain fringed with wood, at the top of which are those stupendous rocks, which render it famous: to the left a precipice horrible for depth, but all covered with plants, which in England are sought with anxiety and expence for adorning shrubberies and gardens; and vegetation here has the luxuriance which may be expected in one of the finest climates in the world. The road so level, and these beautiful plants so thick, that they altogether resemble the alley of a decorated ground. The scenery on which you look is every where uncommon; such a confusion of shades and masses; such a tumult of forms, that the eye wanders with a kind of amazement from part to part, without being able to repose in the quiet command of any distinct object.

We arrived at the convent in time for the evening hymns and music. The church is splendid, some of the pictures fine, and the multitude of offerings of diamonds, rubies, and all other precious stones, with the quantity of gold and silver lamps, vases, &c. are the last objects for me to dwell on, since they never raise any other emotion in my bosom than of disgust. I hate the folly that gives; and if the monks are honest, I hate the folly that receives.



On our arrival we were conducted to a neat, plain apartment in the convent, of two rooms furnished with mere necessaries, and we were supplied by the servants with such food and wine as we requested, at a very moderate expence. To this useful species of hospitality, we were obliged for a comfortable night's rest. 27 miles.

The 16th. The principal object which had induced us to take Montserrat in our way, was the amazing prospect commanded from the top of the mountain, and from the various hermitages described by Mr. Thickness. This morning we walked up the hill, but the weather proved so perverse to our views, both in mounting and descending, that we were the whole time in the clouds. I should most willingly have staid two or three days here, and waited for a better time; but my friend was in such a hurry to return to Bagnere to the count de la Rouchefoucauld, that we must have separated, had I done it. In such tours as these it is always best to take a superfluity of time; a thing very difficult to do when one travels in company; and that of Mons. L. was much too valuable and interesting to me to allow such a question for a moment. All we could do in our elevated situation, was to mortify ourselves with imagining the prodigious prospect before us, without a possibility of seeing five hundred yards, for the clouds were beneath as well as around us. We stopped at one of the hermitages, the inhabitant of which, a Maltese of a gentleman-like deportment and manners, received us hospitably and politely, setting out bread, wine, and fruit. He lamented our ill luck, telling us that the island of Majorca was distinctly to be seen from his little garden, which we viewed with pleasure, but should have been better pleased to have seen Majorca. But though the distant prospect was thus excluded, we had the opportunity to examine and admire the uncommon and striking form of the rocks, of which this most interesting mountain is composed: the whole seems one vast mass of pudding stone.

Leave the convent, and take the road for Barcelona, which, in richness of vegetable accompaniment, is inferior to that by which we came; we were several miles descending. Pass Orevoteau, where is a hedge of aloes four feet high: here we are in a high road, for we meet for the first time a cabriolet. Pass a wretched stony desert, which yields only aromatic plants, scattered with dismal evergreen oaks. Esparagara is the first manufacturing town we met with; woollen cloths, stuffs, and laces: the town is near a mile long. Near Martorell, see the triumphal arch, said to be built by Annibal; it has been lately repaired. In that town every one is employed in lace making; they have, however, another occupation not quite so agreeable to the eye, that of picking vermin out of each other's heads, in which numbers of them were employed; nor can any thing be more stinking or filthy than their persons, or more dirty than their houses; to view either, is enough to impress the idea, that cleanliness is one of the first of the virtues, and doubly so in such a hot climate. No new houses in any of these towns. The country is disagreeable, and rendered worse by many beds of torrents, without a drop of water; arid and hurtful to the eye. Apricots, plumbs, melons, &c. ripe, and sold in the streets.

Come to a noble road, which they are making at the expence of the king; fifty or sixty feet wide, and walled on the side to support the earth, of which it is formed. The country now is far more populous and better built, many vines, and much cultivation.

It will probably be found, that the great reputation of this province has arisen from the improvements in the lower, flat, and irrigated parts; if so, it ought to be discriminated; for by far the larger part of it is mountainous, not less in proportion, I should conceive, than seven-eighths. Pass a large paper mill; and continuing on the

same fine road, join another equally great and well made, that leads to Villa Franca. Turn to the left for Barcelona, and cross a bridge of red granite, a solid, durable, and noble work, four hundred and forty paces long; but, though built only eight years ago, is in a bad and inelegant style. Now meet a great number of carts and carriages, drawn by very fine mules, and mark every appearance of approaching a great city. Within two or three miles of it, there are many villas and good buildings of all sorts, spreading to the right and left, and seen all over the country. I have been at no city since we left Paris, whose approach carries such a face of animation and cheerfulness; and considering Paris as the capital of a great kingdom, and Barcelona as that of a province only, the latter is more striking beyond all comparison. This noble road does honour to the present king of Spain; it is carried in an even line over all narrow vales, so that you have none of the inconveniences which otherwise are the effect of hills and declivities. A few palm trees add to the novelty of the prospect to northern eyes. The first view of the town is very fine, and the situation truly beautiful. The last half mile we were in great haste to be in time for the gates, as they are shut at nine o'clock. We had had a burning ride of forty miles, and were a good deal fatigued, yet forced to undergo a ridiculous search, as every thing pays an entree to government on going into the town; and we had still two miles I believe to pass, first to the French crown, which inn was full, and then to La Fonde, where we found good quarters.

My friend thought this the most fatiguing day he had ever experienced: the excessive heat oppressed him much; and, indeed, travellers in general are much more prudent than to ride during the whole day in the middle of July, choosing rather to expose themselves to fatigue here in the morning and evening only. But after a succession of dog holes, with perpetual starving and mortification in the mountains, the contrast of this inn was great. It is a very good one, with many waiters, active and alert as in England. A good supper, with some excellent Mediterranean fish; ripe peaches; good wine; the most delicious lemonade in the world; and good beds, all tended to revive us; but Mons. Lazowski was too much fatigued for enjoying them. 40 miles.

The 17th. View the town, which is large, and to the eye, in every street, remarkably populous: many of them are narrow, which may be expected in an old town; but there are also many others broader, with good houses; yet one cannot on the whole consider it as well built, except as to public edifices, which are erected in a magnificent style. There are some considerable openings, which, though not regular squares, are ornamental, and have a good effect in setting off the new buildings to the best advantage. One quarter of the city, called Barcelonetta, is entirely new, and perfectly regular; the streets cutting each other at right angles; but the houses are all small and low, being meant for the residence of sailors, little shopkeepers, and artisans: one front of this new town faces the quay. The streets are lighted, but the dust so deep in some of them, especially the broader ones, that I know not whether they are all paved. The governor's house and the new fountain are on a scale, and in a style, which shews that there are no mean ideas of embellishment here. The royal foundery for cannon is very great. The building spacious, and every thing seems executed in a manner that proves no expence was spared. The guns cast are chiefly brass: they are solid; and some twenty-four pounders boring; perhaps in all mechanics the most curious operation, and which can never be viewed without paying some homage to the genius that first invented it. In time of war three hundred men are employed here; but at present the number is not considerable.

But the object at Barcelona which is the most striking, and which, according to my knowledge at least, has no where a rival, is the quay. The design and execution are equally good. I guess it about half a mile long. A low platform of stone is built but a few feet above the water, close to which the ships are moored; this is of breadth sufficient for goods and packages of all sorts in loading and unloading the vessels. A row of arched warehouses open on to this platform, and over those is the upper part of the quay on a level with the street; and for the convenience of going up or down from one to the other, there are gently sloping ways for carriages, and also stair-cases. The whole is most solidly erected in hewn stone, and finished in a manner that discovers a true spirit of magnificence in this most useful sort of public works. The road by which we travelled for several miles, the bridge by which we passed the river, and this quay, are works that will do lasting honour to the present king of Spain. There are now about 140 ships in the harbour; but the number sometimes much larger.

It is impossible to view such admirable works as the quay of Barcelona, without regretting the enormous sums wasted in war and bloodshed. No quarrel happens between two nations, but it costs twenty such quays; a thousand miles of magnificent road; an hundred bridges; the pavement, lights, fountains, palaces, and public ornaments of fifty cities. To tell a prince or a parliament (the latter wants this lesson to the full as much as the former) that a war is as absurd as it is cruel, for it will cost so much money in figures, makes not the least impression; they never see the money, and the expence is of something ideal; but to tell the king of Spain that it would cost the Escorial, St. Ildefonso, his palace at Madrid, and all the roads in his kingdom, and he would think very seriously before he engaged in it. To reason with a British parliament, when her noisy factious orators are bawling for the honour of the British lion, for the rights of commerce, and freedom of navigation; that is, for a war—that such a war will cost an hundred millions sterling, and they are deaf to you. But let it cost them those roads on which they roll so luxuriously, the public bridges, and the great edifices that decorate the capital, and our other cities, if the members were willing at such a price to hazard a war, the people would probably pull down their houses. Yet the cases are precisely the same; for if you spend the money that would form and build such things, you in effect spend the things themselves. A very little calculation would shew, that the expence of our three last wars, which had no other effect whatever but to spill blood and fill gazettes, would have made the whole island of Great Britain a garden; her whole coast a quay; and have converted all the houses in her towns into palaces, and her cottages into houses. But to return.

The manufactories at Barcelona are considerable. There is every appearance as you walk the streets of great and active industry; you move no where without hearing the creak of stocking engines. Silk is wrought into handkerchiefs, though not on so great a scale as at Valencia; stockings, laces, and various stuffs. They have also some woollen fabrics, but not considerable. The chief business of the place is that of commission; the amount of the trade transacted is considerable, though not many ships belong to the port.

The industry and trade, however, which have taken root, and prospered in this city, have withstood the continued system of the court to deal severely with the whole province of Catalonia. The famous efforts which the Catalans made to place a prince of the house of Austria on the throne of Spain, were not soon forgotten by the princes of the house of Bourbon, to their dishonour. Heavy taxes have been laid on the people; and the whole province continues to this day disarmed; so that a nobleman cannot

wear a sword, unless privileged to do it by grace or office; and this goes so far, that in order to be able to shew this mark of distinction, they are known to get themselves enrolled as familiars of the inquisition, an office which carries with it that licence. I note this correctly according to the information given me; but I hope the person who gave it was mistaken. For the nobility to stoop to such a meanness, and the court to drive men to such unworthy means of distinction, fourscore years after their offence, which was fidelity to the prince whom they esteemed their lawful sovereign, such an act reflects equal dishonour upon the nobility and the crown. The mention of the inquisition made us inquire into the present state of that holy office, and we were informed, that it was now formidable only to persons of very notorious ill fame; and that whenever it does act against offenders, an inquisitor comes from Madrid to conduct the process. From the expressions, however, which were used, and the instances given, it appeared that they take cognizance of cases not at all connected with faith in religion; and that if men or women are guilty of vices, which render them offensive, this was the power that interposed; an account, in my opinion, by no means favourable for the circumstance, which was supposed most to limit their power, was the explicit nature of the offence, viz. being against the Catholic faith, and by no means against public morals, to secure which is an object for very different judicatures in every country.

The markets here are now full of ripe figs, peaches, melons, and the more common fruits in great profusion. I bought three large peaches for a penny, and our laquais de place said, that I gave too much, and paid like a foreigner; but they have not the flavour of the same fruit in England. In the gardens there are noble orange trees loaded with fruit, and all sorts of garden vegetables in the greatest plenty. The climate here in winter may be conjectured from their having green peas every month in the year.

View the very pretty fort to the south of the town, which is on the summit of a hill that commands a vast prospect by sea and land. It is exceedingly well built and well kept. Notwithstanding this fort to the south, and a citadel to the north of the town, corsairs in time of war have cut fishing vessels out of the road, and very near the shore.

In the evening to the play; the theatre is very large, and the seats on the two sides of the pit (for the centre is at a lower price) extremely commodious; each seat is separate, so that you sit as in an elbow chair. A Spanish comedy was represented, and an Italian opera after it. We were surprised to find clergymen in every part of the house; a circumstance never seen in France. Twice a week they have an Italian opera, and plays the other evenings. In the centre of the pit on benches the common people seat themselves. I saw a blacksmith, hot from the anvil, with his shirt sleeves tucked above his elbows, who enjoyed the entertainment equally with the best company in the boxes, and probably much more. Every well dressed person was in the French fashion; but there were many who still retained the Spanish mode of wearing their hair without powder, in a thick black net which hangs down the back; nothing can have a worse effect, or appear more offensive in so hot a climate.

The 18th. On leaving the town we were searched again, which seems both useless and burthensome. Enter immediately an extraordinary scene of watered cultivation, so fine that I suppose it has given the general reputation to the whole province. The Indian fig, called here *figua de Maura*, grows six or seven feet high, very branching and crooked; the arms at bottom as thick as the thigh of a common man; these and many aloes in the hedges. At Ballalo, two hours from Barcelona, meet with the

first vineyards; but the hills here, for the most part, come down to the sea; and where they do not, the vale is not more than half a mile wide. Lycium in the hedges; oranges in the gardens; a few palm trees with vines around them. All here enclosed, and the men mending gaps in their hedges. The appearance of industry on this coast is as great as possible. Numbers of fishing boats and nets, with rows of good white houses on the sea side; and while the men are active in their fisheries, the women are equally busy in making lace. Dine at Gremah; many large villages and scattered houses all the way. Wherever there is an opening in the mountains, more distant and still higher ones are seen; a circumstance which unites with the vast view from Montserrat, and shews that all behind is mountainous, and that the vales are no where large. Pass a valley, part highly cultivated, but the rest for a quarter of a mile of breadth totally ruined by a torrent. Reach Martaro, a large town of white and clean well built houses, the streets crossing each other at right angles. The inhabitants appear exceedingly industrious; there are some stocking engines and lace makers at every corner. Every house has one large door, which serves both for door and window to that room; an undoubted proof of the warmth of the climate. I am sorry to add, that here also the industry of catching vermin in each other's heads is very active.

Pass Areny's, a large town, where ship-building seems a business of some consequence: making thread lace universal here; the thread comes from France. Canet, another large town, employed in ship building, fishing, and making lace. All these towns are well built, with an equal appearance of general industry, and its inseparable companion, private comfort. Every scrap of flat land well cultivated, and the hills covered with vines.

At Callella, a large town like the former, full of industry, but the inn no better than in the mountains, a stinking, dirty, dreadful hole, without any thing to eat or drink but for muleteers; yet we are now in the high road from Paris to Madrid. 36 miles.

The 19th. Leave Callella, and in less than a league come to Pineda, another large town, and pass Malgrat, which is not so well built as the preceding, but much lace made in it.

The road here turns from the sea into an enclosed woodland. Pomegranates make very fine thick hedges. There are old castles on the hills to defend the coast against the Africans. Houses scattered every where, a feature essential to a fine country, and an agreeable landscape. Poplars planted in some fields, and vines trained from one to another. From reading accounts of this husbandry, I had formed an idea that it must be singularly beautiful to see festoons of vines hanging from tree to tree; but there is nothing either pleasing or striking in it. The Pyrenees are now in front, with very high mountains to the left, with their heads in the clouds.

Pass for several miles a country much mixed with wastes; and come to a very large one, spreading over several extensive hills for many miles, that presents an extraordinary spectacle to northern eyes. It is a thicket of aromatic plants, and beautiful flowering shrubs, with but a small mixture of plants common in England. Large spreading myrtles three or four feet high, jessamines, honey suckles, lavender, rosemary, bay, lentiscus, tamarisc, cassia, &c. &c. but all nuisances here even worse than heath with us, for we see neither sheep nor goats. Pass Goronota, and many wastes for some miles on gentle slopes, and come again to a thick woodland enclosed country, like some parts of England. Many hedges of the yellow blossomed prickly acacia, which answers well

for that purpose. Reach Girona, an old town walled and fortified with some redoubts, and a fort on the hill above it; but not kept up, nor indeed would it stop an army half an hour. Here is a cathedral and a bishop, who gave us his blessing as we passed him, drawn in his coach by six mules. His revenue is 24,000 French livres; there are cures, who have from 1200 to 3000 livres. They tithe no live stock. They have no manufactures of any consequence, and no resource but that of agriculture; yet, what is extraordinary, Castilian and French workmen come hither for employment. 36 miles.

Snow is on the Pyrenees as well as at Bagnere de Luchon.

July 21. Leave Junquerras, where the countenances and manners of the people would make one believe all the inhabitants were smugglers. Come to a most noble road, which the king of Spain is making; it begins at the pillars that mark the boundaries of the two monarchies, joining with the French road; it is admirably executed. Here take leave of Spain and re-enter France: the contrast is striking. When one crosses the sea from Dover to Calais, the preparation and circumstance of a naval passage lead the mind by some gradation to a change; but here, without going through a town, a barrier, or even wall, you enter a new world. From the natural and miserable roads of Catalonia, you tread at once on a noble causeway, made with all the solidity and magnificence that distinguish the highways of France. Instead of beds of torrents you have well built bridges; and from a country wild, desert, and poor, we found ourselves in the midst of cultivation and improvement. Every other circumstance spoke the same language, and told us by signs not to be mistaken, that some great and operating cause worked an effect too clear to be misunderstood. The more one sees, the more I believe we shall be led to think, that there is but one all-powerful cause that instigates mankind, and that is government! Others form exceptions, and give shades of difference and distinction, but this acts with permanent and universal force. The present instance is remarkable; for Roussillon is in fact a part of Spain; the inhabitants are Spaniards in language and in customs; but they are under a French government.

Great range of the Pyrenees at a distance. Meet shepherds that speak the Catalan. The cabriolets we meet are Spanish. The farmers thresh their corn like the Spaniards. The inns and the houses are the same. Reach Perpignan; there I parted with Mons. Lazowski. He returned to Bagnere de Luchon, but I had planned a tour in Languedoc, to fill up the time to spare. 15 miles.

The 22d. The duke de la Rouchefoucauld had given me a letter to Monsieur Barri de Lasseuses, major of a regiment at Perpignan, and who, he said, understood agriculture and would be glad to converse with me on the subject. I sallied out in the morning to find him, but being Sunday, he was at his country seat at Pia, about a league from the town. I had a roasting walk thither, over a dry stony country under vines. Monsieur, Madame, and Mademoiselle de Lasseuses, received me with great politeness. I explained the motives of my coming to France, which were not to run idly through the kingdom with the common herd of travellers, but to make myself a master of their agriculture; that if I found any thing good and applicable to England, I might copy it. He commended the design greatly; said it was travelling with a truly laudable motive; but expressed much astonishment, as it was so uncommon; and was very sure there was not a single Frenchman in all England on such an errand. He desired I would spend the day with him. I found the vineyard the chief part of his husbandry, but he had some arable land, managed in the singular manner of that province. He

pointed to a village which he said was Rivesalta, which produced some of the most famous wine in France; at dinner I found that it merited its reputation. In the evening returned to Perpignan, after a day fertile in useful information. 8 miles.

The 23d. Take the road to Narbonne. Pass Rivesalta. Under the mountain there is the largest spring I ever saw. Otters-Pool and Holywell arc bubbles to it. It rises at the foot of the rock, and is able to turn immediately many mills; being at once rather a river than a spring. Pass an uninterrupted flat waste, without a single tree, house, or village for a considerable distance: by much the ugliest country I have seen in France. Great quantities of corn every where treading out with mules as in Spain. Dine at Sejean, at the Soleil, a good new inn, where I accidentally met with the marquis de Tressan. He told me, that I must be a singular person to travel so far with no other object than agriculture; he never knew nor heard of the like; but approved much of the plan, and wished he could do the same.

The roads here are stupendous works. I passed a hill, cut through to ease a descent, that was all in the solid rock, and cost 90,000 livres (3,937l.) yet it extends but a few hundred yards. Three leagues and an half from Sejean to Narbonne cost 1,800,000 livres (78,750l.) These ways are superb even to a folly. Enormous sums have been spent to level even gentle slopes. The causeways arc raised and walled on each side, forming one solid mass of artificial road, carried across the vallies to the height of six, seven, or eight feet, and never less than fifty wide. There is a bridge of a single arch, and a causeway to it, truly magnificent; we have not an idea of what such a road is in England. The traffic of the way, however, demands no such exertions; one-third of the breadth is beaten, one-third rough, and one-third covered with weeds. In thirty-six miles, I have met one cabriolet, half a dozen carts, and some old women with asses. For what all this waste of treasure? In Languedoc, it is true, these works are not done by corvees; but there is an injustice in levying the amount not far short of them. The money is raised by tailles, and, in making the assessment, lands held by a noble tenure are so much eased, and others by a base one so burthened, that one hundred and twenty arpents in this neighbourhood, held by the former, pay 90 livres and four hundred possessed by a plebeian right, which ought proportionally to pay 300 livres, is, instead of that, assessed at 1400 livres. At Narbonne, the canal which joins that of Languedoc deserves attention; it is a very fine work, and will, they say, be finished next month. 36 miles.

The 24th. Women without stockings, and many without shoes; but if their feet are poorly clad, they have a superb consolation in walking upon magnificent causeways: the new road is fifty feet wide, and fifty more digged away or destroyed to make it.

The vintage itself can hardly be such a scene of activity and animation as this universal one of treading out the corn, with which all the towns and villages in Languedoc are now alive. The corn is all roughly stacked around a dry firm spot, where great numbers of mules and horses are driven on a trot round a centre, a woman holding the reins, and another, or a girl or two, with whips drive: the men supply and clear the floor; other parties arc dressing, by throwing the corn into the air for the wind to blow away the chaff. Every soul is employed, and with such an air of cheerfulness, that the people seem as well pleased with their labour, as the farmer himself with his great heaps of wheat. The scene is uncommonly animated and joyous. I stopped and alighted often to see their method; I was always very civilly treated, and my wishes for a good price for the farmer, and not too good a one for the poor, well received. This method, which entirely saves barns, depends absolutely on climate: from my leaving Bagnere de Luchon to this moment, all through Catalonia, Roussillon, and this part of Languedoc,

there has been nothing like rain ; but one unvarying clear bright sky and burning sun, yet not at all suffocating, or to me even unpleasant. I asked whether they were not sometimes caught in the rain ? they said, very rarely indeed ; but if rain did come, it is seldom more than a heavy shower, which a hot sun quickly succeeds and dries every thing speedily.

The canal of Languedoc is the capital feature of all this country. The mountain through which it pierces is insulated, in the midst of an extended valley, and only half a mile from the road. It is a noble and stupendous work, goes through the hill about the breadth of three toises, and was digged without shafts.

Leave the road, and crossing the canal, follow it to Beziers ; nine sluice-gates let the water down the hill to join the river at the town. A noble work ! The port is broad enough for four large vessels to lie abreast ; the greatest of them carries from ninety to one hundred tons. Many of them were at the quay, some in motion, and every sign of an animated business. This is the best sight I have seen in France. Here Louis XIV, thou art truly great ! Here with a generous and benignant hand, though dispensest ease and wealth to thy people ! Si sic omnia, thy name would indeed have been revered ! To effect this noble work, of uniting the two seas, less money was expended than to besiege Turin, or to seize Strasbourg like a robber. Such an employment of the revenues of a great kingdom is the only laudable way of a monarch's acquiring immortality ; all other means make their names survive with those only of the incendiaries, robbers, and violaters of mankind. The canal passes through the river for about half a league, separated from it by walls which are covered in floods ; and then turns off for Cette. Dine at Beziers. Knowing that Mons. l'Abbe Rozier, the celebrated editor of the *Journal Physique*, and who is now publishing a dictionary of husbandry, which in France has much reputation, lived and farmed near Beziers, I inquired at the inn the way to his house. They told me that he had left Beziers two years, but that the house was to be seen from the street, and accordingly they shewed it me from something of a square open on one side to the country ; adding, that it belonged now to a Mons. de Rieuse, who had purchased the estate of the Abbe. To view the farm of a man celebrated for his writings, was an object, as it would at least enable me, in reading his book, to understand better the allusions he might make to the soil, situation, and other circumstances. I was sorry to hear at the table d'hote, much ridicule thrown on the Abbe Rozier's husbandry, that it had beaucoup de fantasie mais rien solide ; in particular, they treated his paving his vineyards as a ridiculous circumstance. Such an experiment seemed remarkable, and I was glad to hear of it, that I might desire to see these paved vineyards. The Abbe here, as a farmer, has just that character which every man will be sure to have who departs from the methods of his neighbours ; for it is not in the nature of countrymen, that any body should come among them who can presume with impunity to think for himself. I asked why he left the country ? and they gave me a curious anecdote of the bishop of Beziers cutting a road through the Abbe's farm, at the expence of the province, to lead to the house of his (the bishop's mistress) which occasioned such a quarrel, that Mons. Rozier could stay no longer in the country. This is a pretty feature of a government : that a man is to be forced to sell his estate, and driven out of a country, because bishops make love I suppose to their neighbours' wives, as no other love is fashionable in France. Which of my neighbours' wives will tempt the bishop of Norwich to make a road through my farm, and drive me to sell Bradfield ? I give my authority for this anecdote, the chat of a table d'hote : it is as likely to be false as true ; but Languedocian bishops are certainly not English ones. Monsieur de Rieuse received me politely, and satisfied as many of my inquiries as he could ; for he



knew little more of the Abbe's husbandry than common report, and what the farm itself told him. As to paved vineyards, there was no such thing: the report must have taken rise from a vineyard of Burgundy grapes, which the Abbe planted in a new manner; he set them in a curved form, in a foss, covering them only with flints instead of earth; this succeeded well. I walked over the farm, which is beautifully situated, on the slope and top of a hill, which commands Beziers, its rich vale, its navigation, and a fine accompaniment of mountains.

Beziers has a fine promenade; and is becoming, they say, a favourite residence for the English, preferring the air to that of Montpellier. Take the road to Pezenas. It leads up a hill, which commands, for some time, a view of the Mediterranean. Through all this country, but particularly in the olive grounds, the cricket (*cicala*) makes a constant, sharp, monotonous noise; a more odious companion on the road can hardly be imagined. Pezenas opens on a very fine country, a vale of six or eight leagues extent all cultivated; a beautiful mixture of vines, mulberries, olives, towns and scattered houses, with a great deal of fine lucerne; the whole bounded by gentle hills, cultivated to their tops. At supper, at the table d'hote, we were waited on by a female without shoes or stockings, exquisitely ugly, and diffusing odours not of roses: there were, however, a *croix de St. Louis*, and two or three mercantile-looking people, who prated with her very familiarly: at an ordinary of farmers, at the poorest and remotest market village in England, such an animal would not be allowed by the landlord to enter his house; or by the guests their room. 32 miles.

The 25th. The road, in crossing a valley to and from a bridge, is a magnificent walled causeway, more than a mile long, ten yards wide, and from eight to twelve feet high; with stone posts on each side at every six yards, a prodigious work. I know nothing more striking to a traveller than the roads of Languedoc: we have not in England a conception of such exertions; they are splendid and superb; and if I could free my mind of the recollection of the unjust taxation which pays them, I should travel with admiration at the magnificence displayed by the states of this province. The police of these roads is however execrable, for I scarcely meet a cart but the driver is asleep in it.

Taking the road to Montpellier, pass through a pleasing country; and by another immense walled causeway, twelve yards broad and three high, leading close to the sea. To Gigean, near Frontignan and Montbasin, famous for the muscat wines. Approach Montpellier; the environs, for near a league, are delicious, and more highly ornamented than any thing I have seen in France. Villas well built, clean, and comfortable, with every appearance of wealthy owners, are spread thickly through the country. They are, in general, pretty square buildings; some very large. Montpellier, with the air rather of a great capital than of a provincial town, covers a hill that swells proudly to the view. But on entering it, you experience a disappointment from narrow, ill-built, crooked streets, but full of people, and apparently alive with business; yet there is no considerable manufacture in the place; the principal are verdigrease, silk handkerchiefs, blankets, perfumes, and liqueurs. The great object for a stranger to view is the promenade, or square, for it partakes of both, called the *Perou*. There is a magnificent aqueduct on three tiers of arches for supplying the city with water, from a hill at a considerable distance; a very noble work; a chateau d'eau receives the water in a circular basin, from which it falls into an external reservoir, to supply the city, and the jets d'eau that cool the air of a garden below, the whole in a fine square considerably elevated above the surrounding ground, walled in with a ballustrade, and other mural decorations, and in the centre a good equestrian statue of Louis XIV.

There is an air of real grandeur and magnificence in this useful work, that struck me more than any thing at Versailles. The view is also singularly beautiful. To the south, the eye wanders with delight over a rich vale, spread with villas, and terminated by the sea. To the north, a series of cultivated hills. On one side, the vast range of the Pyrenees trend away till lost in remoteness. On the other, the eternal snows of the Alps pierce the clouds. The whole view one of the most stupendous to be seen, when a clear sky approximates these distant objects. 32 miles.

The 26th. The fair of Beaucaire fills the whole country with business and motion; meet many carts loaded; and nine diligences going or coming. Yesterday and to-day the hottest I ever experienced; we had none like them in Spain—the flies much worse than the heat. 30 miles.

The 27th. The amphitheatre of Nismes is a prodigious work, which shews how well the Romans had adapted these edifices to the abominable uses to which they were erected. The convenience of a theatre that could hold seventeen thousand spectators without confusion; the magnitude; the massive and substantial manner in which it is built without mortar, that has withstood the attacks of the weather, and the worse depredations of the barbarians in the various revolutions of sixteen centuries, all strike the attention forcibly.

I viewed the Maison Quarre last night; again this morning, and twice more in the day; it is beyond all comparison the most light, elegant, and pleasing building I ever beheld. Without any magnitude to render it imposing; without any extraordinary magnificence to surprise, it rivets attention. There is a magic harmony in the proportions that charm the eye. One can fix on no particular of pre-eminence; it is one perfect whole of symmetry and grace. What an infatuation in modern architects, that can overlook the chaste and elegant simplicity of taste, manifest in such a work, and yet rear such piles of laboured foppery and heaviness as are to be met with in France! The temple of Diana, as it is called, and the ancient baths, with their modern restoration, and the promenade, form part of the same scene, and are magnificent decorations of the city. I was, in relation to the baths, in ill luck, for the water was all drawn off, in order to clean them and the canals. The Roman pavements are singularly beautiful, and in high preservation. My quarters at Nismes were at the Louvre, a large, commodious, and excellent inn—the house was almost as much a fair from morning to night as Beaucaire itself could be. I dined and supped at the table d'hôte; the cheapness of these tables suits my finances, and one sees something of the manners of the people; we sat down from twenty to forty at every meal, most motley companies of French, Italians, Spaniards, and Germans, with a Greek and Arminian; and I was informed, that there is hardly a nation in Europe or Asia, that has not merchants at this great fair, chiefly for raw silk, of which many millions in value are sold in four days: all the other commodities of the world are to be found there.

One circumstance I must remark on this numerous table d'hôte, because it has struck me repeatedly, which is the taciturnity of the French. I came to the kingdom expecting to have my ears constantly fatigued with the infinite volubility and spirits of the people, of which so many persons have written, sitting, I suppose, by their English fire-sides. At Montpellier, though fifteen persons and some of them ladies were present, I found it impossible to make them break their inflexible silence with more than a monosyllable, and the whole company sat more like an assembly of tongue-tied quakers, than the mixed company of a people famous for loquacity. Here also, at Nismes, with a different party at every meal it is the same; not a Frenchman will open his lips. To-day at dinner, hopeless of that nation, and fearing to lose the use of an organ they had so

little inclination to employ, I fixed myself by a Spaniard, and having been so lately in his country, I found him ready to converse, and tolerably communicative; and indeed we had more conversation than thirty other persons maintained among themselves.

The 28th. Early in the morning to the Pont du Gard, through a plain covered with vast plantations of olives to the left, but much waste rocky land. At the first view of that celebrated aqueduct, I was rather disappointed, having expected something of greater magnitude; but soon found the error: I was, on examining it more nearly, convinced that it possessed every quality that ought to make a strong impression. It is a stupendous work; the magnitude, and the massive solidity of the architecture, which may probably endure two or three thousand years more, united with the undoubted utility of the undertaking, to give us a high idea of the spirit of exertion which executed it for the supply of a provincial town: the surprise, however, may cease, when we consider the nations enslaved that were the workmen. Returning to Nismes, meet many merchants returning from the fair; each with a child's drum tied to his cloak-bag: my own little girl was too much in my head not to love them for this mark of attention to their children; but why a drum? Have they not had enough of the military in the kingdom, where they are excluded from all the honours, respect, and emolument, that can flow from the sword? I like Nismes much; and if the inhabitants be at all on a par with the appearance of their city, I should prefer it for a residence to most, if not all the towns I have seen in France. The theatre however, is a capital point, in that Montpellier is said to exceed it. 24 miles.

The 29th. Pass six leagues of disagreeable country to Sauve. Vines and olives. The chateau of Mons. Sabbatier strikes in this wild country; he has inclosed much with dry walls, planted many mulberries and olives, which are young, thriving, and well inclosed, yet the soil is so stony, that no earth is visible; some of his walls are four feet thick, and one of them twelve thick and five high, whence it seems, he thinks moving the stones a necessary improvement, which I much question. He has built three or four new farm houses; I suppose he resides on this estate for improving it. I hope he does not serve; that no moon-shine pursuit may divert him from a conduct honourable to himself, and beneficial to his country. Leaving Sauve, I was much struck with a large tract of land, seemingly nothing but huge rocks; yet most of it inclosed and planted with the most industrious attention. Every man has an olive, a mulberry, an almond, or a peach-tree, and vines scattered among them; so that the whole ground is covered with the oddest mixture of these plants and bulging rocks, that can be conceived. The inhabitants of this village deserve encouragement for their industry; and if I were a French minister, they should have it. They would soon turn all the deserts around them into gardens. Such a knot of active husbandmen, who turn their rocks into scenes of fertility, because I suppose their own, would do the same by the wastes, if animated by the same omnipotent principle. Dine at St. Hyppolite, with eight protestant merchants returning home to Rouverge, from the fair of Beaucaire; as we parted at the same time, we travelled together; and from their conversation, I learned some circumstances of which I wanted to be informed; they told me also, that mulberries extend beyond Vigan, but then, and especially about Milhaud, almonds take their place, and are in very great quantities.

My Rouverge friends pressed me to pass with them to Milhaud and Rodez, assuring me, that the cheapness of their province was so great, that it would tempt me to live some time amongst them. That I might have a house at Milhaud, of four tolerable rooms on a floor furnished, for twelve louis a-year; and live in the utmost plenty

with all my family, if I would bring them over, for a hundred louis a year: that there were many families of noblesse, who subsisted on fifty, and even on twenty-five a year. Such anecdotes of cheapness are only curious when considered in a political light, as contributing on one hand to the welfare of individuals; and on the other, as contributing to the prosperity, wealth, and power of the kingdom; if I should meet with many such instances, and also with others directly contrary, it will be necessary to consider them more at large. 30 miles.

The 30th. Going out of Gange, I was surprised to find by far the greatest exertion in irrigation which I had yet seen in France; and then pass by some steep mountains, highly cultivated in terraces. Much watering at St. Laurence. The scenery very interesting to a farmer. From Gange, to the mountain of rough ground which I crossed, the ride has been the most interesting which I have taken in France; the efforts of industry the most vigorous; the animation the most lively. An activity has been here, that has swept away all difficulties before it, and has clothed the very rocks with verdure. It would be a disgrace to common sense to ask the cause: the enjoyment of property must have done it. Give a man the secure possession of a bleak rock, and he will turn it into a garden; give him a nine year's lease of a garden, and he will convert it into a desert. To Montadier over a rough mountain covered with box and lavender; it is a beggarly village, with an auberge that made me almost shrink. Some cut-throat figures were eating black bread, whose visages had so much of the gallies that I thought I heard their chains rattle. I looked at their legs, and could not but imagine they had no business to be free. There is a species of countenance so horribly bad, that it is impossible to be mistaken in one's reading. I was quite alone, and absolutely without arms. Till this moment, I had not dreamt of carrying pistols: I should now have been better satisfied, if I had had them. The master of the auberge, who seemed first cousin to his guests, procured for me some wretched bread with difficulty, but it was not black. No meat, no eggs, no legumes, and execrable wine: no corn for my mule; no hay; no straw; no grass: the loaf fortunately was large; I took a piece, and sliced the rest for my four-footed Spanish friend, who ate it thankfully, but the aubergiste growled. Descend by a winding and excellent road to Maudieres, where a vast arch is thrown across the torrent. Pass St. Maurice, and cross a ruined forest amongst fragments of trees. Descend three hours, by a most noble road hewn out of the mountain side to Lodeve, a dirty, ugly, ill built town, with crooked close streets, but populous, and very industrious. Here I drank excellent light and pleasing white wine, at 5s. a bottle. 36 miles.

The 31st. Cross a mountain by a miserable road, and reach Beg de Rieux, which shares with Carcassone, the fabric of Londrins, for the Levant trade. Cross much waste to Beziers. I met to-day with an instance of ignorance in a well dressed French merchant, that surprised me. He had plagued me with abundance of tiresome foolish questions, and then asked for the third or fourth time what country I was of. I told him I was a Chinese. How far off is that country? I replied two hundred leagues. Deux cents lieux! Diable! c'est un grand chemin! The other day a Frenchman asked me, after telling him I was an Englishman, if we had trees in England? I replied, that we had a few. Had we any rivers? Oh, none at all. Ah ma foi c'est bien triste! This incredible ignorance, when compared with the knowledge so universally disseminated in England, is to be attributed, like every thing else, to government. 40 miles.

August 1. Leave Beziers, in order to go to Capestan by the pierced mountain. Cross the canal of Languedoc several times; and over many wastes to Pleraville.

The Pyrenees now full to the left, and their roots but a few leagues off. At Carcassonne they carried me to a fountain of muddy water, and to a gate of the barracks; but I was better pleased to see several large good houses of manufacturers, that shew wealth. 40 miles.

The 2d. Pass a considerable convent, with a long line of front, and rise to Fanjour. 16 miles.

The 3d. At Mirepoix they are building a most magnificent bridge of seven flat arches, each of sixty-four feet span, which will cost 1,800,000 livres (78,750l.) it has been twelve years erecting, and will be finished in two more. The weather for several days has been as fine as possible, but very hot; to-day the heat was so disagreeable, that I rested from twelve to three at Mirepoix; and found it so burning, that it was an effort to go half a quarter of a mile to view the bridge. The myriads of flies were ready to devour me, and I could hardly support any light in the room. Riding fatigued me, and I inquired for a carriage of some sort to carry me, while these great heats should continue; I had done the same at Carcassonne; but nothing like a cabriolet of any sort was to be had. When it is recollected that that place is one of the most considerable manufacturing towns in France, containing fifteen thousand people, and that Mirepoix is far from being a mean place, and yet not a voiture of any kind to be had, how will an Englishman bless himself for the universal conveniences that are spread through his own country, in which I believe there is not a town of fifteen hundred people in the kingdom where post chaises and able horses are not to be had at a moment's warning! What a contrast! This confirms the fact deducible from the little traffic on the roads even around Paris itself. Circulation is stagnant in France. The heat was so great that I left Mirepoix disordered with it: this was by far the hottest day that I ever felt. The hemisphere seemed almost in a flame with burning rays that rendered it impossible to turn one's eyes within many degrees of the radiant orb that now blazed in the heavens. Cross another fine new bridge of three arches; and come to a woodland, the first I had seen for a great distance. Many vines about Pamiers, which is situated in a beautiful vale, upon a fine river. The place itself is ugly, stinking, and ill built; with an inn! Adieu, Mons. Gascit; if fate send me to such another house as thine—be it in expiation for my sins! 28 miles.

The 4th. Upon leaving Amons, there is the extraordinary spectacle of a river issuing out of a cavern in a mountain of rock; on crossing the hill you see where it enters by another cavern. It pierces the mountain. Most countries, however, have instances of rivers passing under ground. At St. Gerond's go to the Croix Blanche, the most execrable receptacle of filth, vermin, impudence, and imposition that ever exercised the patience, or wounded the feelings of a traveller. A withered hag, the dæmon of beastliness, presides there. I laid, not rested, in a chamber over a stable, whose effluvia through the broken floor were the least offensive of the perfumes afforded by this hideous place. It could give me nothing but two stale eggs, for which I paid, exclusive of all other charges, 20s. Spain brought nothing to my eyes that equalled this sink, from which an English hog would turn with disgust. But the inns all the way from Nismes are wretched, except at Lodeve, Gange, Carcassonne, and Mirepoix. St. Gerond's must have, from its appearance, four or five thousand people. Pamiers near twice that number. What can be the circulating connection between such masses of people and other towns and countries, that can be held together and supported by such inns? There have been writers who look upon such observations as arising merely from the petulance of travellers, but it shews their extreme ig-

norance. Such circumstances are political data. We cannot demand all the books of France to be opened in order to explain the amount of circulation in that kingdom; a politician must therefore collect it from such circumstances as he can ascertain; and among these, traffic on the great roads, and the convenience of the houses prepared for the reception of travellers, tell us both the number and the condition of those travellers; by which term I chiefly allude to the natives, who move on business or pleasure from place to place; for if they be not considerable enough to cause good inns, those who come from a distance will not, which is evident from the bad accommodations even in the high road from Calais to Rome. On the contrary, go in England to towns that contain fifteen hundred, two thousand, or three thousand people, in situations absolutely cut off from all dependance, or almost the expectation of what are properly called travellers, yet you will meet with neat inns, well dressed and clean people keeping them, good furniture, and a refreshing civility; your senses may not be gratified, but they will not be offended; and if you demand a post chaise and a pair of horses, the cost of which is not less than 80*l.* in spite of a heavy tax, it will be ready to carry you whither you please. Are no political conclusions to be drawn from this amazing contrast? It proves that such a population in England have connections with other places to the amount of supporting such houses. The friendly clubs of the inhabitants, the visits of friends and relations, the parties of pleasure, the resort of farmers, the intercourse with the capital and with other towns, form the support of good inns; and in a country where they are not to be found, it is a proof that there is not the same quantity of motion; or that it moves by means of less wealth, less consumption, and less enjoyment. In this journey through Languedoc, I have passed an incredible number of splendid bridges, and many superb causeways. But this only proves the absurdity and oppression of government. Bridges that cost 70 or 80,000*l.* and immense causeways to connect towns, that have no better inns than such as I have described, appear to be gross absurdities. They cannot be made for the mere use of the inhabitants, because one-fourth of the expence would answer the purpose of real utility. They are therefore objects of public magnificence, and consequently for the eye of travellers. But what traveller, with his person surrounded by the beggarly filth of an inn, and with all his senses offended, will not condemn such inconsistencies, and will not wish for more comfort and less appearance of splendour? 30 miles.

The 5th. To St. Martory is an almost uninterrupted range of well inclosed and well cultivated country. For an hundred miles past, the women generally without shoes, even in the towns; and in the country many men also. The heat yesterday and to-day as intense as it was before: there is no bearing any light in the rooms; all must be shut close, or none are tolerably cool: in going out of a light room into a dark one, though both to the north, there is a very sensible coolness; and out of a dark one into a roofed balcony, is like going into an oven. I have been advised every day not to stir till four o'clock. From ten in the morning till five in the afternoon, the heat makes all exercise most uncomfortable; and the flies are a curse of Egypt. Give me the cold and fogs of England, rather than such a heat, should it be lasting. The natives, however, assert, that this intensity has now continued as long as it commonly does, namely, four or five days; and that the greatest part even of the hottest months is much cooler than the weather is at present. In two hundred and fifty miles distant, I have met on the road two cabriolets only, and three miserable things like old English one horse chaises; not one gentleman; though many merchants as they call themselves, each with two or three cloak bags behind him: a scarcity of travellers that is amazing. 28 miles.

The 6th. To Bagnere de Luchon, rejoining my friends, and not displeas'd to have a little rest in the cool mountains, after so burning a ride. 28 miles.

The 10th. Finding our party not yet ready to set out on their return to Paris, I determin'd to make use of the time there was yet to spare, ten or eleven days, in a tour to Bagnere de Bigorre, to Bayonne, and to meet them on the way to Bourdeaux, at Auch. This being settled, I mounted my English mare, and took my last leave of Luchon. 28 miles.

The 11th. Pass a convent of Bernardine monks, who have a revenue of 30,000 livres. It is situated in a vale, watered by a charming crystal stream, and some hills, cover'd with oak, shelter it behind. Arrive at Bagnere, which contains little worthy of notice, but it is much frequented by company on account of its waters. To the valley of Campan, of which I had heard great things, and which yet much surpass'd my expectation. It is quite different from all the other vales I have seen in the Pyrenes or in Catalonia. The features and the arrangement novel. In general the richly cultivated slopes of those mountains are thickly enclosed; this, on the contrary, is open. The vale itself is a flat range of cultivation and watered meadow, spread thickly with villages and scattered houses. The eastern boundary is a rough, steep, and rocky mountain, and affords pasturage to goats and sheep; a contrast to the western, which forms the singular feature of the scene. It is one noble sheet of corn and grass unenclosed, and intersected only by lines that mark the division of properties, or the channels that conduct water from the higher regions for irrigating the lower ones; the whole is one matchless slope of the richest and most luxuriant vegetation. Here and there are scattered some small masses of wood, which chance has grouped with wonderful happiness for giving variety to the scene. The season of the year, by mixing the rich yellow of ripe corn with the green of the watered meadows, added greatly to the colouring of the landscape, which is upon the whole the most exquisite for form and colour that my eye has ever been regaled with. Take the road to Lourde, where is a castle on a rock, garrisoned for the mere purpose of keeping state prisoners, sent hither by lettres de cachet. Seven or eight are known to be here at present; thirty have been here at a time; and many for life—torn by the relentless hand of jealous tyranny from the bosom of domestic comfort; from wives, children, friends, and hurried for crimes unknown to themselves—more probably for virtues, to languish in this detested abode of misery, and die of despair. Oh, liberty! liberty! and yet this is the mildest government of any considerable country in Europe, our own excepted. The dispensations of Providence seem to have permitted the human race to exist only as the prey of tyrants, as it has made pigeons for the prey of hawks. 35 miles.

The 12th. Pau is a considerable town, that has a parliament and a linen manufacture; but it is more famous for being the birth-place of Henry IV. I view'd the castle, and was shewn, as all travellers are, the room in which that amiable prince was born, and the cradle, the shell of a tortoise, in which he was nursed. What an effect on posterity have great and distinguished talents! This is a considerable town, but I question whether any thing would ever carry a stranger to it but its possessing the cradle of a favourite character.

Take the road to Moneng, and come presently to a scene which was so new to me in France, that I could hardly believe my own eyes. A succession of many well-built, tight, and comfortable farming cottages, built of stone, and cover'd with tiles; each having its little garden, enclosed by clipped thorn edges, with plenty of peach and other fruit trees, some fine oaks scattered in the hedges, and young trees nursed up with so much care, that nothing but the fostering attention of the owner could effect any thing

like it. To every house belongs a farm, perfectly well enclosed, with grass borders mown and neatly kept around the corn fields, with gates to pass from one enclosure to another. The men are all dressed with red caps, like the Highlanders of Scotland. There are some parts of England (where small yeomen still remain) that resemble this country of Bearné; but we have very little that is equal to what I have seen in this ride of twelve miles from Pau to Moneng. It is all in the hands of little proprietors, without the farms being so small as to occasion a vicious and miserable population. An air of neatness, warmth, and comfort breathes over the whole. It is visible in their new-built houses and stables; in their little gardens; in their hedges; in the courts before their doors; even in the coops for their poultry, and the sties for their hogs. A peasant does not think of rendering his pig comfortable, if his own happiness hang by the thread of a nine years lease. We are now in Bearné, within a few miles of the cradle of Henry IV. Do they inherit these blessings from that good prince? The benignant genius of that good monarch seems to reign still over the country; each peasant has the fowl in the pot. 34 miles.

The 12th. The agreeable scene of yesterday continues; many small properties, and every appearance of rural happiness. Navareen is a small walled and fortified town, consisting of three principal streets, which cross at right angles, with a small square. From the ramparts there is the view of a fine country. The linen fabric spreads through it. To St. Palais the country is mostly enclosed, and much of it with thorn hedges, admirably trained, and kept neatly clipped. 25 miles.

The 14th. Left St. Palais, and took a guide to conduct me four leagues to Anspan. Fair day, and the place crowded with farmers; I saw the soup prepared for what we should call the farmer's ordinary. There was a mountain of sliced bread, the colour of which was not inviting; ample provision of cabbage, grease, and water, and about as much meat for some scores of people, as half a dozen English farmers would have eaten, and grumbled at their host for short commons. 26 miles.

The 15th. Bayonne is by much the prettiest town I have seen in France; the houses are not only well built of stone, but the streets are wide, and there are many openings which, though not regular squares, have a good effect. The river is broad; and many of the houses being fronted to it, the view of them from the bridge is fine. The promenade is charming; it has many rows of trees, whose heads join and form a shade delicious in this hot climate. In the evening, it was thronged with well dressed people of both sexes; and the women, through all the country, are the handsomest I have seen in France. In coming hither from Pau, I saw what is very rare in that kingdom, clean and pretty country girls; in most of the provinces hard labour destroys both person and complexion. The bloom of health on the cheeks of a well dressed country girl is not the worst feature in any landscape. I hired a chaloup for viewing the embankment at the mouth of the river. By the water spreading itself too much, the harbour was injured; and government to contract it has built a wall on the north bank a mile long, and another on the south shore of half in length. It is from ten to twenty feet wide, and about twelve high, from the top of the base of rough stone, which extends twelve or fifteen feet more. Towards the mouth of the harbour, it is twenty feet wide, and the stones on both sides cramped together with irons. They are now driving piles of pine sixteen feet deep, for the foundation. It is on the whole a work of great expence, magnificence and utility.

The 16th. To Dax is not the best way to Auch, but I had a mind to see the famous waste called Les Landes de Bourdeaux, of which I had long heard and read so much. I was informed, that by this route, I should pass through more than twelve leagues of



them. They reach almost to the gates of Bayonne ; but broken by cultivated spots for a league or two. These lands are sandy tracts covered with pine trees, cut regularly for resin. Historians report, that when the Moors were expelled from Spain, they applied to the court of France for leave to settle on and cultivate these lands ; and that the court was much condemned for refusing them. It seems to have been taken for granted, that they could not be peopled with French ; and therefore ought rather to be given to Moors, than to be left waste. At Dax, there is a remarkably hot spring in the middle of the town. It is a very fine one, bubbling powerfully out of the ground in a large basin, walled in ; it is boiling hot ; it tastes like common water, and I was told that it was not impregnated with any mineral. The only use to which it is applied is for washing linen. It is at all seasons of the same heat, and in the same quantity. 27 miles.

The 17th. Pass a district of sand as white as snow, and so loose as to blow ; yet it has oaks two feet in diameter, by reason of a bottom of white adhesive earth like marl. Pass three rivers, the waters of which might be applied in irrigation, yet no use made of them. The duke de Bouillon has vast possessions in these lands. A grand seigneur will at any time, and in any country, explain the reason of improveable land being left waste. 29 miles.

The 18th. As dearness is, in my opinion, the general feature of all money exchanges in France, it is but candid to note instances to the contrary. At Aire, they gave me, at the Croix d'Or, soup, eels, sweet-bread, and green-peas, a pigeon, a chicken, and veal cutlets, with a desert of biscuits, peaches, nectarines, plums, and a glass of liqueur, with a bottle of good wine, all for 40s. (20d.) oats for my mare 20s. and hay 10s. At the same price at St. Severe, I had a supper last night not inferior to it. Every thing at Aire seemed good and clean ; and what is very uncommon, I had a parlour to eat my dinner in, and was attended by a neat well dressed girl. The last two hours to Aire it rained so violently, that my silk surtout was an insufficient defence ; and the old landlady was in no haste to give me fire enough to be dried. 35 miles.

The 19th. Pass Beek, which seems a flourishing little place, if we may judge by the building of new houses. The Clef d'Or is a large, new, and good inn.

In the two hundred and seventy miles from Bagnere de Luchon to Auch, a general observation I may make is, that the whole, with very few exceptions, is inclosed ; and that the farm-houses are every where scattered, instead of being, as in many parts of France, collected in towns. I have seen scarcely any gentlemen's country-seats that seem at all modern ; and in general, they are thin to a surprising degree. I have not met with one country equipage, nor any thing like a gentleman riding to see a neighbour. Scarcely a gentleman at all. At Auch, met by appointment my friends, on their return to Paris. The town is almost without manufactures or commerce, and is supported chiefly by the rents of the country. But they have many of the noblesse in the province, too poor to live here ; some indeed so poor that they plough their own fields ; and these may possibly be much more estimable members of society than the fools and knaves who laugh at them. 31 miles.

The 20th. Pass Fleuran, which contains many good houses, and go through a populous country to Leitour, a bishopric, the diocesan of which we left at Bagnere de Luchon. The situation is beautiful on the point of a ridge of hills. 20 miles.

The 22d. By Leyrac, through a fine country, to the Garonne, which we cross by a ferry. This river is here a quarter of a mile broad, with every appearance of com-

merce. A large barge passed loaded with cages of poultry; of such consequence throughout the extent of this navigation is the consumption of the great city of Bourdeaux! The rich vale continues to Agen, and is very highly cultivated; but has not the beauty of the environs of Leitour. If new buildings be a criterion of the flourishing state of a place, Agen prospers. The bishop has raised a magnificent palace, the centre of which is in a good taste; but the junction with the wings not equally happy. 23 miles.

The 23d. Pass a rich and highly cultivated vale to Augillon; much hemp, and every woman in the country employed on it. Many neat, well-built farm-houses on small properties, and all the country very populous. View the chateau of the duc d'Aguillon, which, being in the town, is badly situated, according to all rural ideas; but a town is ever an accompaniment of a chateau in France, as it was formerly in most parts of Europe; it seems to have resulted from a feudal arrangement, that the Grand Seigneur might keep his slaves the nearer to his call, as a man builds his stables near his house. This edifice is a considerable one, built by the present duke; begun about twenty years ago, when he was exiled here during eight years. And, thanks to that banishment, the building went on nobly; the body of the house done, and the detached wings almost finished. But as soon as the sentence was reversed, the duke went to Paris, and has not been here since, consequently all now stands still. It is thus that banishment alone will force the French nobility to execute what the English do for pleasure—reside upon and adorn their estates. There is one magnificent circumstance, namely, an elegant and spacious theatre; it fills one of the wings. The orchestra is for twenty-four musicians, the number kept, fed, and paid, by the duke when here. This elegant and agreeable luxury, which falls within the compass of a very large fortune, is known in every country in Europe except England; the possessors of great estates here preferring horses and dogs very much before any entertainment a theatre can yield. To Tonnance. 25 miles.

The 24th. Many new and good country seats of gentlemen, well built, and set off with gardens, plantations, &c. These are the effects of the wealth of Bourdeaux. These people, like other Frenchmen, eat little meat; in the town, of Leyrac, five oxen only are killed in a year; whereas an English town, with the same population, would consume two or three oxen a week. A noble view towards Bourdeaux for many leagues, the river appearing in four or five places. Reach Langon, and drink of its excellent white wine. 32 miles.

The 25th. Pass through Barsac, famous also for its wines. They are now ploughing with oxen between the rows of the vines, the operation which gave Tull the idea of horse-hoeing corn. Great population, and country seats all the way. At Castres the country changes to an uninteresting flat. Arrive at Bourdeaux, through a continued village. 30 miles.

The 26th. Much as I had read and heard of the commerce, wealth, and magnificence of this city, they greatly surpassed my expectations. Paris did not answer at all, for it is not to be compared to London; but we must not name Liverpool in competition with Bourdeaux. The grand feature here, of which I had heard most, answers the least; I mean the quay, which is respectable only for length, and its quantity of business, neither of which, to the eye of a stranger, is of much consequence, if devoid of beauty. The row of houses is regular, but without either magnificence or beauty. It is a dirty, sloping, muddy shore; parts without pavement, incumbered with filth and stones; barges lie here for loading and unloading the ships, which cannot approach to what should be a quay. Here is all the dirt and disagreeable circumstances of trade;

without the order, arrangement, and magnificence of a quay. Barcelona is unique in this respect. When I presumed to find fault with the buildings on the river, it must not be supposed that I include the whole; the crescent which is in the same line is better. The place royale, with the statue of Louis XV, in the middle, is a fine opening, and the buildings which form it regular and handsome. But the quarter of the chapeau rouge is truly magnificent, consisting of noble houses, built, like the rest of the city, of white hewn stone. It joins the chateau trompette, which occupies near half a mile of the shore. This fort is bought of the king, by a company of speculators, who are now pulling it down with an intention of building a fine square and many new streets, to the amount of 1800 houses. I have seen a design of the square and the streets, and it would, if executed, be one of the most splendid additions to a city that is to be seen in Europe. This great work stands still at present through a fear of resumption. The theatre, built about ten or twelve years ago, is by far the most magnificent in France. I have seen nothing that approaches it. The building is insulated, and fills up a space of three hundred and six feet by one hundred and sixty-five, one end being the principal front, containing a portico the whole length of it, of twelve very large Corinthian columns. The entrance from this portico is by a noble vestibule, which leads not only to the different parts of the theatre, but also to an elegant oval concert-room, and saloons for walking and refreshments. The theatre itself is of a vast size; in shape the segment of an oval. The establishment of actors, actresses, singers, dancers, orchestra, &c. speaks the wealth and luxury of the place. I have been assured, that from thirty to fifty louis a night have been paid to a favourite actress from Paris. Larrive, the first tragic actor of that capital, is now here, at 500 livres (21l. 12s. 6d.) a night, with two benefits. Dauberval, the dancer, and his wife (the Mademoiselle Theodore of London) are retained as principal ballet-master and first female dancer, at a salary of 28,000 livres (1225l.) Pieces are performed every night, Sundays not excepted, as every where in France. The mode of living that takes place here among merchants is highly luxurious. Their houses and establishments are on expensive scales. Great entertainments, and many served on plate: high play is a much worse thing; and the scandalous chronicle speaks of merchants keeping the dancing and singing girls of the theatre at salaries which ought to import no good to their credit. This theatre, which does so much honour to the pleasures of Bourdeaux, was raised at the expence of the town, and cost 270,000l. The new tide corn mill, erected by a company, is very well worth viewing. A large canal is digged and formed in masonry of hewn stone, the walls four feet thick, leading under the building for the tide coming in, to turn the water wheels. It is then conducted in other equally well formed canals to a reservoir; and when the tide returns it gives motion to the wheels again. Three of these canals pass under the building for containing twenty-four pair of stones. Every part of the work is on a scale of solidity and duration, admirably executed. The estimate of the expence is 8,000,000 livres (350,000l.) but I know not how to credit such a sum. How far the erection of steam engines to do the same business would have been found a cheaper method, I shall not inquire; but I should apprehend that the common water-mills on the Garonne, which start without such enormous expences for their power, must in the common course of events ruin this company. The new houses that are building in all quarters of the town, mark, too clearly to be misunderstood, the prosperity of the place. The skirts are every where composed of new streets; with still newer ones marked out, and partly built. These houses are in general small, or on a middling scale, for inferior tradesmen. They are all of white stone, and add, as they are finished; much to the beauty of the city. I inquired into

the date of these new streets, and found that four or five years were in general the period: that is to say, since the peace; and from the colour of the stone of those streets next in age, it is plain that the spirit of building was at a stop during the war. Since the peace they have gone on with great activity. What a satire on the government of the two kingdoms, to permit in one the prejudices of manufacturers and merchants, and in the other the insidious policy of an ambitious court, to hurry the two nations into wars that check beneficial works, and spread ruin where private exertion was busied in deeds of prosperity! The rent of houses and lodgings rises every day; they complain that the expences of living have increased in ten years full thirty per cent. There can hardly be a clearer proof of an advance in prosperity.

The commercial treaty with England being a subject too interesting not to demand attention, we made the necessary inquiries. Here it is considered as a wise measure, that tends equally to the benefit of both countries.

We went twice to see Larrive perform his two capital parts of the black prince in Mons. du Belloy's *Piere le Cruel*, and *Philoctete*, which gave me a very high idea of the French theatre. The inns at this city are excellent; the hotel d'Angleterre and the prince of Asturias; at the latter we found every accommodation to be wished, but with an inconsistency that cannot be too much condemned: we had very elegant apartments, and were served on plate, yet the necessary-house the same temple of abomination that is to be met in a dirty village.

The 28th. Leave Bourdeaux; cross the river by a ferry, which employs twenty-nine men and fifteen boats, and lets at 18,000 livres (787l.) a year. The view of the Garonne is very fine, appearing twice as broad as the Thames at London; and the number of large ships lying in it, makes it, I suppose, the richest water view that France has to boast. Hence to the Dordonne, a noble river, though much inferior to the Garonne; the ferry lets at 6000 livres. Reach Cavignac. 20 miles.

The 29th. To Barbesieux, situated in a beautiful country, finely diversified and wooded; the marquise, of which, with the chateau, belongs to the duke de la Rouchefoucauld, whom we met here; he inherits this estate from the famous Louvois, the minister of Louis XIV. In these thirty-seven miles of country, lying between the great rivers Garonne, Dordonne, and Charente, and consequently in one of the best parts of France for markets, the quantity of waste land is surprising; it is indeed the predominant feature. Much of these wastes belonged to the prince de Soubise, who would not sell any part of them. Thus it is whenever you stumble on a grand seigneur, even one who was worth millions, you are sure to find his property a desert. The duke of Bouillon's and this prince's are two of the greatest properties in France; and all the signs I have yet seen of their greatness, are wastes, landes, deserts, fern, ling. Go to their residence, wherever it may be, and you would probably find them in the midst of a forest, very well peopled with deer, wild boars, and wolves. Oh! if I were the legislator of France for a day, I would make such great lords skip!\* We supped with the duke de la Rouchefoucauld: the provincial assembly of Saintonge is soon to meet, and this nobleman, being the president, is waiting for their assembling.

The 30th. Through a chalk country, well wooded, though without inclosures, to Angouleme; the approach to that town is fine; the country around being beautiful with the fine river Charente, here navigable, flowing through it. 25 miles.

The 31st. Quitting Angouleme, pass through a country almost covered with vines, and across a noble wood belonging to the duchess d'Anville, mother of the duke de la

\* I can assure the reader that these sentiments were those of the moment; the events that have taken place almost induced me to strike many such passages out, but it is fairer to all parties to leave them.

Rouchefoucauld to Verteul, a chateau of the same lady, built in 1459, where we found every thing that travellers could wish in a hospitable mansion. The emperor Charles V, was entertained here by Ann de Polignac, widow of Francis II, count de la Rouchefoucauld, and that prince said aloud "n'avoir jamais ete en maison qui sentit mieux sa grande vertu honnetete & seigneurie que celle la." It is excellently kept; in thorough repair, fully furnished, and all in order, which merits praise, considering that the family rarely are here for more than a few days in the year, having many other and more considerable seats in different parts of the kingdom. If this just attention to the interests of posterity were more general, we should not see the melancholy spectacle of ruined chateaus in so many parts of France. In the gallery is a range of portraits from the tenth century; by one of which it appears, that this estate came by a Mademoiselle la Rouchefoucauld, in 1470. The park, woods, and river Charente here are fine: the last abounds greatly in carp, tench, and perch. It is at any time easy to get from fifty to one hundred brace of fish that weigh from three to ten pounds each; we had a brace of carp for supper, the sweetest without exception, I ever tasted. If I pitched my tent in France, I should choose it to be by a river that gave such fish. Nothing provokes one so much in a country residence as a lake, a river, or the sea within view of the windows, and a dinner every day without fish, which is so common in England. 27 miles.

September 1st. Pass Caudée, Ruffec, Maisons-Blanches, and Chaunay. At the first of these places view a very fine flour mill, built by the late count de Broglio, brother of the marechal de Broglio, one of the ablest and most active officers in the French service. In his private capacity, his undertakings were of a national kind; this mill, an iron forge, and the project of a navigation, proved that he had a disposition for every exertion that could, according to the prevalent ideas of the times, benefit his country; that is to say, in every way except the one in which it would have been effective—practical agriculture. This day's journey has been, with some exceptions, through a poor, dull, and disagreeable country. 35 miles.

The 2d. Poitou, from what I see of it, is an unimproved, poor, and ugly country. It seems to want communication, demand, and activity of all kinds; nor does it, on an average, yield the half of what it might. The lower part of the province is much richer and better. Arrive at Poitiers, which is one of the worst built towns I have seen in France; very large and irregular, and containing scarcely any thing worthy of notice, except the cathedral, which is well built, and very well kept. The finest thing by far in the town is the promenade, which is the most extensive I have seen; it occupies a considerable space of ground, with gravelled walks, &c. excellently kept. 12 miles.

The 3d. A white chalky country to Chateaurault, open, and thinly peopled, though not without country seats. That town has some animation, by reason of its navigable river, which falls into the Loire. There is a considerable cutlery manufacture: we were no sooner arrived than our apartments were full of the wives and daughters of manufacturers, each with her box of knives, scissors, toys, &c. and with so much civil solicitude to have something bought, that had we wanted nothing it would have been impossible to let so much urgency prove vain. It is remarkable, as the fabrics made here are cheap, that there is scarcely any division of labour in this manufacture; it is in the hands of distinct and unconnected workmen, who go through every branch on their own account, and without assistance, except from their families. 25 miles.

The 4th. Pass a better country, with many chateaus, to Les Ormes, where we stopt to see the seat built by the late count de Voyer d'Argenson. This chateau is a large handsome edifice of stone, with two very considerable wings for offices and strangers' apartments: the entrance is into a neat vestibule, at the end of which is the saloon, a

circular marble room, extremely elegant and well furnished: in the drawing room are paintings of the four French victories of the war of 1744: in every apartment there is a strong disposition to English furniture and modes. This pleasing residence belongs at present to the count d'Argenson. The late count who built it formed with the present duke of Grafton, in England, the scheme of a very agreeable party. The duke was to go over with his horses and pack of fox hounds, and live here for some months, with a number of friends. It originated in the proposal to hunt French wolves with English fox dogs. Nothing could be better planned than the scheme, for Les Ormes is large enough to have contained a numerous party; but the count's death destroyed the plan. This is a sort of intercourse between the nobility of two kingdoms, which I am surprised does not take place sometimes; it would vary the common scenes of life very agreeably, and be productive of some of the advantages of travelling in the most eligible way. 23 miles.

The 5th. Through a dead flat and unpleasant country, but on the finest road I have seen in France; nor does it seem possible that any should be finer; not arising from great exertions, as in Languedoc, but from being laid flat with admirable materials. Chateaus are scattered every where in this part of Touraine; but farm houses and cottages thin, till you come in sight of the Loire, the banks of which seem one continued village. The vale through which that river flows, may be three miles over; a dead level of burnt russet meadow.

The entrance of Tours is truly magnificent, by a new street of large houses, built of hewn white stone, with regular fronts. This fine street, which is wide, and with foot pavements on each side, is cut in a straight line through the whole city to the new bridge, of fifteen flat arches, each of seventy-five feet span. It is altogether a noble exertion for the decoration of a provincial town. Some houses remain yet to be built, the fronts of which are done; some reverend fathers are satisfied with their old habitations, and do not choose the expence of filling up the elegant design of the Tours projectors; they ought, however, to be unroosted if they will not comply, for fronts without houses behind them have a ridiculous appearance. From the tower of the cathedral there is an extensive view of the adjacent country; but the Loire, for so considerable a river, and for being boasted as the most beautiful in Europe, exhibits such a breadth of shoals and sands as to be almost subversive of beauty. In the chapel of the old palace of Louis XI, Les Plessis les Tours, are three pictures which deserve the traveller's notice; a holy family, St. Catharine, and the daughter of Herod; they seem to be of the best age of Italian art. There is a very fine promenade here; long and admirably shaded by four rows of noble and lofty elms, which for shelter against a burning sun can have no superior; parallel with it is another on the rampart of the old walls, which looks down on the adjacent gardens; but these walks, of which the inhabitants have long boasted, are at present objects of melancholy; the corporation has offered the trees to sale, and I was assured they would be cut down the ensuing winter. One would not wonder at an English corporation sacrificing the ladies' walk for plenty of turtle, venison, and madeira; but that a French one should have so little gallantry is inexcusable.

The 9th. The count de la Rouchefoucauld having a feverish complaint when he arrived here, which prevented our proceeding on the journey, it became the second day a confirmed fever; the best physician of the place was called in, whose conduct I liked much, for he had recourse to very little physic, but much attention to keep his apartment cool and airy; and seemed to have great confidence in leaving nature to throw off the malady that oppressed her. Who is it that says there is a great difference between a good physician and a bad one; yet very little between a good one and none at all?

Among other excursions I took a ride on the banks of the Loire towards Saumur, and found the country the same as near Tours; but the chateaus not so numerous or good. Where the chalk hills advance perpendicularly towards the river, they present a most singular spectacle of uncommon habitations; for a great number of houses are cut out of the white rock, fronted with masonry, and holes cut above for chimnies, so that you sometimes know not where the house is from which you see the smoke issuing. These cavern houses are in some places in tiers one above another. Some with little scraps of gardens have a pretty effect. In general the proprietors occupy them; but many are let at 10, 12, and 15 livres a year. The people I talked with seemed well satisfied with their habitations, as good and comfortable: a proof of the dryness of the climate. In England the rheumatism would be the chief inhabitant. Walked to the Benedictine convent of Marmoutier; of which the cardinal de Rohan, at present here, is abbot.

The 10th. Nature, or the Tours doctor, having recovered the count, we set forward on our journey. The road to Chanteloup is made on an embankment that secures a large level tract from floods. The country more uninteresting than I could have thought it possible in the vicinity of a great river. View Chanteloup, the magnificent seat of the late duke de Choiseul. It is situated on a rising ground, at some distance from the Loire, which in winter, or after great floods, is a fine object, but at present is scarcely seen. The ground floor in front consists of seven rooms: the dining room of about thirty by twenty, and the drawing room thirty by thirty-three: the library is seventy-two by twenty, fitted up by the present possessor, the duke de Penthièvre, with very beautiful tapestry from the Gobelins. In the pleasure ground, on a hill commanding a very extensive prospect, is a Chinese pagoda, one hundred and twenty feet high, built by the duke, in commemoration of the persons who visited him in his exile. On the walls of the first room in it their names are engraven on marble tablets. The number and rank of the persons do honour to the duke and to themselves. The idea was a happy one. The forest you look down on from this building is very extensive; they say eleven leagues across: ridings are cut pointing to the pagoda; and when the duke was alive, these glades had the mischievous animation of a vast hunt, supported so liberally as to ruin the master of it, and transferred the property of this noble estate and residence from his family to the last hands I should wish to see it in, a prince of the blood. Great lords love too much an environ of forests, boars, and huntsmen, instead of marking their residence by the accompaniment of neat and well cultivated farms, clean cottages, and happy peasants. In such a method of shewing their magnificence, rearing forests, gilding domes, or bidding aspiring columns rise, might be wanted; but they would have, instead of them, erections of comfort, establishments of ease, and plantations of felicity: and their harvest, instead of the flesh of boars, would be in the voice of cheerful gratitude; they would see public prosperity flourish on its best basis of private happiness. As a farmer, there is one feature which shews the duke de Choiseul had some merit: he built a noble cow-house; a platform leads along the middle between two rows of mangers, with stalls for seventy-two, and another apartment, not so large, for others, and for calves. He imported one hundred and twenty very fine Swiss cows, and visited them with his company every day, as they were kept constantly tied up. To this I may add the best built sheep house I have seen in France: and I thought I saw from the pagoda part of the farm better laid out and ploughed than common in the country, so that he probably imported some ploughmen. This has merit in it; but it was all the merit of banishment. Chanteloup would neither have been built, nor decorated, nor furnished, if the duke had not been

exiled. It was the same with the duke d'Arguillon. These ministers would have abominated the country, instead of rearing such edifices, or forming such establishments, if they had not both been sent from Versailles. View the manufacture of steel at Amboise, established by the duke de Choiseul. Vineyards the chief feature of agriculture. 37 miles.

The 11th. To Blois, an old town prettily situated on the Loire, with a good stone bridge of eleven arches. We viewed the castle, for the historical monument it affords that has rendered it so famous. They shew the room where the council assembled, and the chimney in it before which the duke of Guise was standing when the king's page came to demand his presence in the royal closet; the door he was entering when stabbed: the tapestry he was in the act of turning aside; the tower where his brother the cardinal suffered; with a hole in the floor into the dungeon of Louis XI, of which the guide tells many horrible stories, in the same tone, from having told them so often, in which the fellow in Westminster Abbey gives his monotonous history of the tombs. The best circumstance attending the view of the spots, or the walls within which great, daring, or important actions have been performed, is the impression they make on the mind, or rather on the heart of the spectator, for it is an emotion of feeling, rather than an effort of reflection. The murders, or political executions perpetrated in this castle, though not uninteresting, were inflicted on, and caused by men who command neither our love, nor our veneration. The character of the period, and of the men that figured in it, were alike disgusting. Bigotry and ambition, equally dark, insidious, and bloody, allow no feelings of regret. Quit the Loire, and pass to Chambord. The quantity of vines is great; they have them very flourishing on a flat poor blowing sand. How well satisfied would my friend Le Blanc be if his poorest sands at Cavenham gave him a hundred dozen of good wine per acre per annum! See at one coup d'œil two thousand acres of them. View the royal chateau at Chambord, built by that magnificent prince Francis I, and inhabited by the late marechal de Saxe. I had heard much of this castle, and it more than answered my expectation. It gives a great idea of the splendour of that prince. Comparing the centuries and the revenues of Louis XIV, and Francis I, I prefer Chambord infinitely to Versailles. The apartments are large, numerous, and well contrived. I admired the stone staircase in the centre of the house, which, being in a double spiral line, contains two distinct staircases, one above another, by which means people are going up and down at the same time, without seeing each other. The four apartments in the attic, with arched stone roofs, were in no mean taste. One of these count Saxe turned into a neat well contrived theatre. We were shewn the apartment which that great soldier occupied, and the room in which he died. Whether in his bed or not is yet a problem for anecdote hunters to solve. A report not uncommon in France was, that he was run through the heart in a duel with the prince of Conti, who came to Chambord for that purpose; and great care was taken to conceal it from the king (Louis XV) who had such a friendship for the marechal, that he would certainly have driven the prince out of the kingdom. There are several apartments modernised, either for the marechal or for the governors that have resided here since. In one there is a fine picture of Louis XIV, on horseback. Near the castle are the barracks for the regiment of fifteen hundred horse, formed by marechal de Saxe, and which Louis XV, gave him, by appointing them to garrison Chambord while their colonel made it his residence. He lived here in great splendour, and highly respected by his sovereign, and the whole kingdom. The situation of the castle is bad; it is low, and without the least prospect that is interesting; indeed the whole country is so flat that a high



ground is hardly to be found in it. From the battlements we saw the environs, of which the park or forest forms three-fourths; it contains within a wall about twenty thousand arpents, and abounds with all sorts of game to a degree of profusion. Great tracks of this park are waste or under heath, &c. or at least a very imperfect cultivation; I could not help thinking, that if the king of France ever formed the idea of establishing one complete and perfect farm under the turnip culture of England, here is the place for it. Let him assign the chateau for the residence of the director and all his attendants; and the barracks, which are now applied to no use whatever, for stalls for cattle, and the profits of the wood would be sufficient to stock and support the whole undertaking. What comparison between the utility of such an establishment, and that of a much greater expence applied here at present for supporting a wretched haras (stud) which has not a tendency but to mischief! I may recommend such agricultural establishments, but they never were made in any country, and never will be, till mankind are governed on principles absolutely contrary to those which prevail at present—until something more be thought requisite for a national husbandry than academies and memoirs. 35 miles.

The 12th. In two miles from the park wall regain the high road on the Loire. In discourse with a vigneron, we were informed that it froze this morning hard enough to damage the vines; and I may observe, that for four or five days past the weather has been constantly clear with a bright sun, and so cold a north-east wind as to resemble much our cold clear weather in England in April; we have all our great coats on the whole day. Dine at Clarey, and view the monument of that able but bloody tyrant Louis XI, in white marble; he is represented in a kneeling posture, praying for-giveness, I suppose, which doubtless was promised him by his priests for his base-nesses and his murders. Reach Orleans. 30 miles.

The 13th. Here my companions wanting to return as soon as possible to Paris, took the direct road thither; but, having travelled it before, I preferred that by Petivier in the way to Fontainebleau. One motive for my taking this road was its passing by Denainvilliers, the seat of the late celebrated Mons. du Hamel, where he made those experiments in agriculture which he has recited in many of his works. At Petivier I was just by it and walked thither for the pleasure of viewing grounds I had read of so often, considering them with a sort of classic reverence. His homme d'affaire, who conducted the farm being dead, I could not get many particulars to be depended upon. Mons. Fougeroux, the present possessor, was not at home, or I should doubtless have had all the information I wished. I examined the soil, a principal point in all experiments, when conclusions are to be drawn from them; and I took also notes of the common husbandry. Learning from the labourer who attended me that the drill-ploughs, &c. were yet in being, on a loft in one of the offices, I viewed them with pleasure, and found them, as well as I can remember, very accurately represented in the plates which their ingenious author has given. I was glad to find them laid up in a place out of common traffic, where they may remain safe till some other farming traveller, as enthusiastic as myself, may view the venerable remains of a useful genius. Here is a stove and bath for drying wheat, which he has described also. In an inclosure behind the house is a plantation of various curious exotic trees, finely grown, also several rows of ash, elm, and poplar along the roads, near the chateau, all planted by Mons. du Hamel. It gave me still greater pleasure to find that Denainvilliers is not an inconsiderable estate. The lands extensive; the chateau respectable; with offices, gardens, &c. that prove it the residence of a man of fortune; from which it appears, that this indefatigable author, however he might have failed in some of his pursuits,

met with that reward from his court which did it credit to bestow; and that he was not, like others, left in obscurity to the simple rewards which ingenuity can confer on itself. Four miles before Malsherbs a fine plantation of a row of trees on each side the road begins, formed by Mons. de Malsherbs, and is a striking instance of attention to the decorating of an open country. More than two miles of them are mulberries. They join his other noble plantations at Malsherbs, which contain a great variety of the most curious trees that have been introduced in France. 36 miles.

The 14th. After passing three miles through the forest of Fontainbleau, arrive at that town, and view the royal palace, which has been so repeatedly added to by several kings, that the share of Francis I, its original founder, is not easily ascertained. He does not appear to such advantage as at Chambord. This has been a favourite with the Bourbons, from their having been so many Nimrods of that family. Of the apartments which are shown here, the king's, the queen's, Monsieur's, and Madame's, are the chief. Gilding seems the prevalent decoration: but in the queen's cabinet it is well and elegantly employed. The painting of that delicious little room is exquisite; and nothing can exceed the extremity of ornament that is here with taste bestowed. The tapestries of Beauvais and the Gobelins are seen in this palace to great advantage. I liked to see the gallery of Francis I, preserved in its ancient state, even to the andirons in the chimney, which are those that served that monarch. The gardens are nothing; and the great canal, as it is called, not to be compared with that at Chantilly. In the pond that joins the palace are carp as large and as tame as the prince of Conde's. The landlord of the inn at Fontainbleau thinks that royal palaces should not be seen for nothing; he made me pay 10 livres for a dinner, which would have cost me not more than half the money at the Star and Garter at Richmond. Reach Meulan. 34 miles.

The 15th. Cross for a considerable distance, the royal oak forest of Senar. About Montgeron, all open fields, which produce corn and partridges to eat it, for the number is enormous. There is on an average a covey of birds on every two acres, besides favourite spots, where they abound much more. At St. George the Seine is a much more beautiful river than the Loire. Enter Paris once more, with the same observation I made before, that there is not one-tenth of the motion on the roads around it that there is around London. To the hotel de la Rouchefoucauld. 20 miles.

The 16th. Accompanied the count de la Rouchefoucauld to Liancourt. 38 miles. I went thither on a visit for three or four days; but the whole family contributed so generally to render the place in every respect agreeable, that I staid more than three weeks. At about half a mile from the chateau is a range of hill that was chiefly a neglected waste: the duke of Liancourt has lately converted this into a plantation, with winding walks, benches, and covered seats, in the English style of gardening. The situation is very fortunate. These ornamented paths follow the edge of the declivity to the extent of three or four miles. The views they command are every where pleasing, and in some places great. Nearer to the chateau the duchess of Liancourt has built a menagerie and dairy in a pleasing taste. The cabinet and ante-room are very pretty; the saloon elegant, and the dairy entirely constructed of marble. At a village near Liancourt, the duke has established a manufacture of linen and stuffs mixed with thread and cotton, which promises to be of considerable utility; there are twenty-five looms employed, and preparations making for more. As the spinning for these looms is also established, it gives employment to great numbers of hands who

were idle, for they have no sort of manufacture in the country, though it is populous. Such efforts merit great praise. Connected with this is the execution of an excellent plan of the duke's for establishing habits of industry in the rising generation. The daughters of the poor people are received into an institution to be educated to useful industry; they are instructed in their religion, taught to write and read, and to spin cotton; are kept till marriageable, and then a regulated proportion of their earnings given them as a marriage portion. There is another establishment of which I am not so good a judge; it is for training the orphans of soldiers to be soldiers themselves. The duke of Liancourt has raised some considerable buildings for their accommodation, well adapted to the purpose. The whole is under the superintendance of a worthy and intelligent officer, Monsieur le Roux, captain of dragoons, and Croix de St. Louis; who examines every thing himself. There are at present one hundred and twenty boys; all dressed in uniform. My ideas have all taken a turn which I am too old to change; I should have been better pleased to have seen one hundred and twenty lads educated to the plough, in habits of culture superior to the present; but certainly the establishment is humane, and the conduct of it excellent.

The ideas I had formed, before I came to France, of a country residence in that kingdom, I found at Liancourt to be far from correct. I expected to find it a mere transfer of Paris to the country, and that all the burthensome forms of a city were preserved, without its pleasures: but I was deceived: the mode of living, and the pursuits, approach much nearer to the habits of a great nobleman's house in England, than would commonly be conceived. A breakfast of tea for those who chose to repair to it; riding, sporting, planting, gardening, till dinner, and that not till half after two o'clock, instead of their old fashioned hour of twelve; music, chess, and the other common amusements of a rendezvous-room, with an excellent library of seven or eight thousand volumes, were well calculated to make the time pass agreeably; and to prove that there is a great approximation in the modes of living at present in the different countries of Europe. Amusements, in truth, ought to be numerous within doors; for in such a climate, none are to be depended on without: the rain that has fallen here is hardly credible. I have, for five-and-twenty years past, remarked in England, that I never was prevented by rain from taking a walk every day without going out while it actually rains; it may fall heavily for many hours; but a person who watches an opportunity gets a walk or a ride. Since I have been at Liancourt, we have had three days in succession of such incessantly heavy rain, that I could not go an hundred yards from the house to the duke's pavilion, without danger of being quite wet. For ten days more rain fell here, I am confident, had there been a gauge to measure it, than ever fell in England in thirty. The present fashion in France, of passing some time in the country is new; at this time of the year, and for many weeks past, Paris is, comparatively speaking, empty. Every body who has a country-seat is at it; and such as have none visit others who have. This remarkable revolution in the French manners is certainly one of the best customs they have taken from England; and its introduction was effected the easier, being assisted by the magic of Rousseau's writings. Mankind are much indebted to that splendid genius, who, when living, was hunted from country to country, to seek an asylum, with as much venom as if he had been a mad dog; thanks to the vile spirit of bigotry, which has not yet received its death's wound. Women of the first fashion in France are now ashamed of not nursing their own children; and stays are universally proscribed from the bodies of the poor infants, which were for so many ages tortured in them, as they are still in Spain. The country

residence may not have effects equally obvious; but they will be no less sure in the end, and in all respects beneficial to every class in the state.

The duke of Liancourt being president of the provincial assembly of the election of Clermont, and passing several days there in business, asked me to dine with the assembly, as he said there were to be some considerable farmers present. These assemblies were to me interesting to see. I accepted the invitation with pleasure. Three considerable farmers, renters, not proprietors of land, were members, and present. I watched their carriage narrowly, to see their behaviour in the presence of a great lord of the first rank, considerable property, and high in royal favour; and it was with pleasure that I found them behaving with becoming ease and freedom, and though modest, and without any thing like flippancy, yet without any obsequiousness offensive to English ideas. They started their opinions freely, and adhered to them with becoming confidence. A more singular spectacle was to see two ladies present at a dinner of this sort, with five or six-and-twenty gentlemen; such a thing could not happen in England. To say that the French manners, in this respect, are better than our own, is the assertion of an obvious truth. If the ladies be not present at meetings where the conversation has the greatest probability of turning on subjects of more importance than the frivolous topics of common discourse, the sex must either remain on the one hand in ignorance, or on the other, be filled with the foppery of education, learned, affected, and forbidding. The conversation of men, not engaged in trifling pursuits, is the best school for the education of a woman.

The political conversation of every company I have seen has turned much more on the affairs of Holland than on those of France. The preparations going on for a war with England are in the mouths of all the world; but the finances of France are in such a state of derangement, that the people best informed assert a war to be impossible; the marquis of Verac, the late French ambassador at the Hague, who was sent thither, as the English politicians assert, expressly to bring about a revolution in the government, has been at Liancourt three days. It may easily be supposed, that he is cautious in what he says in such a mixed company; but it is plain enough, that he is well persuaded that that revolution, change, or lessening the Stadtholder's powers; that plan, in a word, whatever it was, for which he negotiated in Holland, had for some time been matured and ready for execution, almost without a possibility of failure, had the count de Vergennes consented, and not spun out the business by refinement on refinement, to make himself the more necessary to the French cabinet; and it unites with the idea of some sensible Dutchmen, with whom I have conversed on the subject.

During my stay at Liancourt, my friend Lazowski accompanied me on a little excursion of two days to Ermenonville, the celebrated seat of the marquis de Girardon. We passed by Chantilly to Morefontain, the country seat of Monsieur de Morefontain, prevost des merchands of Paris; the place has been mentioned as decorated in the English style. It consists of two scenes; one a garden of winding walks, and ornamented with a profusion of temples, benches, grottos, columns, ruins, and I know not what; I hope the French who have not been in England, do not consider this as the English taste. It is in fact as remote from it as the most regular style of the last age. The water view is fine. There is a gaiety and cheerfulness in it that contrast well with the brown and displeasing hills that surround it, and which partake of the waste character of the worst part of the surrounding country. Much has been done here; and it wants but few additions to be as perfect as the ground admits.

Reach Ermenonville, through another part of the prince of Conde's forest, which joins the ornamented grounds of the marquis Girardon. This place, after the residence and death of the persecuted but immortal Rousseau, whose tomb every one knows is here, became so famous as to be resorted to very generally. It has been described, and plates published of the chief views; to enter into a particular description would therefore be tiresome; I shall only make one or two observations, which I do not recollect have been touched on by others. It consists of three distinct water scenes; or of two lakes and a river. We were first shewn that which is so famous for the small isle of poplars, in which reposes all that was mortal of that extraordinary and inimitable writer. This scene is as well imagined, and as well executed as could be wished. The water is between forty and fifty acres; hills rise from it on both sides, and it is sufficiently closed in by tall wood at both ends, to render it sequestered. The remains of departed genius stamp a melancholy idea, from which decoration would depart too much, and accordingly there is little. We viewed the scene in a still evening. The declining sun threw a lengthened shade on the lake, and silence seemed to repose on its unruffled bosom; as some poet says, I forget who. The worthies to whom the temple of philosophers is dedicated, and whose names are marked on the columns, are Newton, Lucem. Descartes, Nil in rebus inane. Voltaire, Ridiculum. Rousseau, Naturam. And on another unfinished column, Quis hoc perficiet? The other lake is larger; it nearly fills the bottom of the vale, around which are some rough, rocky, wild, and barren sand hills; either broken or spread with heath; in some places wooded, and in others scattered thinly with junipers. The character of the scene is that of wild and undecorated nature, in which the hand of art was meant to be concealed as much as was consistent with ease of access. The last scene is that of a river, which is made to wind through a lawn, receding from the house, and broken by wood; the ground is not fortunate; it is too dead a flat, and no where viewed to much advantage.

From Ermenonville we went, the morning after, to Brasseuse, the seat of Madame du Pont, sister of the duchess of Liancourt. What was my surprise at finding this viscountess a great farmer! A French lady, young enough to enjoy all the pleasures of Paris, living in the country, and minding her farm, was an unlooked for spectacle. She has probably more lucerne than any other person in Europe—two hundred and fifty arpents. She gave, in a most unaffected and agreeable manner, intelligence about her lucerne, and dairy; but of that more elsewhere. Returned to Liancourt by Pont, where there is a handsome bridge of three arches, the construction uncommon, each pier consisting of four pillars, with a towing path under one of the arches, for the barge-horses, the river being navigable.

Amongst the morning amusements I partook at Liancourt was la chasse. In deer shooting, the sportsmen place themselves at distances around a wood, then beat it, and seldom more than one in a company gets a shot; it is more tedious than is easily conceived; like angling, incessant expectation, and perpetual disappointment. Partridge and hare shooting are almost as different from that of England. We took this diversion in the fine vale of Catnoir, five or six miles from Liancourt; arranging ourselves in a file at about thirty yards from person to person, and each with a servant and a loaded gun, ready to present when his master fires; thus we marched across and across the vale, treading up the game. Four or five brace of hares, and twenty brace of partridges were the spoils of the day. I like this mode of shooting but little better than waiting for deer. The best circumstance to me of exercise in company (it was not so once) is the festivity of the dinner at the close of the day. To enjoy this, it must not be pushed to great fatigue. Good spirits, after violent exercise, are

always the affectation of silly young folks (I remember being that sort of fool myself when I was young) but with something more than moderate, the exhilaration of body is in unison with the flow of temper, and agreeable company is then delicious. On such days as these we were too late for the regular dinner, and had one by ourselves, with no other dressing than the refreshment of clean linen; and these were not the repasts when the duchess's champagne had the worst flavour. A man is a poor creature who does not drink a little too much on such occasions: *mais prenez-y-garde*: repeat it often; and you may make it a mere drinking party, the lustre of the pleasure fades, and you become what was an English fox-hunter. One day while we were thus dining à l'Anglois, and drinking the plough, the chace, and I know not what, the duchess of Liancourt and some of her ladies came in sport to see us. It was a moment for them to have betrayed ill-nature in the contempt of manners not French, which they might have endeavoured to conceal under a laugh; but nothing of this; it was a good humoured curiosity; a natural inclination to see others pleased and in spirits. *Il s'ont etc de grand chasseurs aujourd'hui*, said one. *Oh! ils s'applaudissent de leurs exploits*. Do they drink the gun? said another. *Leurs maitresses certainement*, added a third. *J'aime à les voir en gaieté; il y a quelque chose d'amiable dans tout ceci*. To note such trifles may seem superfluous to many; but what is life when trifles are withdrawn? They mark the temper of a nation better than objects of importance. In the moments of council, victory, flight, or death, mankind, I suppose, are nearly the same. Trifles discriminate better, and the number is infinite that gives me an opinion of the good temper of the French. I am fond neither of a man nor a recital that can appear only on stilts, and dressed in holiday geers. It is every-day feelings that decide the colour of our lives; and he who values them the most plays the best for the stake of happiness. But it is time to quit Liancourt, which I do with regret. Take leave of the good old duchess d'Estissac, whose hospitality and kindness ought ever to be remembered. 51 miles.

The 9th, 10, and 11th. Return by Beauvais and Pontoise, and enter Paris for the fourth time, confirmed in the idea that the roads immediately leading to that capital are deserts, comparatively speaking, with those of London. By what means can the connection be carried on with the country? The French must be the most stationary people upon earth, when in a place they must rest without a thought of going to another; or the English must be the most restless; and find more pleasure in moving from one place to another, than in resting to enjoy life in either. If the French nobility went only to their country seats when exiled thither by the court, the roads could not be more solitary. 25 miles.

The 12th. My intention was to take lodgings; but on arriving at the hotel de la Rouchefoucauld, I found that my hospitable duchess was the same person at the capital as in the country; she had ordered an apartment to be ready for me. It grows so late in the season, that I shall make no other stay here than what will be necessary for viewing public buildings. This will unite well enough with delivering some letters I brought to a few men of science; and it will leave me the evenings for the theatres, of which there are many in Paris. In throwing on paper a rapid coup d'œil of what I see of a city, so well known in England, I shall be apt to delineate my own ideas and feelings, perhaps more than the objects themselves: and be it remembered, that I profess to dedicate this careless itinerary to trifles, much more than to objects that are of real consequence. From the tower of the cathedral the view of Paris is complete. It is a vast city even to the eye that has seen London from St. Paul's; a circular form gives an advantage to Paris; but a much greater is the atmosphere. It is now so clear, that

one would suppose it the height of summer: the clouds of coal smoke that envelope London, always prevent a distinct view of that capital, but I take it to be one-third at least larger than Paris. The buildings of the parliament house are disfigured by a gilt and taudry gate, and a French roof. The hotel des Monoies is a fine building; and the façade of the Louvre one of the most elegant in the world, because they have (to the eye) no roofs; in proportion as a roof is seen a building suffers. I do not recollect one edifice of distinguished beauty (unless with domes) in which the roof is not so flat as to be hidden, or nearly so. What eyes then must the French architects have had, to have loaded so many buildings with coverings of a height destructive of all beauty? Put such a roof as we see on the parliament house or on the Thuilleries, upon the façade of the Louvre, and where would its beauty be? At night to the opera, which I thought a good theatre, till they told me it was built in six weeks; and then it became good for nothing in my eyes, for I suppose it will be tumbling down in six years. Durability is one of the essentials of building: what pleasure would a beautiful front of painted pastebard give? the *Alceste* of Gluck was performed; that part by Mademoiselle St. Huberti, their first singer, an excellent actress. As to scenes, dresses, decorations, dancing, &c. this theatre is much superior to that in the Haymarket.

The 13th. Across Paris to the rue de Blancs Manteaux, to Mons. Broussonet, secretary of the society of agriculture; he is in Burgundy. Called on Mr. Cook from London, who is at Paris with his drill plough, waiting for weather to shew its performance to the duke of Orleans; this is a French idea, improving France by drilling. A man should learn to walk before he learns to dance. There is agility in cutting capers, and it may be done with grace; but where is the necessity to cut them at all? There has been much rain to-day; and it is almost incredible to a person used to London, how dirty the streets of Paris are, and how horribly inconvenient and dangerous walking is without a foot pavement. We had a large party at dinner, with politicians among them, and some interesting conversation on the present state of France. The feeling of every body seems to be that the archbishop will not be able to do any thing towards exonerating the state from the burthen of its present situation; some think that he has not the inclination; others that he has not the courage; others that he has not the ability. By some he is thought to be attentive only to his own interest; and by others, that the finances are too much deranged to be within the power of any system to recover, short of the states-general of the kingdom; and that it is impossible for such an assembly to meet without a revolution in the government ensuing. All seem to think that something extraordinary will happen; and a bankruptcy is an idea not at all uncommon. But who is there that will have the courage to make it?

The 14th. To the Benedictine abbey of St. Germain, to see pillars of African marble, &c. It is the richest abbey in France: the abbot has 300,000 livres a year (13,125l.) I lose my patience at seeing such revenues thus bestowed; consistent with the spirit of the tenth century, but not with that of the eighteenth. What a noble farm would a fourth of this income establish! what turnips, what cabbages, what potatoes, what clover, what sheep, what wool! Are not these things better than a fat ecclesiastic? If an active English farmer were mounted behind this abbot, I think he would do more good to France with half the income than half the abbots of the kingdom with the whole of theirs. Pass the Bastile; another pleasant object to make agreeable emotions vibrate in a man's bosom. I search for good farmers, and run my head at every turn against monks and state prisons. To the arsenal, to wait on Mons.

Lavoisier, the celebrated chemist, whose theory of the non-existence of phlogiston has made as much noise in the chemical world as that of Stahl, which established its existence. Dr. Priestley had given me a letter of introduction. I mentioned in the course of conversation his laboratory, and he appointed Tuesday. By the Boulevards, to the Place Louis XV, which is not properly a square, but a very noble entrance to a great city. The faades of the two buildings erected are highly finished. The union of the Place Louis XV, with the champs Elisees, the gardens of the Thuilleries and the Seine is open, airy, elegant, and superb; and is the most agreeable and best built part of Paris; here one can be clean and breathe freely. But by far the finest thing I have yet seen at Paris is the Halle aux Bleds, or corn market; it is a vast rotunda; the roof entirely of wood, upon a new principle of carpentry, to describe which would demand plates and long explanations; the gallery is one hundred and fifty yards round, consequently the diameter is as many feet. It is as light as if suspended by the fairies. In the grand area, wheat, pease, beans, lentils, are stored and sold. In the surrounding divisions, flour on wooden stands. You pass by staircases doubly winding within each other to spacious apartments for rye, barley, oats, &c. The whole is so well planned, and so admirably executed, that I know of no public building that exceeds it either in France or England. And if an appropriation of the parts to the conveniences wanted, and an adaptation of every circumstance to the end required, in union with that elegance which is consistent with use, and that magnificence which results from stability and duration, be the criteria of public edifices, I know nothing that equals it: it has but one fault, and that is situation; it should have been upon the banks of the river, for the convenience of unloading barges without land carriage. In the evening, to the Comedie Italienne; the edifice fine; and the whole quarter regular and new built, a private speculation of the duke de Choiseul, whose family has a box entailed for ever. L'Aimant jaloux. Here is a young singer, Mademoiselle Renard, with so sweet a voice, that if she sung Italian, and had been taught in Italy, would have made a delicious performer.

To the tomb of the cardinal de Richlien, which is a noble production of genius: by far the finest statue I have seen. Nothing can be imagined more easy and graceful than the attitude of the cardinal, nor can nature be more expressive than the figure of weeping science. Dine with my friend at the Palais Royal at a coffee-house; well dressed people; every thing clean, good, and well served: but here, as every where else, you pay a good price for good things; we ought never to forget that a low price for bad things is not cheapness. In the evening to l'Ecole des Peres, at the Comedie Francaise, a crying larmoyant thing. This theatre, the principal one at Paris, is a fine building, with a magnificent portico. After the circular theatres of France, how can any one relish our ill-contrived oblong holes of London?

The 16th. To Mons. Lavoisier, by appointment. Madame Lavoisier, a lively, sensible, scientific lady, had prepared a dejeuner Anglois of tea and coffee; but her conversation on Mr. Kirwan's essay on phlogiston, which she is translating from the English, and on other subjects, which a woman of understanding, who works with her husband in his laboratory, knows how to adorn, was the best repast. That apartment, the operations of which have been rendered so interesting to the philosophical world, I had the pleasure of viewing. In the apparatus for aerial experiments, nothing makes so great a figure as the machine for burning inflammable and vital air, to make, or deposit water; it is a splendid machine. Three vessels are held in suspension with indexes for marking the immediate variations of their weights; two, that are as large as half hogsheads, contain the one inflammable, the other the vital air, and a tube of



communication passes to the third, where the two airs unite and burn; by contrivances, too complex to describe without plates, the loss of weight of the two airs, as indicated by their respective balances, equal at every moment to the gain in the third vessel from the formation or deposition of the water, it not being yet ascertained whether the water be actually made or deposited. If accurate (of which I must confess I have little conception) it is a noble machine. Mons. Lavoisier, when the structure of it was commended, said *Mais oui monsieur, & meme par un artiste Francois!* with an accent of voice that admitted their general inferiority to ours. It is well known that we have a considerable exportation of mathematical and other curious instruments to every part of Europe, and to France among the rest. Nor is this new, for the apparatus with which the French academicians measured a degree in the polar circle was made by Mr. George Graham.\* Another engine Mons. Lavoisier shewed us was an electrical apparatus inclosed in a balloon, for trying electrical experiments in any sort of air. His pond of quicksilver is considerable, containing 250lb. and his water apparatus very great, but his furnaces did not seem so well calculated for the higher degrees of heat as some others I have seen. I was glad to find this gentleman splendidly lodged, and with every appearance of a man of considerable fortune. This ever gives one pleasure: the employments of a state can never be in better hands than of men who thus apply the superfluity of their wealth. From the use that is generally made of money, one would think it the assistance of all others of the least consequence in effecting any business truly useful to mankind, many of the great discoveries that have enlarged the horizon of science having been in this respect the result of means seemingly inadequate to the end—the energetic exertions of ardent minds, bursting from obscurity, and breaking the bands inflicted by poverty, perhaps by distress. To the hotel des invalids, the major of which establishment had the goodness to shew the whole of it. In the evening to Mons. Lomond, a very ingenious and inventive mechanic, who has made an improvement of the jenny for spinning cotton. Common machines are said to make too hard a thread for certain fabrics, but this forms it loose and spongy. In electricity he has made a remarkable discovery: you write two or three words on a paper: he takes it with him into a room, and turns a machine inclosed in a cylindrical case, at the top of which is an electrometer, a small fine pith ball; a wire connects with a similar cylinder and electrometer in a distant apartment; and his wife, by remarking the corresponding motions of the ball, writes down the words they indicate: from which it appears that he has formed an alphabet of motions. As the length of the wire makes no difference in the effect, a correspondence might be carried on at any distance: within and without a besieged town for instance; or for a purpose much more worthy, and a thousand times more harmless, between two lovers prohibited or prevented from any better connection. Whatever the use may be, the invention is beautiful. Mons. Lomond has many other curious machines, all the entire work of his own hands: mechanical invention seems to be in him a natural propensity. In the evening to the Comedie Francaise. Mola did the *Bourru Bienfaisant*, and it is not easy for acting to be carried to greater perfection.

The 17th. To Mons. l'Abbe Messier, astronomer royal, and of the Academy of Sciences. View the exhibition, at the Louvre, of the academy's paintings. For one history piece in our exhibitions at London here are ten; abundantly more than to balance the difference between an annual and biennial exhibition. Dined to-day with a party, whose conversation was entirely political. Mons. de Calonne's *Requeté au Roi*

\* Whitehurst's Formation of the Earth, 2d. edit. p. 6.

is come over, and all the world are reading and disputing on it. It seems, however, generally agreed that, without exonerating himself from the charge of the agiotage, he has thrown no inconsiderable load on the shoulders of the archbishop of Toulouze, the present premier, who will be puzzled to get rid of the attack. But both these ministers were condemned on all hands in the lump; as being absolutely unequal to the difficulties of so arduous a period. One opinion pervaded the whole company, that they are on the eve of some great revolution in the government; that every thing points to it: the confusion in the finances great; with a deficit impossible to provide for without the states general of the kingdom, yet no ideas formed of what would be the consequence of their meeting: no minister existing, or to be looked to in or out of power, with such decisive talents as to promise any other remedy than palliative ones: a prince on the throne, with excellent dispositions, but without the resources of a mind that could govern in such a moment without ministers: a court buried in pleasure and dissipation; and adding to the distress, instead of endeavouring to be placed in a more independent situation: a great ferment amongst all ranks of men, who are eager for some change, without knowing what to look to, or to hope for: and a strong leaven of liberty, increasing every hour since the American revolution; altogether form a combination of circumstances that promise ere long to ferment into motion, if some master hand, of very superior talents, and inflexible courage, be not found at the helm to guide events, instead of being driven by them. It is very remarkable, that such conversation never occurs, but a bankruptcy is a topic: the curious question on which is, would a bankruptcy occasion a civil war, and a total overthrow of the government? The answers that I have received to this question appear to be just: such a measure, conducted by a man of abilities, vigour, and firmness, would certainly not occasion either one or the other. But the same measure, attempted by a man of a different character, might possibly do both. All agree, that the states of the kingdom cannot assemble without more liberty being the consequence; but I meet with so few men who have any just ideas of freedom, that I question much the species of this new liberty that is to arise. They know not how to value the privileges of the people: as to the nobility and the clergy, if a revolution added any thing to their scale, I think it would do more mischief than good.\*

The 18th. To the Gobelins, which is undoubtedly the first manufacture of tapestry in the world, and such an one as could be supported by a crowned head only. In the evening to that incomparable comedy *La Metromanie*, of Pyron, and well acted. The more I see of it, the more I like the French theatre; and have no doubt in preferring it far to our own. Writers, actors, buildings, scenes, decorations, music, dancing, take the whole in a mass, and it is unrivalled by London. We have certainly a few brilliants of the first water; but to throw all in the scales that of England kicks the beam. I write this passage with a lighter heart than I should do were it giving the palm to the French plough.

The 19th. To Charenton, near Paris, to see l'Ecole Veterinaire, and the farm of the royal society of Agriculture. Mons. Chabert, the directeur-general, received us with the most attentive politeness. Mons. Flandrein, his assistant, and son-in-law, I had had the pleasure of knowing in Suffolk. They shewed the whole veterinary establishment, and it does honour to the government of France. It was formed in

\* In transcribing these papers for the press, I smile at some remarks and circumstances which events have since placed in a singular position; but I alter none of these passages; they explain what were the opinions in France, before the revolution, on topics of importance; and the events which have since taken place render them the more interesting. June, 1790.

1766: in 1783 a farm was annexed to it, and four other professorships established; two for rural œconomy, one for anatomy, and another for chemistry. I was informed that Mons. d'Aubenton, who is at the head of this farm with a salary of 6000 livres a year, reads lectures of rural œconomy, particularly on sheep, and that a flock was for that purpose kept in exhibition. There is a spacious and convenient apartment for dissecting horses and other animals; a large cabinet, where the most interesting parts of all domestic animals are preserved in spirits; and also of such parts of the bodies that mark the visible effect of distempers. This is very rich. This, with a similar one near Lyons, is kept up (exclusive of the addition of 1783) at the moderate expence, as appears by the writings of M. Necker, of about 60,000 livres (2600*l*.) Whence, as in many other instances, it appears that the most useful things cost the least. There are at present about one hundred élèves from different parts of the kingdom, as well as from every country in Europe, except England; a strange exception, considering how grossly ignorant our farriers are; and that the whole expence of supporting a young man here does not exceed forty louis a-year; nor more than four years necessary for his complete instruction. As to the farm, it is under the conduct of a great naturalist, high in royal academies of science, and whose name is celebrated through Europe for merit in superior branches of knowledge. It would argue in me a want of judgment in human nature, to expect good practice from such men. They would probably think it beneath their pursuits and situation in life to be good ploughmen, turnip hoers, and shepherds; I should therefore betray my own ignorance of life, if I were to express any surprize at finding this farm in a situation that—I had rather forget than describe. In the evening, to a field much more successfully cultivated, Mademoiselle St. Huberti, in the Penelope of Picini.

The 20th. To the Ecole Militaire, established by Louis XV, for the education of one hundred and forty youths, the sons of the nobility; such establishments are equally ridiculous and unjust. To educate the son of a man who cannot afford the education himself, is a gross injustice, if you do not secure a situation in life answerable to that education. If you do not secure such a situation, you destroy the result of the education, because nothing but merit ought to give that security. If you educate the children of men, who are well able to give the education themselves, you tax the people who cannot afford to educate their children, in order to ease those who can well afford the burthen; and, in such institutions, this is sure to be the case. At night to l'Ambigu Comique, a pretty little theatre, with plenty of rubbish on it. Coffee-houses on the boulevards, music, noise, and filles without end; every thing but scavengers and lamps. The mud is a foot deep; and there are parts of the boulevards without a single light.

The 21st. Mons. de Broussonet being returned from Burgundy, I had the pleasure of passing a couple of hours at his lodgings very agreeably. He is a man of uncommon activity, and possessed of a great variety of useful knowledge in every branch of natural history; and he speaks English perfectly well. It is very rare that a gentleman is seen better qualified for a post than Mons. de Broussonet for that which he occupies, as secretary to a royal society.

The 22d. To the bridge of Neuile, said to be the finest in France. It is by far the most beautiful one I have any where seen. It consists of five vast arches; flat, from the Florentine model; and all of equal span; a mode of building incomparably more elegant, and more striking than our system of different sized arches. To the machine at Marlay; which ceases to make the least impression. Madame du Barre's residence, Lusienne, is on the hill just above this machine; she has built a pavillion

on the brow of the declivity, for commanding the prospect, fitted up and decorated with much elegance. There is a table formed of Seve porcelain, exquisitely done. I forget how many thousand lous d'ors it cost. The French, to whom I spoke of Laisicenne, exclaimed against mistresses and extravagance with more violence than reason in my opinion. Who, in common sense, would deny a king the amusement of a mistress, provided he did not make a business of his play-thing. Mais Frederic le Grand avoit il une maitresse, lui faisoit-il batir de pavillons, et les meubloit-il de tables de porcelaine? No: but he had that which was fifty times worse: a king had better make love to a handsome woman than to one of his neighbour's provinces. The king of Prussia's mistress cost an hundred millions sterling, and the lives of 500,000 men; and before the reign of that mistress is over, may yet cost as much more. The greatest genius and talents are lighter than a feather, weighed philosophically, if rapine, war, and conquest, be the effects of them.

To St. Germain's, the terrace of which is very fine. Monsieur de Broussonet met me here, and we dined with Monsieur Breton, at the marechal duc de Noailles, who has a good collection of curious plants. Here is the finest sophora japonica I have seen. 10 miles.

The 23d. To Trianon, to view the queen's Jardin Anglois. I had a letter to Monsieur Richard, which procured admittance. It contains about one hundred acres, disposed in the taste of what we read of in books of Chinese gardening, whence it is supposed the English style was taken. There is more of Sir William Chambers here than of Mr. Brown; more effort than nature; and more expence than taste. It is not easy to conceive any thing that art can introduce in a garden that is not here; woods, rocks, lawns, lakes, rivers, islands, cascades, grottos, walks, temples, and even villages. There are parts of the design very pretty, and well executed. The only fault is too much crowding, which has led to another, that of cutting the lawn by too many gravel walks, an error to be seen in almost every garden I have met with in France. But the glory of La Petite Trianon is the exotic trees and shrubs. The world has been successfully rified to decorate it. Here are curious and beautiful ones to please the eye of ignorance; and to exercise the memory of science. Of the buildings, the temple of Love is truly elegant.

Again to Versailles. In viewing the king's apartment, which he had not left a quarter of an hour, with those slight traits of disorder that shewed he lived in it, it was amusing to see the blackguard figures that were walking uncontrouled about the palace, and even in his bed-chamber; men whose rags betrayed them to be in the last stage of poverty, and I was the only person that stared and wondered how they got thither. It is impossible not to like this careless indifference and freedom from suspicion. One loves the master of the house, who would not be hurt or offended at seeing his apartment thus occupied, if he returned suddenly; for if there were danger of this, the intrusion would be prevented. This is certainly a feature of that good temper which appears to me so visible every where in France. I desired to see the queen's apartments, but I could not. Is her majesty in it? No. Why then not see it as well as the king's? Ma foi, Mons. c'est un autre chose. Ramble through the gardens, and by the grand canal, with absolute astonishment at the exaggeration of writers and travellers. There is magnificence in the quarter of the orangerie, but no beauty any where; there are some statues good enough to be wished under cover. The extent and breadth of the canal are nothing to the eye; and it is not in such good repair as a farmer's horse-pond. The menagerie is well enough, but nothing great. Let those who desire that the buildings and establishments of Louis XIV, should continue the

impression made by the writings of Voltaire, go to the canal of Languedoc, and by no means to Versailles. Return to Paris. 14 miles.

The 24th. With Monsieur de Broussonet to the king's cabinet of natural history and the botanical garden, which is in beautiful order. Its riches are well known, and the politeness of Monsieur Thouin, which is that of a most amiable disposition, renders this garden the scene of other rational pleasures besides those of botany. Dine at the Invalides, with Monsieur Parmentier, the celebrated author of many æconomical works, particularly on the boulangerie of France. This gentleman, to a considerable mass of useful knowledge, adds a great deal of that fire and vivacity for which his nation has been distinguished, but which I have not recognized so often as I expected.

The 25th. This great city appears to be in many respects the most ineligible and inconvenient for the residence of a person of small fortune of any that I have seen; and by far inferior to London. The streets are very narrow, and many of them crowded, nine-tenths dirty, and all without foot-pavements. Walking, which in London is so pleasant and so clean, that ladies do it every day, is here a toil and fatigue to a man, and an impossibility to a well dressed woman. The coaches are numerous, and what is much worse, there is an infinity of one-horse cabriolets, which are driven by young men of fashion and their imitators, alike fools, with such rapidity as to be real nuisances, and render the streets exceedingly dangerous, without an incessant caution. I saw a poor child run over and probably killed, and have been myself many times blackened with the mud of the kennels. This beggarly practice of driving a one-horse booby hutch about the streets of a great capital, flows either from poverty, or a wretched and despicable æconomy; nor is it possible to speak of it with too much severity. If young noblemen at London were to drive their chaises in streets without foot-ways, as their brethren do at Paris, they would speedily and justly get very well threshed, or rolled in the kennel. This circumstance renders Paris an intelligible residence for persons, particularly families that cannot afford to keep a coach; a convenience which is as dear as at London. The fiacres, hackney-coaches, are much worse than at that city; and chairs there are none, for they would be driven down in the streets. To this circumstance also it must be ascribed, that all persons of small or moderate fortune, are forced to dress in black, with black stockings; the dusky hue of this in company is not so disagreeable a circumstance as being a too great a distinction; too clear a line drawn in company between a man that has a good fortune, and another that has not. With the pride, arrogance, and ill temper of English wealth this could not be borne; but the prevailing good humour of the French eases all such untoward circumstances. Lodgings are not half so good as at London, yet considerably dearer. If you do not hire a whole suit of rooms at an hotel, you must probably mount three, four, or five pair of stairs, and in general have nothing but a bed-chamber. After the horrid fatigue of the streets, such an elevation is a delectable circumstance. You must search with trouble before you will be lodged in a private family, as gentlemen usually are at London, and pay a higher price. Servant's wages are about the same as at that city. It is to be regretted that Paris should have these disadvantages, for in other respects I take it to be a most eligible residence for such as prefer a great city. The society for a man of letters, or who has any scientific pursuit, cannot be exceeded. The intercourse between such men and the great, which, if it be not upon an equal footing, ought never to exist at all, is respectable. Persons of the highest rank pay an attention to science and literature, and emulate the character they confer. I should pity the man who expected, without other advantages of a very different nature, to be well received

in a brilliant circle at London, because he was a fellow of the Royal Society. But this would not be the case with a member of the Academy of Sciences at Paris; he is sure of a good reception every where. Perhaps this contrast depends in a great measure on the difference of the governments of the two countries. Politics are too much attended to in England, to allow a due respect to be paid to any thing else; and should the French establish a freer government, academicians will not be held in such estimation, when rivalled in the public esteem by the orators who hold forth liberty and property in a free parliament.

The 28th. Quit Paris, and take the road to Flanders. Monsieur de Broussonet was so obliging as to accompany me to Dugny, to view the farm of Monsieur Crette de Palluel, a very intelligent cultivator. Take the road to Senlis: at Dammertin, I met by accident a French gentleman, a Monsieur du Pre du St. Cotin. Hearing me conversing with a farmer on agriculture, he introduced himself as an amateur, gave me an account of several experiments he had made on his estate in Champagne, and promised a more particular detail; in which he was as good as his word. 22 miles.

The 29th. Pass Nanteul, where the prince of Conde has a chateau, to Villes-Cotterets, in the midst of immense forests belonging to the duke of Orleans. The crop of this country, therefore, is princes of the blood; that is to say, hares, pheasants, deer, boars! 26 miles.

The 30th. Soissons seems a poor town, without manufactures, and chiefly supported by a corn trade, which goes hence by water to Paris and Rouen. 25 miles.

The 31st. Coucy is beautifully situated on a hill, with a fine vale winding beside it. At St. Gobin, which is in the midst of great woods, I viewed the fabric of plate glass, the greatest in the world. I was in high luck, arriving about half an hour before they began to run glasses for the day. Pass La Fere. Reach St. Quintin, where are considerable manufactures that employed me all the afternoon. From St. Gobin are the most beautiful slate roofs I have any where seen. 30 miles.

November 1. Near Belle Angloise I turned aside half a league to view the canal of Picardy, of which I had heard much. In passing from St. Quintin to Cambrai the country rises, so that it was necessary to carry it in a tunnel under ground for a considerable depth, even under many vales as well as hills. In one of these valleys there is an opening for visiting it by an arched stair-case, on which I descended one hundred and thirty-four steps to the canal; and as this valley is much below the adjacent and other hills, the great depth at which it is digged may be conceived. Over the door of the descent, is the following inscription: "L'Ann. 1781. Mons. le Comte d'Agay etant intendant de cette province, Mons. Laurent de Lionni etant directeur de l'ancien & nouveau canal de Picardie, & Mons. le Champrose inspecteur, Joseph II. Empereur Roi des Romaines, a parcouru en batteau le canal sous terrain depuis cet endroit jusques au puit, No. 20, le 28, & a temoigne sa satisfaction d'avoir vu cet ouvrage en ces termes: 'Je suis fier d'etre homme, quand je vois qu'un de mes semblables a ose imaginer & executer un ouvrages assui vaste et aussi hardie. Cette idea me leve l'ame.'" These three Messieurs lead the dance here in a very French style. The great Joseph follows humbly in their train; and as to poor Louis XVI. at whose expence the whole was done, these gentlemen certainly thought that no name less than that of an emperor ought to be annexed to theirs. When inscriptions are fixed to public works, no names ought to be permitted but those of the king, whose merit patronizes, and of the engineer or artist whose genius executes the work. As to a mob of intendants, directors, and inspectors, let them be forgotten. The canal at this place is ten French feet

wide and twelve high, hewn entirely out of the chalk rock, imbedded, in which are many flints, no masonry. There is only a small part finished of ten toises long for a pattern, twenty feet broad, and twenty high. Five thousand toises are already done in the manner of that part which I viewed; and the whole distance under ground, when the tunnel will be complete, is seven thousand and twenty toises (each six feet) or about nine miles. It has already cost 1,200,000 livres (52,500*l.*) and there want 2,500,000 livres (109,375*l.*) to complete it; so that the total estimate is near four millions. It is executed by shafts. At present there are not above five or six inches of water in it. This great work has stood still entirely since the administration of the Archbishop of Toulouze. When we see such works stand still for want of money, we shall reasonably be inclined to ask, what are the services that continue supplied? and to conclude, that amongst kings, and ministers, and nations, œconomy is the first virtue: without it, genius is a meteor; victory a sound; and all courtly splendour a public robbery.

At Cambray, view the manufacture. These frontier towns of Flanders are built in the old style, but the streets broad, handsome, well paved, and lighted. I need not observe, that all are fortified, and that every step in this country has been rendered famous or infamous according to the feelings of the spectator, by many of the bloodiest wars that have disgraced and exhausted christendom. At the hotel de Bourbon I was well lodged, fed, and attended: an excellent inn. 22 miles.

The 2d. Pass Bouchaine to Valenciennes, another old town, which, like the rest of the Flemish ones, manifests more the wealth of former than of present times. 18 miles.

The 3d, to Orchees; and the 4th to Lisle, which is surrounded by more windmills for squeezing out the oil of colseed, than are probably to be seen any where else in the world. Pass fewer drawbridges and works of fortification here than at Calais; the great strength of this place is in its mines and other souteraines. In the evening to the play.

The cry here for a war with England amazed me. Every one I talked with said, it was beyond a doubt the English had called the Prussian army into Holland; and that the motives in France for a war were numerous and manifest. It is easy enough to discover, that the origin of all this violence is the commercial treaty, which is execrated here, as the most fatal stroke to their manufactures they ever experienced. These people have the true monopolizing ideas; they would involve four and-twenty millions of people in the certain miseries of a war, rather than see the interest of those who consume fabrics, preferred to the interest of those who make them. The advantages reaped by four-and-twenty millions of consumers are supposed to be lighter than a feather, compared with the inconveniences sustained by half a million of manufacturers. Meet many small carts in the town, drawn each by a dog: I was told by the owner of one, what appears to me incredible, that his dog would draw 700*lb.* half a league. The wheels of these carts are very high, relative to the height of the dog, so that his chest is a good deal below the axle.

The 6th. In leaving Lisle, the reparation of a bridge made me take a road on the banks of the canal, close under the works of the citadel. They appear to be very numerous, and the situation exceedingly advantageous, on a gently rising ground, surrounded by low watery meadows, which may with ease be drowned. Pass Darmentiers, a large paved town. Sleep at Mont Cassel. 30 miles.

The 7th. Cassel is on the summit of the only hill in Flanders. They are now repairing the basin at Dunkirk, so famous in history for an imperiousness in England,

which she must have paid dearly for. Dunkirk, Gibraltar, and the statue of Louis XIV, in the Place de Victoire, I place in the same political class of national arrogance. Many men are now at work on this basin, and, when finished, it will not contain more than twenty or twenty-five frigates; and appears, to an unlearned eye, a ridiculous object for the jealousy of a great nation, unless it professed to be jealous of privateers. I made inquiries concerning the import of wool from England, and was assured that it was a very trifling object. I may here observe, that when I left the town, my little cloak-bag was examined as scrupulously as if I had just left England with a cargo of prohibited goods, and again at a fort two miles off. Dunkirk being a free port, the custom-house is at the gates. What are we to think of our woollen manufacturers in England, when suing for their wool-bill, of infamous memory, they brought one Thomas Wilkinson from Dunkirk quay, to the bar of the English House of Lords to swear, that wool passes from Dunkirk without entry, duty, or any thing being required, at double custom-houses, for a check on each other, where they examine even a cloak-bag? On such evidence, did our legislature, in the true shop-keeping spirit, pass an act of fines, pains, and penalties against all the wool-growers of England. Walk to Rosscendal near the town, where Mons. le Brun has an improvement on the Dunes, which he very obligingly shewed me. Between the town and that place is a great number of neat little houses, built each with its garden, and one or two fields enclosed of most wretched blowing Dune sand, naturally as white as snow, but improved by industry. The magic of property turns sand to gold. 18 miles.

The 8th. Leave Dunkirk, where the *Concierge* a good inn, as indeed I have found all in Flanders. Pass *Gravelline*, which, to my unlearned eyes, seems the strongest place I have yet seen, at least the works above ground are more numerous than at any other. Ditches, ramparts, and drawbridges without end. This is a part of the art military I like: it implies defence. If *Gengischan* or *Tamerlane* had met with such places as *Gravelline* or *Lisle* in their way, where would their conquests and extirpations of the human race have been? Reach *Calais*. And here ends a journey which has given me a great deal of pleasure, and more information than I should have expected in a kingdom not so well cultivated as our own. It has been the first of my foreign travels; and has with me confirmed the idea, that to know our own country well, we must see something of others. Nations figure by comparison; and those ought to be esteemed the benefactors of the human race, who have most established public prosperity on the basis of private happiness. To ascertain how far this has been the case with the French, has been one material object of my tour. It is an inquiry of great and complex range; but a single excursion is too little to trust to. I must come again and again before I venture conclusions. 25 miles.

Wait at *Desseins* three days for a wind (the duke and duchess of Gloucester are in the same inn and situation) and for a *pacquet*. A captain behaved shabbily: deceived me, and was hired by a family that would admit nobody but themselves.—I did not ask what nation this family was of.—Dover—London—Bradfield;—and have more pleasure in giving my little girl a French doll, than in viewing *Ver-sailles*.

1788.

THE long journey I had last year taken in France suggested a variety of reflections on the agriculture, and on the sources and progress of national prosperity in that king-



dom; in spite of myself, these ideas fermented in my mind; and while I was drawing conclusions relative to the political state of that great country, in every circumstance connected with its husbandry, I found, at each moment of my reflection, the importance of making as regular a survey of the whole as was possible for a traveller to effect. Thus instigated, I determined to attempt finishing what I had fortunately enough begun.

July 30. Left Bradfield; and arrived at Calais. 161 miles.

August 5. The next day I took the road to St. Omers. Pass the bridge Sans Pareil, which serves a double purpose, passing two streams at once; but it has been praised beyond its merit, and cost more than it was worth. St. Omers contains little deserving notice; and, if I could direct the legislatures of England and Ireland, should contain still less: why are catholics to emigrate in order to be ill educated abroad, instead of being allowed institutions that would educate them well at home? The country is seen to advantage from St. Bertin's steeple. 25 miles.

The 7th. The canal of St. Omers is carried up a hill by a series of sluices. To Aire, and Lilliers, and Bethune, towns well known in military story. 25 miles.

The 8th. The country changes, now a champaign; from Bethune to Arras an admirable gravel road. At the last town there is nothing but the great and rich abbey of Var, and this they would not shew me—it was not the right day—or some frivolous excuse. The cathedral is nothing. 17 miles.

The 9th. Market day; coming out of the town I met at least an hundred asses, some loaded with a bag, others a sack, but all apparently with a trifling burthen, and swarms of men and women. This is called a market, being plentifully supplied; but a great proportion of all the labour of a country is idle in the midst of harvest, to supply a town which in England would be fed by one-fortieth of the people: whenever this swarm of triflers buzz in a market, I take a minute and vicious division of the soil for granted. Here my only companion de voyage, the English mare that carries me, discloses by her eye a secret not the most agreeable, that she is going rapidly blind. She is moon-eyed; but our fool of a Bury farrier assured me I was safe for above a twelve-month. It must be confessed this is one of those agreeable situations which not many will believe a man would put himself into. Ma foy! this is a piece of my good luck; the journey at best is but a drudgery, that others are paid for performing on a good horse, and I myself pay for doing it on a blind one; I shall feel this inconvenience perhaps at the expence of my neck. 20 miles.

The 10th. To Amiens. Mr. Fox slept here last night, and it was amusing to hear the conversation at the table d'hote; they wondered that so great a man should not travel in a greater stile: I asked what was his stile? Monsieur and Madame were in an English post-chaise, and the fille and valet de chamber in a cabriolet, with a French courier to have horses ready. What would they have? but a stile both of comfort and amusement? A plague on a blind mare! But I have worked through life; and he talks.

The 11th. By Poix to Aumale; enter Normandy. 25 miles.

The 12th. Thence to Newchatel, by far the finest country since Calais. Pass many villas of Rouen merchants. 40 miles.

The 13th. They are right to have country villas—to get out of this great ugly, stinking, close, and ill built town, which is full of nothing but dirt and industry. What a picture of new buildings does a flourishing and manufacturing town in England exhibit! The choir of the cathedral is surrounded by a most magnificent railing of solid brass. They shew the monument of Rollo, the first duke of Normandy, and

of his son; of William Longsword; also those of Richard Cœur de Lion; his brother Henry; the duke of Bedford, regent of France; of their own king Henry V; of the cardinal d'Amboise, minister of Louis XII. The altar-piece is an adoration of the shepherds, by Philip of Champagne. Rouen is dearer than Paris, and therefore it is necessary for the pockets of the people that their bellies should be wholesomely pinched. At the table d'hôte, at the hotel pomme du pin we sat down, sixteen, to the following dinner: a soup, about 3lb. of bouilli, one fowl, one duck, a small fricasse of chicken, a rote of veal, of about 2lb. and two other small plates with sallad: the price 45s. and 20s. more for a pint of wine; at an ordinary of 20d. a head in England there would be a piece of meat which would, literally speaking, outweigh this whole dinner! The ducks were swept clean so quickly, that I moved from table without half a dinner. Such tables d'hotés are among the cheap things of France! Of all sombres and tristes meetings a French table d'hôte is foremost; for eight minutes a dead silence, and as to the politeness of addressing a conversation to a foreigner, he will look for it in vain: Not a single word has any where been said to me unless to answer some question: Rouen not singular in this. The parliament-house here is shut up, and its members exiled a month past to their country seats, because they would not register the edict for a new land-tax. I inquired much into the common sentiments of the people, and found that the king personally from having been here, is more popular than the parliament, to whom they attribute the general dearness of every thing. Called on Mons. d'Ambournay, the author of a treatise on using madder green instead of dried, and had the pleasure of a long conversation with him on various farming topics, interesting to my inquiries.

The 14th. To Barentin, through abundance of apple and pear-trees, and a country better than the husbandry; the Yveout richer, but miserable management. 21 miles.

The 15th. Country the same to Bolbeck; their inclosures remind me of Ireland, the fence is a high broad parapet bank, very well planted with hedges and oak and beech trees. All the way from Rouen there is a scattering of country seats, which I am glad to see; farm-houses and cottages every where, and the cotton manufacture in all. Continues the same to Harfleur. To Havre de Grace, the approach strongly marks a very flourishing place: the hills are almost covered with little new built villas; and many more are building; some are so close as to form almost streets, and considerable additions are also making to the town. 30 miles.

The 16th. Inquiries are not necessary to find out the prosperity of this town; it is nothing equivocal: fuller of motion, life, and activity, than any place I have been at in France. A house here, which in 1779 let without any fine on a lease of six years for 240 livres per annum, was lately let for three years at 600 livres, which twelve years past was to be had at 24 livres. The harbour's mouth is narrow and formed by a mole, but it enlarges into two oblong basins of greater breadth; these are full of ships, to the number of some hundreds, and the quays around are thronged with business, all hurry, bustle, and animation. They say a fifty gun ship can enter, but I suppose without her guns. What is better, they have merchant-men of five and six hundred tons: the state of the harbour has however given them much alarm and perplexity; if nothing had been done to improve it, the mouth would have been filled up with sand, an increasing evil; to remedy which, many engineers have been consulted. The want of a back water to wash it out is so great, that they are now, at the king's expence, forming a most noble and magnificent work, a vast basin, walled off from the ocean, or rather an inclosure of it by solid masonry, seven hundred yards long, five yards broad, and ten or twelve feet above the surface of the sea at high water; and for four hundred

yards more it consists of two exterior walls, each three yards broad, and filled up seven yards wide between them with earth; by means of this new and enormous basin, they will have an artificial back-water, capable, they calculate, of sweeping out the harbour's mouth clean from all obstructions. It is a work that does honour to the kingdom. The view of the Seine from this mole is striking; it is five miles broad, with high lands for its opposite shore; and the chalk cliffs and promontories, that recede to make way for rolling its vast tribute to the ocean, bold and noble.

Wait on Mons. l'Abbe Dicquemarre, the celebrated naturalist, where I had also the pleasure of meeting Mademoiselle le Masson le Glost, author of some agreeable performances; among others, *Entretien sur le Havre*, 1781, when the number of souls was estimated at 25,000. The next day Mons. le Reiscicourt, captain of the corps royale du Genie, to whom also I had letters, introduced me to Messrs. Hombergs, who are ranked among the most considerable merchants of France. I dined with them at one of their country houses, meeting a numerous company and splendid entertainment. These gentlemen have wives and daughters, cousins and friends, cheerful, pleasing, and well informed. I did not like the idea of quitting them so soon, for they seemed to have a society that would have made a longer residence agreeable enough. It is no bad prejudice surely to like people that like England; most of them have been there. *Nous avons assurancement en France de belles, d'agreeables et de bonnes choses, mais on trouve une telle energie dans votre nation.*

The 18th. By the passage packet, a decked vessel, to Honfleur, seven and a half miles, which we made with a strong north wind in an hour, the river being rougher than I thought a river could be. Honfleur is a small town, full of industry, and a basin full of ships, with some Guinea-men as large as at Havre. At Pont au de Mer, wait on Mons. Martin, director of the manufacture royale of leather. I saw eight or ten Englishmen that are employed here (there are forty in all) and conversed with one from Yorkshire, who told me he had been deceived in coming; for though they are well paid, yet they find things very dear, instead of very cheap, as they had been given to understand. 20 miles.

The 19th. To Pont l'Eveque, towards which town the country is richer, that is, has more pasturage; the whole has singular features, composed of orchard inclosures, with hedges so thick and excellent, though composed of willow, with but a sprinkling of thorns, that one can scarcely see through them: chateaus are scattered, and some good, yet the road is villainous. Pont l'Eveque is situated in the Pays d'Auge, celebrated for the great fertility of its pastures. To Lisieux, through the same rich district, fences admirably planted, and the country thick inclosed and wooded. At the hotel d'Angleterre, an excellent inn, new, clean, and well furnished; and I was well served and well fed. 26 miles.

The 20th. To Caen; the road passes on the brow of a hill, that commands the rich valley of Corbon, still in the Pays d'Auge, the most fertile of the whole, all is under fine Poictu bullocks, which would figure in the counties of Leicester or Northampton. 28 miles.

The 21st. The marquis de Guerchy, whom I had had the pleasure of seeing in Suffolk, being colonel of the regiment of Artois, quartered here, I waited on him; he introduced me to his lady, and remarked, that as it was the fair of Guibray, and himself going thither, I could not do better than accompany him, since it was the second fair in France. I readily agreed; in our way, we called at Bon, and dined with the marquis of Turgot, elder brother of the justly celebrated comptroller general: this gentleman is author of some memoirs on planting, published in the Trimestres of the Royal

Society of Paris; he shewed and explained to us all his plantations, but chiefly prides himself on the exotics; and I was sorry to find in proportion not to their promised utility, but merely to their rarity, I have not found this uncommon in France; and it is far from being so in England. I wished every moment for a long walk to change the conversation from trees to husbandry, and made many efforts, but all in vain. In the evening to the fair play-house; Richard Cœur de Lion; and I could not but remark an uncommon number of pretty women. Is there no antiquarian that deduces English beauty from the mixture of Norman blood? or who thinks with major Jardine, that nothing improves so much as crossing? to read his agreeable book of travels, one would think none wanted, and yet to look at his daughters, and hear their music, it would be impossible to doubt his system. Supped at the marquis d'Ecoügal's, at his chateau a la Frenaye. If these French marquisses cannot shew me good crops of corn and turnips, here is a noble one of something else; of beautiful and elegant daughters, the charming copies of an agreeable mother: the whole family I pronounced at the first sight amiable: they are cheerful, pleasing, interesting: I want to know them better, but it is the fate of a traveller to meet opportunities of pleasure, and merely see to quit them. After supper, while the company were at cards, the marquis conversed on topics interesting to my inquiries. 22 miles.

The 22d. At this fair of Guibray, merchandize is sold, they say, to the amount of six millions (262,500*l.*) but at that of Beaucare to ten: I found the quantity of English goods considerable, hard and queen's ware; cloths and cottons. A dozen of common plain plates, 3 livres, and 4 livres for a French imitation, but much worse; I asked the man (a Frenchman) if the treaty of commerce would not be very injurious with such a difference: *C'est precisement le contraire monsieur; quelque mauvaise que soit cette imitation, on n'a encore rien fait d'aussi bien en France: l'annee prochaine on fera mieux; nous perfectionnerons: et en fin nous l'emporterons sur vous.* I believe he is a very good politician, and that, without competition, it is not possible to perfect any fabric. A dozen with blue or green edges, English, 5 livres 5*s.* Return to Caen; dine with the marquis of Guerchy, lieutenant colonel, major, &c. of the regiment, and their wives present, a large and agreeable company. View the abbey of Benedictines, founded by William the Conqueror. It is a splendid building, substantial, massy, and magnificent, with very large apartments, and stone stair-cases worthy of a palace. Sup with Mons. du Mesni, captain of the corps de Genie, to whom I had letters; he had introduced me to the engineer employed on the new port, which will bring ships of three or four hundred tons to Caen, a noble work, and among those which do honour to France.

The 23d. Mons. de Guerchy and the abbe de —, accompanied me to view Harcourt, the seat of the duke d'Harcourt, governor of Normandy, and of the Dauphin; I had heard it called the finest English garden in France, but Ermenonville will not allow that claim, though not near its equal as a residence. Found at last a horse to try in order to prosecute my journey a little less like Don Quixotte, but it would by no means do; an uneasy stumbling beast, at a price that would have bought a good one; so my blind friend and I must jog on still further. 30 miles.

The 24th. To Bayeux; the cathedral has three towers, one of which is very light, elegant, and highly ornamented.

The 25th. In the road to Carentan, pass an arm of the sea at Issigny, which is fordable. At Carentan I found myself so ill, from accumulated colds I suppose, that I was seriously afraid of being laid up—not a bone without its aches; and a horrid dead leaden weight all over me. I went early to bed, washed down a dose of antimonial

powders, which proved sudorific enough to let me prosecute my journey. 23 miles.

The 26th. To Volognes; thence to Cherbourg, a thick woodland, much like Sussex. The marquis de Guerchy had desired me to call on Mons. Doumerc, a great improver at Pierbutte near Cherbourg, which I did; but he was then at Paris: however his bailiff, Mons. Baillio, with great civility shewed me the lands, and explained every thing. 30 miles.

The 27th. Cherbourg. I had letters to the duke de Beuvron, who commands here; to the count de Chavagnac, and M. de Meusnier, of the Academy of Sciences, and translator of Cook's Voyages; the count is in the country. So much had I heard of the famous works erecting to form a harbour here, that I was eager to view them without the loss of a moment: the duke favoured me with an order for that purpose; I therefore took a boat, and rowed across the artificial harbour formed by the celebrated cones. As it is possible that this itinerary may be read by persons that have not either time or inclination to seek other books for an account of these works, I will in a few words sketch the intention and execution. The French possess no port for ships of war from Dunkirk to Brest, and the former is capable of receiving frigates only. This deficiency has been fatal to them more than once in their wars with England, whose more favourable coast affords not only the Thames, but the noble harbour of Portsmouth. To remedy the want, they planned a mole across the open bay of Cherbourg; but to inclose a space sufficient to protect a fleet of the line, would demand so extended a wall, and so exposed to heavy seas, that the expence would be far too great to be thought of; and at the same time the success too dubious to be ventured. The idea of a regular mole was therefore given up, and a partial one on a new plan adopted; this was to erect in the sea, in a line where a mole is wanted, insulated columns of timber and masonry, of so vast a size, as to resist the violence of the ocean, and to break its waves sufficiently to permit a bank being formed between column and column. These have been called cones from their form. They are 140 feet diameter at the base; 60 diameter at the top, and 60 feet vertical height, being, when sunk in the sea, 30 to 34 feet, immersed at the low water of high tides. These enormous broad bottomed tubs being constructed of oak, with every attention to strength and solidity, when finished for launching, were loaded with stone just sufficient for sinking, and in that state each cone weighed 1000 tons (of 2000lb.) To float them, sixty empty casks, each of ten pipes, were attached around by cords, and in this state of buoyancy the enormous machine was floated to its destined spot, towed by numberless vessels, and before innumerable spectators. At a signal, the cords are cut in a moment, and the pile sinks: it is then filled instantly with stone from vessels ready attending, and capped with masonry. The contents of each filled to within four feet of the surface only, 2500 cubical toises of stone.\* A vast number of vessels are then employed to form a bank of stone from cone to cone, visible at low water in neap tides. Eighteen cones, by one account, but thirty-three by another, would complete the work, leaving only two entrances, commanded by two very fine new-built forts, Royale and d'Artois, thoroughly well provided, it is said (for they do not shew them) with an apparatus for heating cannon balls. The number of cones will depend on the distances at which they are placed. I found eight finished, and the skeleton frames of two more in the dock-yard; but all is stopped by the archbishop of Toulouze, in favour of the œconomical plans at present in speculation. Four of them, the last sunk, being most exposed, are now repairing,

\* The toise six feet.

having been found too weak to resist the fury of the storms, and the heavy westerly seas. The last cone is much the most damaged, and, in proportion as they advance, they will be still more and more exposed, which gives rise to the opinion of many skilful engineers, that the whole scheme will prove fruitless, unless such an expence is bestowed on the remaining cones as would be sufficient to exhaust the revenues of a kingdom. The eight already erected have for some years given a new appearance to Cherbourg; new houses, and even streets, and such a face of activity and animation, that the stop to the works was received with blank countenances. They say, that, quarry-men included, three thousand were employed. The effect of the eight cones already erected, and the bank of stone formed between them, has been to give perfect security to a considerable portion of the intended harbour. Two forty gun ships have lain at anchor within them these eighteen months past, by way of experiment, and though such storms have happened in that time as have put all to severe trials, and, as I mentioned before, considerably damaged three of the cones, yet these ships have not received the smallest agitation; hence it is a harbour for a small fleet without doing more. Should they ever proceed with the rest of the cones, they must be built much stronger, perhaps larger, and far greater precaution taken in giving them firmness and solidity: it is also a question, whether they must not be sunk much nearer to each other; at all events, the proportionable expence will be nearly doubled; but for wars with England, the importance of having a secure harbour, so critically situated, they consider as equal almost to any expence; at least this importance has its full weight in the eyes of the people of Cherbourg. I remarked, in rowing across the harbour, that while the sea without the artificial bar was so rough, that it would have been unpleasant for a boat, within it was quite smooth. I mounted two of the cones, one of which has this inscription: Louis XVI. Sur ce premiere cone echou le 6 Juin 1784, a vu l'immersion de celui de l'est, le 23 Juin 1786. On the whole, the undertaking is a prodigious one, and does no trifling credit to the spirit of enterprize of the present age in France. The service of the marine is a favourite; whether justly or not, is another question; and this harbour shews, that when this great people undertake any capital works, that are really favourites, they find inventive genius to plan, and engineers of capital talents to execute whatever is devised, in a manner that does honour to their kingdom. The duke de Beuvron had asked me to dinner, but I found that if I accepted his invitation, it would then take me the next day to view the glass manufacture; I preferred therefore business to pleasure, and taking with me a letter from that nobleman to secure a sight of it, I rode thither in the afternoon; it is about three miles from Cherbourg. Mons. de Puye, the director, explained every thing to me in the most obliging manner. Cherbourg is not a place for a residence longer than necessary; I was here fleeced more infamously than at any other town in France; the two best inns were full; I was obliged to go to the barque, a vile hole, little better than a hog-sty; where, for a miserable dirty wretched chamber, two suppers composed chiefly of a plate of apples and some butter and cheese, with some trifle besides too bad to eat, and one miserable dinner, they brought me in a bill of 31 livres (11. 7s. 1d.) they not only charged the room 3 livres a night, but even the very stable for my horse, after enormous items for oats, hay, and straw. This is a species of profligacy which debases the national character. Calling, as I returned, on Mons. Baillo, I shewed him the bill, at which he exclaimed for imposition, and said the man and woman were going to leave off their trade; and no wonder, if they had made a practice of fleecing others in that manner. Let no one go to Cherbourg without making a bargain for every thing he has, even to the straw and stable; pepper, salt, and table-cloth. 10 miles.

The 28th, return to Carentan; and the 29th, pass through a rich and thickly inclosed country to Coutances, capital of the district called the Cotentin. They build in this country the best mud houses and barns I ever saw, excellent habitations, even of three stories, and all of mud, with considerable barns and other offices. The earth (the best for the purpose is a rich brown loam) is well kneaded with straw; and being spread about four inches thick on the ground, is cut in squares of nine inches, and these are taken with a shovel, and tossed to the man on the wall who builds it; and the wall built, as in Ireland, in layers, each three feet high, that it may dry before they advance. The thickness about two feet. They make them project about an inch, which they cut off layer by layer perfectly smooth. If they had the English way of white-washing, they would look as well as our lath and plaister, and are much more durable. In good houses, the doors and windows are in stone work. 20 miles.

The 30th. A fine sea view of the Isles of Chausee, at five leagues distant; and afterwards Jersey, clear at about forty miles, with that of the town of Grandval on a high peninsula: entering the town, every idea of beauty is lost; a close, nasty, ugly, ill-built hole; market day, and myriads of triflers, common at a French market. The bay of Cancele, all along to the right, and St. Michael's rock rising out of the sea, conically, with a castle on the top, a most singular and picturesque object. 30 miles.

The 31st. At Pont Orsin, enter Bretagne; there seems here a more minute division of farms than before. There is a long street in the episcopal town of Doll, without a glass window; a horrid appearance. My entry into Bretagne gives me an idea of its being a miserable province. 22 miles.

September 1st. To Combourg, the country has a savage aspect; husbandry not much further advanced, at least in skill, than among the Hurons, which appears incredible amidst inclosures; the people almost as wild as their country, and their town of Combourg one of the most brutal filthy places that can be seen; mud houses, no windows, and a pavement so broken, as to impede all passengers, but ease none—yet here is a chateau, and inhabited; who is this Monsieur de Chateaubriant, the owner, that has nerves strung for a residence amidst such filth and poverty? Below this hideous heap of wretchedness is a fine lake, surrounded by well wooded inclosures. Coming out of Hede there is a beautiful lake, belonging to Monsieur de Blassac, intendant of Poitiers, with a fine accompaniment of wood. A very little cleaning would make here a delicious scenery. There is a chateau, with four rows of trees, and nothing else to be seen from the windows in the true French style. Forbid it, taste, that this should be the house of the owner of that beautiful water; and yet this Monsieur de Blassac has made at Poitiers the finest promenade in France! But the taste which draws a strait line, and that which traces a waving one, are founded on feelings and ideas as separate and distinct as painting and music; as poetry or sculpture. The lake abounds with fish, pike to 36lb. carp to 24lb. perch 4lb. and tench 5lb. To Rennes the same strange wild mixture of desert and cultivation, half savage, half human. 31 miles.

The 2d. Rennes is well built, and has two good squares; that particularly of Louis XV, where is his statue. The parliament being in exile, the house is not to be seen. The Benedictines' garden, called the Tabour, is worth viewing. But the object at Rennes most remarkable at present is a camp, with a marshal of France (de Stainville) and four regiments of infantry, and two of dragoons, close to the gates. The discontents of the people have been doubled, first on account of the high price of bread, and secondly for the banishment of the parliament. The former cause is natural enough;

but why the people should love their parliament was, what I could not understand, since the members, as well as of the states, are all noble, and the distinction between the noblesse and roturiers no where stronger, more offensive, or more abominable than in Bretagne. They assured me, however, that the populace have been blown up to violence by every art of deception, and even by money distributed for that purpose. The commotions rose to such a height before the camp was established, that the troops here were utterly unable to keep the peace. Monsieur Argentaize, to whom I had brought letters, had the goodness, during the four days I was here, to shew and explain every thing to be seen. I find Rennes very cheap; and it appears the more so to me just come from Normandy, where every thing is extravagantly dear. The table d'hôte, at the grand maison, is well served; they give two courses, containing plenty of good things, and a very ample regular desert; the supper one good course, with a large joint of mutton, and another good desert; each meal, with the common wine, 40 sous, and for 20 more you have very good wine, instead of the ordinary sort; 30 sous for the horse: thus, with good wine, it is no more than six livres, 10 sous a day, or 5s. 10d. Yet a camp of which they complain has raised prices enormously.

The 5th. To Montauban. The poor people seem poor indeed; the children terribly ragged, if possible worse clad than if with no clothes at all; as to shoes and stockings they are luxuries. A beautiful girl of six or seven years, playing with a stick, and smiling under such a bundle of rags as made my heart ache to see her; they did not beg, and when I gave them any thing, seemed more surprized than obliged. One third of what I have seen of this province seems uncultivated, and nearly all of it in misery. What have kings, and ministers, and parliaments, and states to answer for, seeing millions of hands that would be industrious, yet idle and starving; through the execrable maxims of despotism, or the equally detestable prejudices of a feudal nobility? Sleep at the lion d'or, at Montauban, an abominable hole. 20 miles.

The 6th. The same enclosed country to Brooms; but near that town improves to the eye, from being more hilly. At the little town of Lamballe, there are above fifty families of noblesse that live here in winter, who reside on their estates in the summer. There is probably as much foppery and nonsense in their circles, and for what I know as much happiness, as in those of Paris. Both would be better employed in cultivating their lands, and rendering the poor industrious. 30 miles.

The 7th. Upon leaving Lamballe, the country immediately changes. The marquis d'Urvoy, whom I met at Rennes, and who has a good estate at St. Brieux, gave me a letter for his agent, who answered my questions. 12 and a half miles.

The 8th. To Guingamp, a sombre enclosed country. Pass Chateaulandrin, and enter Bas Bretagne. One recognizes at once another people, meeting numbers who have not more French than *Je ne sai pas ce que vous dites*, or *Je n'entend rien*. Enter Guingamp by gateways, towers, and battlements, apparently of the oldest military architecture; every part denoting antiquity, and in the best preservation. The poor people's habitations are not so good; they are miserable heaps of dirt; no glass, and scarcely any light; but they have earth chimnies. I was in my first sleep at Belleisle, when the aubergiste came to my bedside, undrew a curtain, that I expected to cover me with spiders, to tell me that I had une jument Angloise superbe, and that a seigneur wished to buy it of me: I gave him half a dozen flowers of French eloquence for his impertinence, when he thought proper to leave me and his spiders at peace. There was a great chasse assembled. These Bas Bretagne seigneurs are capital hunters, it



seems, who fix on a blind mare for an object of admiration. Apropos to the breeds of horses in France; this mare cost me twenty-three guineas when horses were dear in England, and had been sold for sixteen when they were rather cheaper; her figure may therefore be guessed; yet she was much admired, and often in this journey; and as to Bretagne, she rarely met a rival. That province, and it is the same in parts of Normandy, is infested in every stable with a pack of garran pony stallions, sufficient to perpetuate the miserable breed that is every where seen. This villainous hole, that calls itself the grand maison, is the best inn at a post town on the great road to Brest, at which marshals of France, dukcs, peers, countesses, and so forth, must now and then, by the accidents to which long journeys are subject, have found themselves. What are we to think of a country that has made, in the eighteenth century, no better provision for its travellers! 30 miles.

The 9th. Morlaix is the most singular port I have seen. It has but one feature, a vale just wide enough for a fine canal with two quays, and two rows of houses; behind them the mountain rises steep, and woody on one side; on the other gardens, rocks, and wood; the effect romantic and beautiful. Trade now very dull, but flourished much in the war. 20 miles.

The 10th. Fair day at Landervisier, which gave me an opportunity of seeing numbers of Bas Bretons collected, as well as their cattle. The men dress in great trowser like breeches, many with naked legs, and most with wooden shoes, strong marked features like the Welch, with countenances a mixture of half energy, half laziness; their persons stout, broad, and square. The women furrowed without age by labour, to the utter extinction of all softness of sex. The eye discovers them at first glance to be a people absolutely distinct from the French. Wonderful that they should be found so, with distinct language, manners, dress, &c. after having been settled here 1300 years. 35 miles.

The 11th. I had respectable letters, and to respectable people at Brest, in order to see the dock-yard, but they were vain; Monsieur le Chevalier de Tredairne particularly applied for me earnestly to the commandant, but the order, contrary to its being shewn either to Frenchmen or foreigners, was too strict to be relaxed without an express direction from the minister of the marine, given very rarely, and to which, when it does come, they pay but an unwilling obedience. Monsieur Tredairne, however, informed me, that lord Pembroke saw it not long since by means of such an order: and he remarked himself, knowing that I cannot fail doing the same, that it was strange to shew the port to an English general and governor of Portsmouth, yet deny it to a farmer. He however assured me, that the duke of Chartres went away but the other day without being permitted to see it. Gretry's music at the theatre, which, though not large, is neat and elegant, was not calculated to put me in good humour; it was Panurge. Brest is a well built town, with many regular and handsome streets, and the quay where many men of war are laid up, and other shipping, has much of the life and motion which animates a sea port.

The 12th. Return to Landernau, where at the duc de Chartres, which is the best and cleanest inn in the bishoprick, as I was going to dinner, the landlord told me, there was a monsieur un homme comme il faut, and the dinner would be better if we united; de tout mon cœur. He proved a Bas Breton noble, with his sword and a little miserable but nimble nag. This seigneur was ignorant that the duke de Chartres, the other day at Brest, was not the duke that was in Monsieur d'Orvillier's fleet. Take the road to Nantes. 25 miles.

The 13th. The country to Chateaulin more mountainous; one-third waste. All this region far inferior to Leon and Tragner: no exertions, nor any marks of intelligence, yet all near to the great navigation and market of Brest water, and the soil good. Quimper, though a bishopric, has nothing worth seeing but its promenades, which are among the finest in France. 25 miles.

The 14th. Leaving Quimper, there seem to be more cultivated features; but this only for a moment; wastes, wastes, wastes. Reach Quimperlay. 27 miles.

The 15th. The same sombre country to l'Orient, but with a mixture of cultivation and much wood. I found l'Orient so full of fools, gaping to see a man of war launched, that I could get no bed for myself, nor stable for my horse at the epee royale. At the cheval blanc, a poor hole, I got my horse crammed among twenty others like herrings in a barrel, but could have no bed. The duke de Brissac, with a suite of officers, had no better success. If the governor of Paris could not, without trouble, get a bed at l'Orient, no wonder Arthur Young found obstacles. I went directly to deliver my letters, found Mons. Besne, a merchant, at home; he received me with a frank civility better than a million of compliments; and the moment he understood my situation, offered me a bed in his house, which I accepted. The Tourville, of eighty-four guns, was to be launched at three o'clock, but put off till the next day, much to the joy of the aubergistes, &c. who were well pleased to see such a swarm of strangers kept another day. I wished the ship in their throats, for I thought only of my poor mare being squeezed a night among the Bretagne garrans; sixpence, however, to the gareon, had effects marvellously to her ease. The town is modern, and regularly built; the streets diverge in rays from the gate, and are crossed by others at right angles, broad, handsomely built, and well paved; with many houses that make a good figure. But what makes l'Orient more known, is, being the appropriated port for the commerce of India, containing all the shipping and magazines of the company. The latter are truly great, and speak the royal munificence from which they arose. They are of several stories, and all vaulted in stone, in a splendid stile, and of vast extent. But they want, at least at present, like so many other magnificent establishments in France the vigour and vivacity of an active commerce. The business transacting here seems trifling. Three eighty-four gun ships, the Tourville, l'Eole, and Jean Bart, with a thirty-two gun frigate, are upon the stocks. They assured me, that the Tourville has been only nine months building: the scene is alive, and fifteen large men of war being laid up here in ordinary, with some Indiamen and a few traders, render the port a pleasing spectacle. There is a beautiful round tower, a hundred feet high, of white stone, with a railed gallery at top; the proportions light and agreeable; it is for looking out and making signals. My hospitable merchant I find a plain unaffected character, with some whimsical originalities, that make him more interesting; he has an agreeable daughter, who entertains me with singing to her harp. The next morning the Tourville quitted her stocks, to the music of the regiments, and the shouts of thousands collected to see it. Leave l'Orient. Arrive at Hennebon. 7 miles.

The 17th. To Auray, the eighteen poorest miles I have yet seen in Bretagne. Good houses of stone and slate, without glass. Auray has a little port, and some sloops, which always give an air of life to a town. To Vannes, the country varied, but landes the more permanent feature. Vannes is not an inconsiderable town, but its greatest beauty is its port and promenade.

The 18th. To Musiliae. Belleisle with the smaller ones, d'Herdie and d'Honat, are in sight. Musiliac, if it can boast of nothing else, may at least vaunt its cheapness.

I had for dinner two good flat fish, a dish of oysters, soup, a fine duck roasted; with an ample desert of grapes, pears, walnuts, biscuits, liquor, and a pint of good Bourdeaux wine: my mare, besides hay, had three-fourths of a peck of corn, and the whole 56s. 2s. to the fille and two to the garcon, in all 2s. 6d. Pass landes; landes; landes; to la Roche Bernard. The view of the river Villaine is beautiful from the boldness of the shores; there are no insipid flats; the river is two thirds of the width of the river Thames at Westminster, and would be equal to any thing in the world if the shores were woody, but they are the savage wastes of this country. 33 miles.

The 19th. Turned aside to Auvergnac, the seat of the count de la Bourdonaye, to whom I had a letter from the duchess d'Anville, as a person able to give me every species of intelligence relative to Bretagne, having for five and twenty years been first syndic of the noblesse. A fortuitous jumble of rocks and steeps could scarcely form a worse road than these five miles: could I put as much faith in two bits of wood laid over each other, as the good folks of the country do, I should have crossed myself, but my blind friend, with the most incredible sure-footedness, carried me safe over such places, that if I had not been in the constant habit of the saddle, I should have shuddered at, though guided by eyes keen as Eclipse's; for I suppose a finer racer, on whose velocity so many fools have been ready to lose their money, must have good eyes, as well as good legs. Such a road, leading to several villages, and one of the first noblemen of the province, shews what the state of society must be; no communication; no neighbourhood; no temptation to the expences which flow from society; a mere seclusion to save money in order to spend it in towns. The count received me with great politeness; I explained to him my plan and motives for travelling in France, which he was pleased very warmly to approve, expressing his surprise that I should attempt so large an undertaking as such a survey of France, unsupported by my government; I told him he knew very little of our government, if he supposed they would give a shilling to any agricultural project or projector; that whether the ministers were whig or tory made no difference, the party of the plough never yet had one on its side; and that England has had many Colberts, but not one Sully. This led to much interesting conversation on the balance of agriculture, manufactures, and commerce, and on the means of encouraging them; and, in reply to his inquiries, I made him understand their relations in England, and how our husbandry flourished in spite of our ministers, merely by the protection which civil liberty gives to property: and consequently that it was in a poor situation, comparatively with what it would have been in, had it received the same attention as manufactures and commerce. I told M. de la Bourdonaye that his province of Bretagne seemed to me to have nothing in it but privileges and poverty; he smiled, and gave me some explanations that are important; but no nobleman can ever probe this evil as it ought to be done, resulting as it does from the privileges going to themselves, and the poverty to the people. He shewed me his plantations, which are very fine and well thriven, and shelter him thoroughly on every side, even from the S. W. so near to the sea; from his walks we see Belleisle and its neighbours, and a little isle or rock belonging to him, which he says the king of England took from him after Sir Edward Hawke's victory, but that his majesty was kind enough to leave him his island after one night's possession. 20 miles.

The 20th. Take my leave of monsieur and madame de la Bourdonaye, to whose politeness as well as friendly attentions I am much obliged. Towards Nazaire there is a fine view of the mouth of the Loire, from the rising grounds, but the headlands

that form the embouchere are low, which takes off from that greatness of the effect which highlands give to the mouth of the Shannon. The swelling bosom of the Atlantic boundless to the right. Savanal is poverty itself. 33 miles.

The 21st. Come to an improvement in the midst of these deserts, four good houses of stone and slate, and a few acres run to wretched grass, which have been tilled, but all savage, and become almost as rough as the rest. I was afterwards informed that this improvement, as it is called, was wrought by Englishmen, at the expence of a gentleman they ruined as well as themselves. I demanded how it had been done? Pare and burn, and sow wheat, then rye, and then oats. Thus it is for ever and ever! the same follies, the same blundering, the same ignorance; and then all the fools in the country said, as they do now, that these wastes are good for nothing. To my amazement find the incredible circumstance, that they reach within three miles of the great commercial city of Nantes! This is a problem and a lesson to work at, but not at present. Arrive; go to the theatre, new built of fine white stone, having a magnificent portico of eight elegant Corinthian pillars in front, and four others, to separate the portico from a grand vestibule. Within all is gold and painting, and a coup d'œil on entering, that struck me forcibly. It is, I believe, twice as large as Drury Lane, and five times as magnificent. It was Sunday, and therefore full. Mon Dieu! cried I to myself, do all the wastes, the deserts, the heath, ling, furze, broom, and bog, that I have passed for three hundred miles, lead to this spectacle? What a miracle! that all this splendour and wealth of the cities of France should be so unconnected with the country! There are no gentle transitions from ease to comfort, from comfort to wealth: you pass at once from beggary to profusion; from misery in mud cabins to Mademoiselle Huberti in splendid spectacles at 500 livres a night (21l. 17s. 6d.) The country deserted, or if a gentleman in it, you find him in some wretched hole, to save that money which is lavished with profusion in debauchery and the luxuries of a capital. 20 miles.

The 22d. Deliver my letters. As much as agriculture is the chief object of my journey, it is necessary to acquire such intelligence of the state of commerce, as can be best done from merchants, for abundance of useful information is to be gained, without putting any questions that a man would be cautious of answering, and even without putting any questions at all. Mons. Riedy was very polite, and satisfied many of my inquiries; I dined once with him, and was pleased to find the conversation take an important turn on the relative situations of France and England in trade, particularly in the West Indies. I had a letter also to Mons. Epivent, consilier in the parliament of Rennes, whose brother, Mons. Epivent de la Villesboisnet, is a very considerable merchant here. It was not possible for any person to be more obliging than these two gentlemen; their attentions to me were marked and friendly, and rendered a few days residence here equally instructive and agreeable. The town has that sign of prosperity of new buildings, which never deceives. The quarter of the comedie is magnificent, all the streets at right angles and of white stone. I am in doubt whether the hotel de Henri IV, is not the finest inn in Europe: Dessein's at Calais is larger, but neither built, fitted up, nor furnished like this, which is new. It cost 400,000 livres, (17,500l.) furnished, and is let at 14,000 livres per annum, (612l. 10s.) with no rent for the first year. It contains sixty beds for masters, and twenty-five stalls for horses. Some of the apartments of two rooms, very neat, are six livres a day; one good three livres, but for merchants five livres per diem for dinner, supper, wine, and chamber, and 35s. for his horse. It is, without comparison, the first inn I have seen in France, and very cheap. It is in a small square close to the theatre, as convenient for

pleasure or trade as the votaries of either can wish. The theatre cost 450,000 livres, and lets to the comedians at 17,000 livres a year; it holds, when full, to the value of 120 louis d'ors. The land the inn stands on was bought at 9 livres a foot: in some parts of the city it sells as high as 15 livres. The value of the ground induces them to build so high as to be destructive of beauty. The quay has nothing remarkable; the river is choaked with islands, but at the furthest part next to the sea is a large range of houses regularly fronted. An institution common in the great commercial towns of France, but particularly flourishing in Nantes, is a chambre de lecture, or what we should call a book-club, that does not divide its books, but forms a library. There are three rooms, one for reading, another for conversation, and the third is the library; good fires in winter are provided, and wax candles. Messrs. Epivent had the goodness to attend me on a water expedition, to view the establishment of Mr. Wilkinson, for boring cannon, in an island in the Loire below Nantes. Until that well known English manufacturer arrived, the French knew nothing of the art of casting cannon solid, and then boring them. Mr. Wilkinson's machinery, for boring four cannons, is now at work: moved by tide wheels; but they have erected a steam engine, with a new apparatus for boring seven more; M. de la Motte, who has the direction of the whole, shewed us also a model of this engine, about six feet long, five high, and four or five broad; which he worked for us, by making a small fire under the boiler that is no bigger than a large tea-kettle; one of the best machines for a travelling philosopher that I have seen. Nantes is as enflammec in the cause of liberty, as any town in France can be; the conversations I witnessed here prove how great a change is effected in the minds of the French, nor do I believe it will be possible for the present government to last half a century longer, unless the clearest and most decided talents be at the helm. The American revolution has laid the foundation of another in France, if government do not take care of itself.\* Upon the 23d one of the twelve prisoners from the Bastile arrived here; he was the most violent of them all; and his imprisonment has been far enough from silencing him.

The 25th. It was not without regret that I quitted a society both intelligent and agreeable, nor should I feel comfortably if I did not hope to see Messrs. Epivents again; I have little chance of being at Nantes, but if they come a second time to England, I have a promise of seeing them at Bradfield. The younger of these gentlemen spent a fortnight with lord Shelburne at Bowood, which he remembers with much pleasure; Col. Barre and Dr. Priestley were there at the same time. To Ancenis is all inclosed: for seven miles many scats. 22 and a half miles.

The 26th. To the scene of the vintage I had not before been witness to so much advantage as here; last autumn the heavy rains made it a melancholy business. At present all is life and activity. The country all thickly and well inclosed. Glorious view of the Loire from a village, the last of Bretagne, where is a great barrier across the road and custom houses, to search every thing coming thence. The Loire here takes the appearance of a lake large enough to be interesting. There is on both sides an accompaniment of wood, which is not universal on this river. The addition of towns, steeples, windmills, and a great range of lovely country, covered with vines; the character gay as well as noble. Enter Anjou. Pass St. George. For ten miles quit the Loire and meet it again at Angers. Letters from Mons. de Broussonet; but he is unable to inform me in what part of Anjou was the residence of the marquis de Tourbilly; to

\* It wanted no great spirit of prophecy to foretel this; but the latter events have shewn that I was very wide of the mark when I talked of fifty years.

find out that nobleman's farm, where he made those admirable improvements, which he describes in the *Memoir sur les defrichemens*, was such an object to me, I was determined to go to the place, let the distance out of my way be what it might. 30 miles.

The 27th. Among my letters, one to Mons. de la Livoniere, perpetual secretary of the Society of Agriculture here. I found he was at his country seat, two leagues off at Magnianne. On my arrival, he was sitting down to dinner with his family; not being past twelve, I thought to have escaped this awkwardness; but both he himself and Madame prevented all embarrassment by very unaffectedly desiring me to partake with them; and making not the least derangement either in table or looks, placed me at once at my ease, to an indifferent dinner, garnished with so much cheerfulness, that I found it a repast more to my taste than the most splendid tables could afford. An English family in the country, similar in situation, taken unawares in the same way, would receive you with an unquiet hospitality, and an anxious politeness; and after waiting for a hurry-scurry derangement of cloth, table, plates, sideboard, pot, and spit, would give you perhaps so good a dinner, that none of the family, between anxiety and fatigue, could supply one word of conversation, and you would depart under cordial wishes that you might never return. This folly, so common in England, is never met with in France: the French are quiet in their houses, and do things without effort. Monsieur Livoniere conversed with me much on the plan of my travels, which he commended greatly, but thought it very extraordinary that neither government, nor the Academy of Sciences, nor the Academy of Agriculture, should at least be at the expence of my journey. This idea is purely French; they have no notion of private people going out of their way for the public good, without being paid by the public; nor could he well comprehend me, when I told him that every thing is well done in England, except what is done with public money. I was greatly concerned to find that he could give no intelligence concerning the residence of the late marquis de Tourbilly, as it would be a provoking circumstance to pass through all the province without finding his house, and afterward hear perhaps that I had been ignorantly within a few miles of it. In the evening return to Angers. 20 miles.

The 28th. To La Fleche. The chateau of Duretal, belonging to the duchess d'Estissac, is boldly situated above the little town of that name, and on the banks of a beautiful river, the slopes to which, that hang to the south are covered with vines. The country cheerful, dry, and pleasant for residence. I inquired here of several gentlemen for the residence of the marquis de Tourbilly, but all in vain. The 30 miles to La Fleche the road is a noble one, of gravel, smooth, and kept in admirable order. La Fleche is a neat, clean, little town, not ill built, on the navigable river that flows to Duretal; but the trade is inconsiderable. My first business here, as every where else in Anjou, was to inquire for the residence of the marquis de Tourbilly. I repeated my inquiries till I found that there was a place not far from La Fleche, called Tourbilly; but not what I wanted, as there was no Mons. de Tourbilly there, but a marquis de Galway, who inherited Tourbilly from his father. This perplexed me more and more; and I renewed my inquiries with so much eagerness, that several people, I believe, thought me half mad. At last I met with an ancient lady who solved my difficulty; she informed me, that Tourbilly, about twelve miles from La Fleche, was the place I was in search of: that it belonged to the marquis of that name, who had written some books she believed; that he died twenty years ago insolvent; that the father of the present marquis de Galway bought the estate. This was sufficient for my purpose; I determined to take a guide the next morning, and as I could not visit the marquis, at least

see the remains of his improvements. The news, however, that he died insolvent, hurt me very much; it was a bad commentary on his book, and I foresaw, that whoever I should find at Tourbilly, would be full of ridicule on a husbandry that proved the loss of the estate on which it was practised. 30 miles.

The 29th. This morning I executed my project; my guide was a countryman with a good pair of legs, who conducted me across a range of such ling wastes as the marquis speaks of in his memoir. They appear boundless here; and I was told that I could travel many, many days, and see nothing else: what fields of improvement to make, not to lose estates! At last we arrived at Tourbilly, a poor village, of a few scattered houses, in a vale between two rising grounds, which are yet heath and waste: the chateau in the midst, with plantations of fine poplars leading to it. I cannot easily express the anxious inquisitive curiosity I felt to examine every scrap of the estate; no hedge or tree, no bush but what was interesting to me: I had read the translation of the marquis's history of his improvements in Mr. Mill's husbandry, and thought it the most interesting morsel I had met with, long before I procured the original *Memoire sur les defrichemens*; and determined, that if ever I should go to France, to view improvements the recital of which had given me so much pleasure. I had neither letter nor introduction to the present owner, the marquis de Galway. I therefore stated to him the plain fact, that I had read Mons. de Tourbilly's book with so much pleasure, that I wished much to view the improvements described in it; he answered me directly in good English, received me with such cordiality of politeness, and such expressions of regard for the purport of my travels, that he put me perfectly in humour with myself, and consequently with all around me. He ordered breakfast a l'Anglois; gave orders for a man to attend us in our walk, who I desired might be the oldest labourer to be found of the late marquis de Tourbilly's. I was pleased to hear that one was alive who had worked with him from the beginning of his improvement. At breakfast Mons. de Galway introduced me to his brother, who also spoke English, and regretted that he could not do the same to madame de Galway, who was confined to her chamber: he then gave me an account of his father's acquiring the estate and chateau of Tourbilly. His great-grand-father came to Bretagne with king James II, when he fled from the English throne; some of the same family are still living in the county of Cork, particularly at Lotta. His father was famous in that province for his skill in agriculture: and, as a reward for an improvement he had wrought on the lands, the states of the province gave him a waste tract in the island of Belleisle, which at present belongs to his son. Hearing that the marquis de Tourbilly was totally ruined, and his estates in Anjou to be sold by the creditors, he viewed them, and finding the land very improveable, made the purchase, giving about 15,000 louis d'ors for Tourbilly, a price which made the acquisition highly advantageous, notwithstanding his having bought some lawsuits with the estate. It is about three thousand arpents, nearly contiguous, the siegneury of two parishes, with the haute justice, &c. a handsome, large, and convenient chateau, offices very complete, and many plantations, the work of the celebrated man concerning whom my inquiries were directed. I was almost breathless on the question of so great an improver being ruined! "You are unhappy that a man should be ruined by an art you love so much." Precisely so. But he eased me in a moment, by adding, that if the marquis had done nothing but farm and improve, he had never been ruined. One day, as he was boring to find marl, his ill stars discovered a vein of earth, perfectly white, which on trial did not effervesce with acids. It struck him as an acquisition for porcelain; he shewed it to a manufacturer; it was pronounced excellent: the marquis's imagination took fire, and he thought of converting the poor village of Tourbilly into a town, by a fabric of

china; he went to work on his own account; raised buildings; and got together all that was necessary, except skill and capital. In fine, he made good porcelain, was cheated by his agents, and people, and at last ruined. A soap manufactory, which he established also, as well as some law-suits relative to other estates, had their share in causing his misfortunes: his creditors seized the estate, but permitted him to administer it till his death, when it was sold. The only part of the tale that lessened my regret was, that, though married, he left no family; so that his ashes will sleep in peace, without his memory being reviled by an indigent posterity. His ancestors acquired the estate by marriage in the fourteenth century. His agricultural improvements, Mons. Galway observed, certainly did not hurt him; they were not well done, nor well supported by himself, but they rendered the estate more valuable; and he never heard that they had brought him into any difficulties. I cannot but observe here, that there seems a fatality to attend country gentlemen whenever they attempt trade or manufactures. In England I never knew a man of landed property, with the education and habits of landed proprietors, attempt either, but they were infallibly ruined; or, if not ruined, considerably hurt by them. Whether it be that the ideas and principles of trade have something in them repugnant to the sentiments which ought to flow from education; or whether the habitual inattention of country gentlemen to small gains and savings, which are the soul of trade, render their success impossible; from whatever it may arise, the fact is, not one in a million succeeds. Agriculture, in the improvement of their estates, is the only proper and legitimate sphere of their industry; and though ignorance renders this sometimes dangerous, yet they can with safety attempt no other. The old labourer, whose name is Piron (as propitious I hope to farming as to wit) being arrived, we sallied forth to tread what was to me a sort of classic ground. I shall dwell but little on the particulars: they make a much better figure in the *Memoire sur les defrichemens* than at Tourbilly; the meadows, even near the chateau, are yet very rough; the general features are rough: but the alleys of poplars, of which he speaks in the memoirs, are nobly grown indeed, and do credit to his memory; they are sixty or seventy feet high, and in girth a foot: the willows are equal. Why were they not oak? to have transmitted to the farming travellers of another century the pleasure I feel in viewing the more perishable poplars of the present time; the causeways near the castle must have been arduous works. The mulberries are in a state of neglect; Mons. Galway's father not being fond of that culture, destroyed many, but some hundreds remain, and I was told that the poor people had made as far as twenty-five pound of silk, but none attempted at present. The meadows had been drained and improved near the chateau to the amount of fifty or sixty arpents, they are now rushy, but yet valuable in such a country. Near them is a wood of Bourdeaux pines, sown thirty-five years ago, and now worth five or six livres each. I walked into the boggy bit that produced the great cabbages he mentioned, it joins a large and most improveable bottom. Piron informed me that the marquis pared and burnt about one hundred arpents in all, and folded two hundred and fifty sheep. On our return to the chateau, Monsieur de Galway, finding what an enthusiast I was in agriculture, searched among his papers to find a manuscript of the marquis de Tourbilly's written with his own hand, which he had the goodness to make me a present of, and which I shall keep amongst my curiosities in agriculture. The polite reception I had met from Mons. Galway, and the friendly attention he had given to my views, entering into the spirit of my pursuit, and wishing to promote it, would have induced me very cheerfully to have accepted his invitation of remaining some days with him; had I not been apprehensive that the moment of madame Galway's being in bed would render such an unlooked-for visit inconvenient. I took



my leave therefore in the evening, and returned to La Fleche by a different road. 25 miles.

The 30th. A quantity of moors to Le Mans; they assured me at Guercès, that they are here sixty leagues in circumference, with no great interruptions. At Le Mans I was unlucky in Mons. Tournai, secretary to the Society of Agriculture, being absent. 28 miles.

October 1. Towards Alençon, the country a contrast to what I passed yesterday; good land, well inclosed, well built, and tolerably cultivated, with marling. A noble road of dark coloured stone, apparently ferruginous, that binds well. Near Beaumont vineyards in sight on the hills, and these are the last in thus travelling northwards; the whole country finely watered by rivers and streams, yet no irrigation. 30 miles.

The 2d. Four miles to Nouant, of rich herbage under bullocks. 28 miles.

The 3d. From Gacé towards Bernay. Pass the *marechal duc de Broglio's* chateau at Broglio, which is surrounded by such a multiplicity of clipt hedges, double treble, and quadruple, that he must half maintain the poor of the little town by clipping. 25 miles.

The 4th. Leave Bernay; where, and at other places in this country, are many mud walls; made of rich red loam, thatched at top, and well planted with fruit trees: a hint well worth copying in England, where brick and stone are dear. Come to one of the richest countries in France, or indeed in Europe. There are few finer views than the first of Elbeuf, from the eminence above it, which is high; the town at your feet in the bottom; on one side of the Seine presents a noble reach, broken by wooded islands, and an immense amphitheatre of hill, covered with a prodigious wood, surrounding the whole.

The 5th. To Rouen, where I found the *hotel royal*, a contrast to that dirty, impertinent, cheating hole, the *pomme de pin*. In the evening to the theatre, which is not so large I think as that of Nantes, but not comparable in elegance or decoration; it is sombre and dirty. Gretry's *Caravanne de Caire*, the music of which, though too much chorus and noise, has some tender and pleasing passages. I like it better than any other piece I have heard of that celebrated composer. The next morning waited on Mons. Scanegatty, *professeur de physique dans la Societé Royale d'Agriculture*; he received me with politeness. He has a considerable room furnished with mathematical and philosophical instruments and models. He explained some of the latter to me that are of his own invention, particularly one of a furnace for calcining gypsum, which is brought here in large quantities from Montmartre. Waited on Messrs. Midy, Roffe and Co. the most considerable wool merchants in France, who were so kind as to shew me a great variety of wools, from most of the European countries, and permitted me to take specimens. The next morning I went to Darnetel, where Mons. Curmer shewed me his manufacture. Return to Rouen, and dined with Mons. Portier, *directeur general des fermes*, to whom I had brought a letter from the *duc de la Rouchefoucauld*. The conversation turned, among other subjects, on the want of new streets at Rouen, on comparison with Havre, Nantes, and Bourdeaux; at the latter places it was remarked, that a merchant makes a fortune in ten or fifteen years, and builds; but at Rouen, it is a commerce of œconomy, in which a man does not grow rich so soon, and therefore unable with prudence to make the same exertions. Every person at table agreed in another point which was discussed, that the wine provinces are the poorest in all France: I urged the produce being greater per arpent by far than of other lands; they insisted however on the fact as generally known and admitted. In the evening at the theatre, *Madame du Fresne* entertained me greatly; she is an excellent actress, never over-does her parts,

and makes one feel by feeling herself. The more I see of the French theatre, the more I am forced to acknowledge the superiority to our own, in the number of good performers, and in the fewness of bad ones; and in the quantity of dancers, singers, and persons on whom the business of the theatre depends, all established on a great scale. I remark, in the sentiments that are applauded, the same generous feelings in the audience in France, that have many times in England put me in good humour with my countrymen. We are too apt to hate the French; for myself I see many reasons to be pleased with them; attributing faults very much to their government; perhaps in our own, our roughness and want of good temper are to be traced to the same origin.

The 8th. My plan had for some time been to go directly to England, on leaving Rouen, for the post-offices had been cruelly uncertain. I had received no letters for some time from my family, though I had written repeatedly to urge it; they passed to a person at Paris who was to forward them; but some carelessness, or other cause, impeded all, at a time that others, directed to the towns I passed, came regularly; I had fears that some of my family were ill, and that they would not write bad news to me in a situation where knowing the worst could have no influence in changing it for better. But the desire I had to accept the invitation to La Roche Guyon, of the duchess d'Anville and the due de la Rouchefoucauld, prolonged my journey, and I set forward on this further excursion. A truly noble view from the road above Rouen; the city at one end of the vale, with the river flowing to it perfectly chequered with isles of wood. The other divides into two great channels, between which the vale is all spread with islands, some arable, some meadow, and much wood on all. Pass Pont l'Arch to Louviers. I had letters for the celebrated manufacturer Mons. Deeretot, who received me with a kindness that ought to have some better epithet than polite; he shewed me his fabric, unquestionably the first woollen one in the world, if success, beauty of fabric, and an inexhaustible invention to supply with taste all the cravings of fancy, can give the merit of such superiority. Perfection goes no further than the Vigonia cloths of Mons. Deeretot, at 110 livres (4l. 16s. 3d.) the aulne. He shewed me his cotton-mills also, under the direction of two Englishmen. Near Louviers is a manufactory of copper-plates for the bottoms of the king's ships; a colony of Englishmen. I supped with Mons. Deeretot, passing a very pleasant evening in the company of some agreeable ladies. 17 miles.

The 9th. By Gailion to Vernon; the vale flat rich arable. Among the notes I had long ago taken of objects to see in France, was the plantation of mulberries, and the silk establishment of the Marechal de Belleisle, at Bissy, near Vernon; the attempts repeatedly made by the society for the encouragement of arts, at London, to introduce silk into England, had made the similar undertakings in the north of France more interesting. I accordingly made all the inquiries that were necessary for discovering the success of this meritorious attempt. Bissy is a fine place, purchased on the death of the due de Belleisle by the due de Penthièvre, who has but one amusement, which is that of varying his residence at the numerous seats he possesses in many parts of the kingdom. There is something rational in this taste; I should like myself to have a score of farms from the vale of Valencia to the Highlands of Scotland, and to visit and direct their cultivation by turns. From Vernon, cross the Seine, and mount the chalk hills again; after which to La Roche Guyon, the most singular place I have seen. Madame d'Anville, and the due de la Rouchefoucauld received me in a manner that would have made me pleased with the place had it been in the midst of a bog. It gave me pleasure to find also the duchess de la Rouchefoucauld here, with whom I had passed so much agreeable time at Bagnere de Luchon, a thoroughly good woman, with that simplicity

of character, which is too often banished by pride or family or foppery of rank. The abbe Rochon, the celebrated astronomer, of the Academy of Sciences, with some other company, which, with the domestics and trappings of a grand seigneur, gave La Roche Guyon exactly the resemblance of the residence of a great lord in England. Europe is now so much assimilated, that if one go to a house where the fortune is 15 or 20,000*l.* a year, we shall find in the mode of living much more resemblance than a young traveller will ever be prepared to look for. 23 miles.

The 10th. This is one of the most singular places I have been at. The chalk rock has been cut perpendicularly, to make room for the chateau. The kitchen, which is a large one, vast vaults, and extensive cellars (which, by the way, are magnificently filled) with various other offices, are all cut out of the rock, with merely fronts of brick; the house is large, containing thirty-eight apartments. The present duchess has added a handsome saloon of forty-eight feet long, and well proportioned, with four fine tablets of the Gobelin tapestry, also a library well filled. Here I was shewed the ink-stand that belonged to the famous Louvois, the minister of Louis XIV, known to be the identical one from which he signed the revocation of the edict of Nantes, and I suppose also the order to Turenne to burn the palatinate. This marquis de Louvois was grandfather to the two duchesses d'Anville and d'Estissac, who inherited all his estate, as well as their own family fortune of the house of La Rouchefoucauld, from which family I conceive, and not from Louvois, they inherited their dispositions. From the principal apartment there is a balcony that leads to the walks which serpentine up the mountain. Like most French seats, there is a town, and a great potager to remove, before it would be consonant with English ideas. Bissy, the duc de Penthièvre's, is just the same; before the chateau there is a gently falling vale with a little stream through it, that admits of the greatest improvements in respect to lawn and water, but in full front of the house they have placed a great kitchen-garden, with walls enough for a fortress. The houses of the poor people here, as on the Loire in Touraine, are burrowed into the chalk rock, and have a singular appearance: here are two streets of them, one above another; they are asserted by some to be wholesome, warm in winter, and cool in summer; but others thought they were bad for the health of the inhabitants. The duc de la Rouchefoucauld had the kindness to order his steward to give me all the information I wanted relative to the agriculture of the country, and to speak to such persons as were necessary on points that he was in doubt about. At an English nobleman's house, there would have been three or four farmers asked to meet me, who would have dined with the family among ladies of the first rank. I do not exaggerate, when I say, that I have had this at least an hundred times in the first houses of our islands. It is, however, a thing that, in the present state of manners in France, would not be met with from Calais to Bayonne, except by chance in the house of some great lord that had been much in England,\* and then not unless it were asked for. The nobility in France have no more idea of practising agriculture, and making it an object of conversation, except on the mere theory, as they would speak of a loom or a bowsprit, than of any other object the most remote from their habits and pursuits. I do not so much blame them for this neglect, as I do that herd of visionary and absurd writers on agriculture, who, from their chambers in cities, have, with an impertinence almost incredible, deluged France with nonsense and theory, enough to disgust and ruin the whole nobility of the kingdom.

The 12th. Part with regret from a society I had every reason to be pleased with. 35 miles.

\* I once knew it at the duc de Liancourt's.

The 13th. The twenty miles to Rouen, the same features. First view of Rouen sudden and striking; but the road doubling, in order to turn more gently down the hill, presents from an elbow the finest view of a town I have ever seen; the whole city, with all its churches and convents, and its cathedral proudly rising in the midst, fills the vale. The river presents one reach, crossed by the bridge, and then dividing into two fine channels, forms a large island covered with wood; the rest of the vale full of verdure and cultivation, of gardens and habitations, finish the scene, in perfect unison with the great city that forms the capital feature. Wait on Mons. d'Ambournay, secretary of the Society of Agriculture, who was absent when I was here before; we had an interesting conversation on agriculture, and on the means of encouraging it. I found from this very ingenuous gentleman, that his plan of using madder green, which many years ago had made so much noise in the agricultural world, is not practised at present any where; but he continues to think it perfectly practicable. In the evening to the play, where Madame Cretal, from Paris, acted Nina; and it proved the richest treat I have received from the French theatre. She performed it with an inimitable expression, with a tenderness, a naïvete, and an elegance withal, that mastered every feeling of the heart, against which the piece was written: her expression is as delicious, as her countenance is beautiful; in her acting, nothing over-charged, but all kept within the simplicity of nature. The house was crowded, garlands of flowers and laurel were thrown on the stage, and she was crowned by the other actors, but modestly removed them from her head, as often as they were placed there. 20 miles.

The 14th. Take the road to Dieppe. Meadows in the vale well watered, and hay now making. Sleep at Tote. 17 and a half miles.

The 15th. To Dieppe. I was lucky enough to find the passage boat ready to sail; go on board with my faithful sure-footed blind friend. I shall probably never ride her again, but all my feelings prevent my selling her in France. Without eyes she has carried me in safety above 1500 miles; and for the rest of her life she shall have no other master than myself; could I afford it, this should be her last labour: some ploughing, however, on my farm, she will perform for me, I dare say, cheerfully.

Landing at the neat new built town of Brighthelmstone, offers a much greater contrast to Dieppe, which is old and dirty, than Dover does to Calais; and in the castle inn I seemed for a while to be in fairy land; but I paid for the enchantment. The next day to lord Sheffield's a house I never go to, but to receive equal pleasure and instruction. I longed to make one for a short time in the evening library circle, but I took it strangely into my head, from one or two expressions merely accidental in the conversation, coming after my want of letters to France, that I had certainly lost a child in my absence; and I hurried to London next morning, where I had the pleasure of finding my alarm a false one; letters now had been written, but all failed. To Bradford. 202 miles.

1789.

IN my two preceding journies, the whole western half of France had been crossed in various directions; and the information I had received, in making them, had made me as much a master of the general husbandry, the soil, management and productions, as could be expected, without penetrating in every corner, and residing long in various stations; a method of surveying such a kingdom as France, that would demand several lives instead of years. The eastern part of the kingdom remained unexamined. The great mass of country, formed by the triangle, whose three points are Paris, Strasbourg

and Moulins, and the mountainous region S. E. of the last town, presented in the map an ample space, which it would be necessary to pass before I could have such an idea of the kingdom as I wished to acquire; I determined to make this third effort, in order to accomplish a design which appeared more and more important, the more I reflected on it; and less likely to be executed by those whose powers are better adapted to the undertaking than mine. The meeting of the states general of France also, who were now assembled, made it the more necessary to lose no time; for, in all human probability, that assembly will be the epoch of a new constitution, which will have new effects, and, for what I know, attended with a new agriculture; and to have the regal sun, in such a kingdom, both rise and set without the territory being known, must of necessity be regretted by every man solicitous for real political knowledge. The events of a century and a half, including the brilliant reign of Louis XIV, will for ever render the sources of the French power interesting to mankind, and particularly that its state may be known previously to the establishment of an improved government, as the comparison of the effects of the old and new system will be not a little curious in future.

June 2. To London: At night, La Generosita d'Alessandro, by Tarchi, in which Signor Marchesi exerted his powers, and sung a duet, that made me for some moments forget all the sheep and pigs of Bradfield. I was, however, much better entertained after it, by supping at my friend Dr. Burney's, and meeting Miss Burney; how seldom is it that we can meet two characters at once in whom great celebrity deducts nothing from private amiableness? How many dazzling ones that we have no desire to live with! give me such as to great talents add the qualities that make us wish to shut up doors with them.

The 3d. Nothing buzzing in my ears but the fete given last night by the Spanish ambassador. The best fete of the present period is that which ten millions of people are giving to themselves,

The feast of reason and the flow of soul.

The animated feelings of bosoms beating with gratitude for the escape of one common calamity, and the thrilling hope of the continuance of common blessings. Meet at Mr. Songa's the count de Berchtold, who has much good sense and many important views: Why does not the emperor call him to his own country, and make him a minister? The world will never be well governed till princes know their subjects.

The 4th. To Dover in the machine, with two merchants from Stockholm, a German and a Swede; we shall be companions to Paris. I am more likely to learn something useful from the conversation of a Swede and a German, than from the chance medley Englishmen of a stage-coach. 72 miles.

The 5th. Passage to Calais; fourteen hours for reflection in a vehicle that does not allow one power to reflect. 21 miles.

The 6th. A Frenchman and his wife, and a French teacher from Ireland, full of foppery and affectation, which her own nation did not give her, were our company, with a young good-natured raw countryman of hers, at whom she played off many airs and graces. The man and his wife contrived to produce a pack of cards, to banish, they said, Penury of the journey; but they contrived also to fleece the young fellow of five louis. This is the first French diligence I have been in, and shall be the last; they are detestable. Sleep at Abbeville. 78 miles.

These men and women, girls and boys, think themselves (except the Swede) very cheerful because very noisy; they have stunned me with singing; my ears have been

so tormented with French airs, that I would almost as soon have rode the journey blind-fold on an ass. This is what the French call good spirits; no truly cheerful emotion in their bosoms; silent or singing; but for conversation they had none. I lose all patience in such company, Heaven send me a blind mare rather than another diligence! We were all this night, as well as all the day, on the road, and reached Paris at nine in the morning. 102 miles.

The 8th. To my friend Lazowski, to know where were the lodgings I had written him to hire me, but my good duchess d'Estissee would not allow him to execute my commission. I found an apartment in her hotel prepared for me. Paris is at present in such a ferment about the states general, now holding at Versailles, that conversation is absolutely absorbed by them. Not a word of any thing else talked of. Every thing is considered, and justly so, as important in such a crisis of the fate of four-and-twenty millions of people. It is now a serious contention whether the representatives are to be called the Commons or the Tiers Etat; they call themselves steadily the former, while the court and the great lords reject the term with a species of apprehension, as if it involved a meaning not easily to be fathomed. But this point is of little consequence compared with another, that has kept the states for some time in inactivity, the verification of their power separately or in common. The nobility and the clergy demand the former, but the commons steadily refuse it; the reason why a circumstance, apparently of no great consequence, is thus tenaciously regarded, is, that it may decide their sitting for the future in separate houses or in one. Those who are warm for the interest of the people declare, that it will be impossible to reform some of the grossest abuses in the state, if the nobility, by sitting in a separate chamber, shall have a negative on the wishes of the people: and that to give such a veto to the clergy would be still more preposterous; if therefore, by the verification of their powers in one chamber, they shall once come together, the popular party hope that there will remain no power afterwards to separate. The nobility and clergy foresee the same result, and will not therefore agree to it. In this dilemma it is curious to remark the feelings of the moment. It is not my business to write memoirs of what passes, but I am intent to catch, as well as I can, the opinions of the day most prevalent. While I remain at Paris, I shall see people of all descriptions, from the coffee-house politicians to the leaders in the states; and the chief object of such rapid notes as I throw on paper, will be to catch the ideas of the moment; to compare them afterwards with the actual events that shall happen, will afford amusement at least. The most prominent feature that appears at present is, that an idea of common interest and common danger does not seem to unite those, who, if not united, may find themselves too weak to oppose the danger that must arise from the people being sensible of a strength the result of their weakness. The king, court, nobility, clergy, army, and parliament, are nearly in the same situation. All these consider, with equal dread, the ideas of liberty, now afloat; except the first, who, for reasons obvious to those who know his character, troubles himself little, even with circumstances that concern his power the most intimately. Among the rest, the feeling of danger is common, and they would unite were there a head to render it easy, in order to do without the states at all. That the commons themselves look for some such hostile union as more than probable, appears from an idea which gains ground, that they will find it necessary, should the other two orders continue to unite with them in one chamber, to declare themselves boldly the representatives of the kingdom at large, calling on the nobility and clergy to take their places, and to enter upon deliberations of business without them, should they refuse it. All conversation at present is on this topic, but opinions are more divided than I should have expected. There

seem to be many who hate the clergy so cordially, that rather than permit them to form a distinct chamber, they would venture on a new system, dangerous as it might prove.

The 9th. The business going forward at present in the pamphlet shops of Paris is incredible. I went to the Palais Royal to see what new things were published, and to procure a catalogue of all. Every hour produces something new. Thirteen came out to-day, sixteen yesterday, and ninety-two last week. We think sometimes that Debrett's or Stockdale's shops at London are crowded, but they are mere deserts, compared to Descain's, and some others here, in which one can scarcely squeeze from the door to the counter. The price of printing two years ago was from 27 livres to 30 livres per sheet, but now it is from 60 livres to 80 livres. This spirit of reading political tracts, they say, spreads into the provinces, so that all the presses of France are equally employed. Nineteen-twentieths of these productions are in favour of liberty, and commonly violent against the clergy and nobility; I have to day bespoke many of this description, that have reputation; but inquiring for such as had appeared on the other side of the question, to my astonishment I find there are but two or three that have merit enough to be known. Is it not wonderful, that while the press teems with the most levelling and even seditious principles, which put in execution would overturn the monarchy, nothing in reply appears, and not the least step is taken by the court to restrain this extreme licentiousness of publication? It is easy to conceive the spirit that must thus be raised among the people. But the coffee-houses in the Palais Royal present yet more singular and astonishing spectacles; they are not only crowded within, but other expectant crowds are at the doors and windows, listening a gorge deployee to certain orators, who from chairs or tables harangue each his little audience; the eagerness with which they are heard, and the thunder of applause they receive for every sentiment of more than common hardness or violence against the present government, cannot easily be imagined. I am all amazement at the ministry permitting such nests and hot-beds of sedition and revolt, which disseminate amongst the people, every hour, principles that by and by must be opposed with vigour, and therefore it seems little short of madness to allow the propagation at present.

The 10th. Every thing conspires to render the present period in France critical; the want of bread is terrible: accounts arrive every moment from the provinces of riots and disturbances, and calling in the military to preserve the peace of the markets. The prices reported are the same as I found at Abbeville and Amiens, 5 sous (2½d.) a pound for white bread, and 3½ sous to four sous for the common sort caten by the poor; these rates are beyond their faculties, and occasion great misery. At Meudon, the police, that is to say the intendant, ordered that no wheat should be sold in the market without the person taking at the same time an equal quantity of barley. What a stupid and ridiculous regulation, to lay obstacles on the supply, in order to be better supplied; and to shew the people the fears and apprehensions of government, creating thereby an alarm, and raising the price at the very moment they wish to sink it! I have had some conversation on this topic with well-informed persons, who have assured me, that the price is, as usual, much higher than the proportion of the crop demanded, and there would have been no real scarcity if Mr. Necker would have let his corn trade alone; but his edicts of restriction, which have been mere comments on his book on the legislation of corn, have operated more to raise the price than all other causes together. It appears plain to me, that the violent friends of the commons are not displeased at the high price of corn, which seconds their views greatly, and makes any appeal to the common feeling of the people more easy, and much more to their purpose than if the

price were low. Three days past, the chamber of the clergy contrived a cunning proposition; it was to send a deputation to the commons, proposing to name a commission from the three orders to take into consideration the misery of the people, and to deliberate on the means of lowering the price of bread. This would have led to the deliberation by order, and not by heads, consequently must be rejected; but unpopularly so from the situation of the people: the commons were equally dexterous; in their reply, they prayed and conjured the clergy to join them in the common hall of the states to deliberate, which was no sooner reported at Paris, than the clergy became doubly an object of hatred; and it became a question with the politicians of the *Caffe de Foy*, whether it were not lawful for the commons to decree the application of the estates of the clergy towards easing the distress of the people.

The 11th. I have been in much company all day, and cannot but remark that there seem to be no settled ideas of the best means of forming a new constitution. Yesterday the abbe Sieyes made a motion in the house of commons, to declare boldly to the privileged orders, that if they will not join the commons, the latter will proceed in the national business without them; and the house decreed it with a small amendment. This causes much conversation on what will be the consequence of such a proceeding; and, on the contrary, on what may flow from the nobility and clergy continuing steadily to refuse to join the commons, and should they so proceed, to protest against all they decree, and appeal to the king to dissolve the states, and recal them in such a form as may be practicable for business. In these most interesting discussions, I find a general ignorance of the principles of government; a strange and unaccountable appeal, on one side, to ideal and visionary rights of nature; and on the other, no settled plan that shall give security to the people for being in future in a much better situation than hitherto; a security absolutely necessary. But the nobility, with the principles of great lords that I converse with, are most disgustingly tenacious of all old rights, however hard they may bear on the people; they will not hear of giving way in the least to the spirit of liberty beyond the point of paying equal land-taxes, which they hold to be all that can with reason be demanded. The popular party, on the other hand, seem to consider all liberty as depending on the privileged classes being lost, and out-voted in the order of the commons, at least for making the new constitution; and when I urge the great probability, that should they once unite, there will remain no power of ever separating them; and that in such case, they will have a very questionable constitution, perhaps a very bad one; I am always told, that the first object must be for the people to get the power of doing good; and that it is no argument against such a conduct to urge that an ill use may be made of it. But among such men, the common idea is, that any thing tending towards a separate order, like our house of lords, is absolutely inconsistent with liberty; all which seems perfectly wild and unfounded.

The 12th. To the royal society of agriculture, which meets at the hotel de ville, and of which being an associate, I voted, and received a jetton, which is a small medal given to the members, every time they attend, in order to induce them to mind the business of their institution; it is the same at all royal academies, &c. and amounts, in a year, to a considerable and ill-judged expence; for what good is to be expected from men who would go merely to receive their jetton? Whatever their motive may be, it seems well attended; near thirty were present; among them Parmentier, vice-president, Cadet de Vaux, Foureroy, Tillet, Desmarets, Broussonet, secretary, and Crete de Palieul, at whose farm I was two years ago, and who is the only practical farmer in the society. The secretary reads the titles of the papers presented, and gives some little account of them; but they are not read, unless particularly interesting; then memoirs



are read by the members, or reports of references; and when they discuss or debate, there is no order, but all speak together, as in a warm private conversation. The abbe Raynal has given them 1200 livres (52l. 10s.) for a premium on some important subject; and my opinion was asked what it should be given for. Give it, I replied, in some way for the introduction of turnips. But that they conceive to be an object of impossible attainment; they have done so much, and the government so much more, and all in vain, that they consider it as a hopeless object. I did not tell them that all hitherto done has been absolute folly; and that the right way to begin, was to undo every thing done. I am never present at any societies of agriculture, either in France or England, but I am much in doubt with myself whether, when best conducted, they do most good or mischief; that is, whether the benefits a national agriculture may by great chance owe to them, are not more than counterbalanced by the harm they effect, by turning the public attention to frivolous objects, instead of important ones, or dressing important ones in such a garb as to make them trifles? The only society that could be really useful would be that which, in the culture of a large farm, should exhibit a perfect example of good husbandry, for the use of such as would resort to it; consequently one that should consist solely of practical men; and then query whether many good cooks would not spoil a good dish.

The ideas of the public on the great business going on at Versailles change daily and even hourly. It now seems the opinion, that the commons, in their late violent vote, have gone too far; and that the union of the nobility, clergy, army, parliament, and king, will be by far too powerful for them; such an union is said to be in agitation; and that the count d'Artois, the queen, and the party usually known by her name, are taking steps to effect it, against the moment when the proceedings of the commons shall make it necessary to act with unity and vigour. The abolition of the parliament is a topic of common conversation among the popular leaders, as a step essentially necessary; because, while they exist, they are tribunals to which the court can have resort, should they be inclined to take any step against the existence of the states: those bodies are alarmed, and see with deep regret, that their refusal to register the royal edicts, has created a power in the nation not only hostile, but dangerous to their existence. It is now very well known, and understood on all hands, that should the king get rid of the states, and govern on any tolerable principles, his edicts would be enregistered by all the parliaments. In the dilemma and apprehension of the moment, the people look very much to the duc d'Orleans as to a head; but with palpable and general ideas of distrust and want of confidence; they regret his character, and lament that they cannot depend on him in any severe and difficult trial; they conceive him to be without steadiness, and that his greatest apprehension is to be exiled from the pleasures of Paris, and tell of many littlenesses he practised before to be recalled from banishment. They are, however, so totally without a head, that they are contented to look to him as one; and are highly pleased with what is every moment reported, that he is determined to go at the head of a party of the nobility, and verify their powers in common with the commons. All agree, that had he firmness, in addition to his vast revenue of seven millions a year (306,250l.) and four more (175,000l.) in reversion, after the death of his father-in-law, the duc de Penthièvre, he might, at the head of the popular cause, do any thing.

The 13th. In the morning to the king's library, which I had not seen when before at Paris; it is a vast apartment, and, as all the world knows, nobly filled. Every thing is provided to accommodate those who wish to read or transcribe; of whom there were sixty or seventy present. Along the middle of the rooms are glass cases, containing mo-

dels of the instruments of many trades preserved for the benefit of posterity, being made on the most exact scale of proportion; among others the potter's, founder's, brick-maker's, chymist's, &c. &c. and lately added a very large one of the English garden, most miserably imagined; but with all this not a plough, or an iota of agriculture; yet a farm might be much easier represented than the garden they have attempted, and with infinitely more use. I have no doubt but there may arise many cases, in which the preservation of instruments, unaltered, may be of considerable utility; I think I see clearly, that such a use would result in agriculture, and, if so, why not in other arts? These easels of models, however, have so much the air of children's, play-houses, that I would not answer for my little girl, if I had her here, not crying for them. At the duchess d'Anville's, where meet the archbishop of Aix, bishop of Blois, prince de Laon, and duc and duchess de la Rouchefoucauld, the three last of my old Bagnere de Luelion acquaintance, lord and lady Camelford, lord Eyre, &c. &c.

All this day I hear nothing but anxiety of expectation for what the crisis in the state will produce. The embarrassment of the moment is extreme. Every one agrees that there is no ministry: the queen is closely connecting herself with the party of the princes, with the count d'Artois at their head; who are all so adverse to Mons. Necker, that every thing is in confusion: but the king, who is personally the honestest man in the world, has but one wish, which is to do right; yet, being without those decisive parts that enable a man to foresee difficulties and to avoid them, finds himself in a moment of such extreme perplexity, that he knows not what council to take refuge in: it is said that Mons. Necker is alarmed for his power, and anecdote reports things to his disadvantage, which probably are not true: of his trimming and attempting to connect himself with the Abbe de Vermont, reader to the queen, who has great influence in all affairs in which he chuses to interfere; this is hardly credible, as that party are known to be exceedingly adverse to Mons. Necker; and it is even said that, as the count d'Artois, Madame de Polignac, and a few others were, but two days ago, walking in the private garden of Versailles, they met Madame Necker; and descended even to hissing her: if half this be true, it is plain enough that this minister must speedily retire. All who adhere to the ancient constitution, or rather government, consider him as their mortal enemy; they assert, and truly, that he came in under circumstances that would have enabled him to do every thing he pleased; he had king and kingdom at command; but that the errors he was guilty of, for want of some settled plan, have been the cause of all the dilemmas experienced since. They accuse him heavily of assembling the notables, as a false step that did nothing but mischief: and assert that his letting the king go to the states-general, before their powers were verified, and the necessary steps taken to keep the orders separate, after giving double the representation to the tiers to that of the other two orders, was madness; and that he ought to have appointed commissaries to have received the verification before admittance. They accuse him further of having done all this through an excessive and insufferable vanity, which gave him the idea of guiding the deliberation of the states by his knowledge and reputation. It is expressly asserted, however, by M. Necker's most intimate friends, that he has acted with good faith, and that he has been in principle a friend to the regal power, as well as to an amelioration of the condition of the people. The worst thing I know of him is his speech to the states on their assembling; a great opportunity, but lost; no leading or masterly views; no decision on circumstances in which the people ought to be relieved, and new principles of government adopted; it is the speech you would expect from a banker's

clerk of some ability. Concerning it there is an anecdote worth inserting; he knew his voice would not enable him to go through the whole of it, in so large a room, and to so numerous an assembly; and therefore he had spoken to Mons. de Broussonet, of the Academy of Sciences, and secretary to the Royal Society of Agriculture, to be in readiness to read it for him. He had been present at an annual general meeting of that society, when Mons. de Broussonet had read a discourse with a powerful piercing voice, that was heard distinctly to the greatest distance. This gentleman attended him several times to take his instructions, and to be sure of understanding the interlinations, that were made, even after the speech was finished. Mons. de Broussonet was with him the evening before the assembly of the states, at nine o'clock: and next day, when he came to read it in public, he found still more corrections and alterations, which Mons. Necker had made after quitting him; they were chiefly in style, and shewed how very solicitous he was in regard to the form and decoration of his matter: the ideas in my opinion wanted this attention more than the style. Mons. de Broussonet himself told me this little anecdote. This morning in the states three cures of Poitou have joined themselves to the commons, for the verification of their powers, and were received with a kind of madness of applause; and this evening at Paris nothing else is talked of. The nobles have been all day in debate, without coming to any conclusion, and have adjourned to Monday.

The 14th. To the king's garden, where Mons. Thouin had the goodness to shew me some small experiments he has made on plants that promise greatly for the farmer, particularly the lathyrus biennis,\* and the melilotus syberica,\* which now make an immense figure for forage; both are biennial; but will last three or four years if not seeded; the Achillæ syberica and an astragalus appear good; he has promised me seeds. The Chinese hemp has perfected its seeds, which it had not done before in France. The more I see of Mons. Thouin the better I like him; he is one of the most amiable men I know.

To the repository of the royal machines, which Mons. Vandermond shewed and explained to me, with great readiness and politeness. What struck me most was Mons. Vaucusson's machine for making a chain, which I was told Mr. Wart of Birmingham admired very much, at which my attendants seemed not displeas'd. Another for making the cogs indented in iron wheels. There is a chaff cutter, from an English original; and a model of the nonsensical plough to go without horses; these are the only ones in agriculture. Many of very ingenious contrivances for winding silk, &c. In the evening to the theatre Francois, the siege of Calais, by Mons. de Belloy, not a good, but a popular performance.

It is now decided by the popular leaders, that they will move to-morrow to declare all taxes illegal not raised by authority of the states general, and to grant them for a term only, either for two years, or for the duration of the present session of the states. This plan is highly approved at Paris by all friends of liberty; and it is certainly a rational mode of proceeding, founded on just principles, and will involve the court in a great dilemma.

The 15th. This has been a rich day, and such an one as ten years ago none could believe would ever arrive in France; a very important debate being expected on what, in our house of commons, would be termed the state of the nation, my friend Mons. Lazowski and myself were at Versailles by eight in the morning. We went immediately to the hall of the states to secure good seats in the gallery; we found some de-

\*\* I have cultivated these plants in small quantities, and believe them to be a very important object.

puties already there, and a pretty numerous audience collected. The room is too large; none but Stentorian lungs, or the finest, clearest voices can be heard; however, the very size of the apartment which admits two thousand people, gave a dignity to the scene. It was indeed an interesting one. The spectacle of the representatives of twenty-five millions of people, just emerging from the evils of two hundred years of arbitrary power, and rising to the blessings of a freer constitution, assembled with open doors under the eye of the public, was framed to call into animated feelings every latent spark, every emotion of a liberal bosom; to banish whatever ideas might intrude of their being a people too often hostile to my own country, and to dwell with pleasure on the glorious idea of happiness to a great nation; of felicity to millions yet unborn. Monsieur l'abbe Sieyes opened the debate. He is one of the most zealous sticklers for the popular cause; carries his ideas not to a regulation of the present government, which he thinks too bad to be regulated at all, but wishes to see it absolutely overturned, being in fact a violent republican; this is the character he commonly bears, and in his pamphlets he seems pretty much to justify such an idea. He speaks ungracefully, and uneloquently, but logically, or rather reads so, for he read his speech, which was prepared. His motion was to declare the assembly, the representatives known and verified of the French nation, admitting the right of all absent deputies (the nobility and clergy) to be received among them on the verification of their powers. Monsicur de Mirabeau spoke without notes, for near an hour, with a warmth, animation, and eloquence, that entitles him to the reputation of an undoubted orator. He opposed the words known and verified, in the proposition of the abbe Sieyes, with great force of reasoning; and proposed, in lieu, that they should declare themselves simply, "Representatives du peuple Francois:" that no veto should exist against their resolves in any other assembly: that all taxes are illegal, but should be granted during the present session of the states, and no longer: that the debt of the king should become the debt of the nation, and be secured on funds accordingly. Mons. de Mirabeau was well heard, and his proposition much applauded. Mons. de Mounier, a deputy from Dauphine, of great reputation, and who has published some pamphlets, very well approved by the public, moved a different resolution, to declare themselves the legitimate representatives of the majority of the nation: that they should vote by head and not by order: and that they should never acknowledge any right in the representatives of the clergy or nobility to deliberate separately. Mons. Rabaud St. Etienne, a protestant from Languedoc, also an author, who has written on the present affairs, and a man of considerable talents, made likewise his proposition, which was to declare themselves the representatives of the people of France; to declare all taxes null; to regrant them during the sitting of the states; to verify and consolidate the debt; and to vote a loan. All which were well approved except the loan, which was not at all to the feeling of the assembly. This gentleman speaks clearly and with precision, and only passages of his speech from notes. Mons. Bernave, a very young man, from Grenoble, spoke without notes with great warmth and animation. Some of his periods were so well rounded, and so eloquently delivered, that he met the general applause, several members crying—bravo!

In regard to their general method of proceeding, there are two circumstances in which they are very deficient: the spectators in the galleries are allowed to interfere in the debates by clapping their hands, and by other noisy expressions of approbation: this is grossly indecent; it is also dangerous; for, if they be permitted to express approbation, they are, by parity of reason, allowed expressions of dissent; and they may hiss as well as clap; which, it is said, they have sometimes done: This would be, to

over-rule the debate, and influence the deliberations. Another circumstance, is the want of order among themselves; more than once to-day there were an hundred members on their legs at a time, and Mons. Bailly absolutely without power to keep order. This arises very much from complex motions being admitted; to move a declaration relative to their title, to their powers, to taxes, to a loan, &c. &c. all in one proposition, appears to English ears preposterous, and certainly is so. Specific motions, founded on single and simple propositions, can alone produce order in debate; for it is endless to have five hundred members declaring their reasons of assent to one part of a complex proposition, and their dissent to another part. A debating assembly should not proceed to any business whatever till they have settled the rules and orders of their proceedings, which can only be done by taking those of other experienced assemblies, confirming them as they find useful, and altering such as require to be adapted to different circumstances. The rules and orders of debate in the house of commons of England, as I afterwards took the liberty of mentioning to Mons. Rabaud St. Etienne, might have been taken at once from Hatsel's book, and would have saved them at least a fourth of their time. They adjourned for dinner. Dined ourselves with the duc de Liancourt, at his apartments in the palace, meeting twenty deputies. I sat by M. Rabaud St. Etienne, and had much conversation with him; they all spoke with equal confidence on the fall of despotism. They foresee, that attempts very adverse to the spirit of liberty will be made, but the spirit of the people is too much excited at present to be crushed any more. Finding that the question of to-day's debate cannot be decided to-day, and that in all probability it will be unfinished even to-morrow, as the number that will speak on it is very great; return in the evening to Paris.

The 16th. To Dugny, ten miles from Paris, again with Mons. de Broussonet, to wait on Mons. Crete de Palieul, the only practical farmer in the Society of Agriculture. M. Broussonet, than whom no man can be more eager for the honour and improvement of agriculture, was desirous that I should witness the practice and improvements of a gentleman who stands so high in the list of good French farmers. Called first on the brother of Mons. Crete who at present has the post, and consequently one hundred and forty horses; walked over his farm, and the crops he shewed me of wheat and oats were on the whole very fine, and some of them superior; but I must confess I should have been better pleased with them if he had not had his stables so well filled with a view different from that of the farm. And to look for a course of crops in France is vain; he sows white corn twice, thrice, and even four times in succession. At dinner, &c. had much conversation with the two brothers, and some other neighbouring cultivators present, on this point, in which I recommended either turnips or cabbages, according to the soil, for breaking their rotations of white corn. But every one of them, except Mons. de Broussonet, was against me, they demanded, Can we sow wheat after turnips and cabbages? On a small portion you may and with great success; but the time of consuming the greater part of the crop renders it impossible. That is sufficient, if we cannot sow wheat after them, they cannot be good in France. This idea is every where nearly the same in that kingdom. I then said, that they might have half their land under wheat, and yet be good farmers; thus: 1. Beans; 2. Wheat; 3. Tares; 4. Wheat; 5. Clover; 6. Wheat. This they approved better of, but thought their own courses more profitable. But the most interesting circumstance of their farms is the chicory (*chicorium intybus*.) I had the satisfaction to find, that Mons. Crete de Palieul had as great an opinion of it as ever; that his brother had adopted it; that it was very flourishing on both their farms, and on those of their neighbours also: I never see this plant but I congratulate myself on having travelled for something more than to

write in my closet; and that the introduction of it in England would alone, if no other result had flowed from one man's existence, have been enough to shew that he did not live in vain. Of this excellent plant, and Mons. Crete's experiments on it, more elsewhere.

The 17th. Conversation turns on the motion of l'abbe Sieyes being accepted, though that of the count de Mirabeau better relished. But his character is a dead weight upon him; there is a suspicion that he has received 100,000 livres from the queen; a blind, improbable report; for his conduct would in every probability be very different had any such transaction taken place: but when a man's life has not passed free from gross errors, to use the mildest language, suspicions are ever ready to fix on him, even when he is as free from what ought at the moment to give the imputation, as the most immaculate of their patriots. This report brings out others from their lurking holes; that he published, at her instigation, the anecdotes of the court of Berlin; and that the king of Prussia, knowing the causes of that publication, circulated the memoirs of madame de la Motte all over Germany. Such are the eternal tales, suspicions, and improbabilities for which Paris has always been so famous. One clearly, however, gathers from the complexion of conversation, even on the most ridiculous topics, provided of a public nature, how far, and for what reason, confidence is lodged in certain men. In every company, of every rank, you hear of the count de Mirabeau's talents; that he is one of the first pens of France, and the first orator; and yet that he could not carry from confidence six votes on any question in the states. His writings, however, spread in Paris and the provinces: he published a journal of the states, written for a few days with such force, and such severity, that it was silenced by an express edict of government. This is attributed to Mons. Necker, who was treated in it with so little ceremony, that his vanity was wounded to the quick. The number of subscribers to the journal was such, that I have heard the profit to Mons. Mirabeau calculated at 80,000 livres (3500l.) a year. Since its suppression, he publishes once or twice a week a small pamphlet, to answer the same purpose, of giving an account of the debates, or rather observations on them, entitled, 1, 2, 3, &c. *Lettre de Comte de Mirabeau a ses Compatriotes*, which, though violent, sarcastic, and severe, the court has not thought proper to stop, respecting, I suppose, its title. It is a weak and miserable conduct, to single out any particular publication for prohibition, while the press groans with innumerable productions, whose tendency is absolutely to overturn the present government; to permit such pamphlets to be circulated all over the kingdom, even by the posts and diligences in the hands of government, is a blindness and folly, from which there are no effects that may not be expected. In the evening to the comic opera; Italian music, Italian words, and Italian performers; and the applause so incessant and rapturous, that the ears of the French must be changing apace. What would Jean Jacques have said, could he have been a witness to such a spectacle at Paris!

The 18th. Yesterday the commons decreed themselves, in consequence of the abbe Sieyes's intended motion, the title of Assemble Nationale; and also, considering themselves then in activity, the illegality of all taxes; but granted them during the session, declaring that they would, without delay, deliberate on the consolidating of the debt; and on the relief of the misery of the people. These steps give great spirits to the violent partizans of a new constitution; but, amongst more sober minds, I see evidently an apprehension, that it will prove a precipitate measure. It is a violent step, which may be taken hold of by the court, and converted very much to the people's disadvantage. The reasoning of Mons. de Mirabeau against it was forcible and just: "Si je voulois employer contre les autres motions les armes dont on se sert pour attaquer la mienne,

ne pourrais-je pas dire a mon tour : de quelque maniere que vous-vous qualifiez, que vous soyez les representans connus & verifiés de la nation, les representans de 25 millions d'hommes, les representans de la majorite du peuple, dussiez-vous meme vous appeller l'Assemblée Nationale, les etats generaux, empecherez-vous les classes privilegiees de continuer des assemblees que sa majeste a reconnues ? Les empecherez-vous de prendre des de liberationes ? Les empecherez-vous de pretendre au veto ? Empecherez-vous le Roi de les recevoir ? De les reconnoitre, de leur continuer les memes titres qu'il leur a donnes jusqu'a present ? Enfin, empecherez-vous la nation d'appeller le clerge, le clerge, la noblesse, la noblesse ?”

To the Royal Society of Agriculture, where I gave my vote with the rest, who were unanimous for electing general Washington an honorary member ; this was a proposal of Mons. de Broussonet, in consequence of my having assured him, that the general was an excellent farmer, and had corresponded with me on the subject. Abbe Commerel was present ; he gave a pamphlet on a new project, the choux a fouché, and a paper of the seed.

The 19th. Accompanied Mons. de Broussonet to dine with Mons. de Parmentier, at the hotel des invalids. A president of the parliament, a Mons. Maily, brother-in-law to the chancellor, was there ; abbe Commerel, &c. &c. I remarked two years ago, that Mons. Parmentier is one of the best of men, and beyond all question understands every circumstance of the boulangerie better than any other writer, as his productions clearly manifest. After dinner to the plains of Sablon, to see the society's potatoes and preparations for turnips, of which I shall only say that I wish my brethren to stick to their scientific farming, and leave the practical to those who understand it. What a sad thing for philosophical husbandmen that God Almighty created such a thing as couch (*tritium repens*.)

The 20th. News ! News ! Every one stares at what every one might have expected. A message from the king to the presidents of the three orders, that he should meet them on Monday ; and, under pretence of preparing the hall for the seance royale, the French guards were placed with bayonets to prevent any of the deputies entering the room. The circumstances of doing this ill-judged act of violence have been as ill-advised as the act itself. Mons. Bailly received no other notice of it than by a letter from the marquis de Breze, and the deputies met at the door of the hall, without knowing that it was shut. Thus the seeds of disgust were sown wantonly in the manner of doing a thing, which in itself was equally unpalatable and unconstitutional. The resolution taken on the spot was a noble and firm one ; it was to assemble instantly at the Jeu de paume, and there the whole assembly took a solemn oath never to be dissolved but by their own consent, and to consider themselves, and act as the national assembly, let them be wherever violence or fortune might drive them ; and their expectations were so little favourable, that expresses were sent off to Nantes, intimating that the national assembly might possibly find it necessary to take refuge in some distant city. This message, and placing guards at the hall of the states, are the result of long and repeated councils, held in the king's presence at Marly, where he has been shut up for some days, seeing nobody ; and no person admitted, even to the officers of the court, without jealousy and circumspection. The king's brothers have no seat in the council, but the count d'Artois incessantly attends the resolutions, conveys them to the queen, and has long conferences with her. When this news arrived at Paris, the palais royal was in a flame, the coffee-houses, pamphlet-shops, corridors, and gardens were crowded ; alarm and apprehension sat in every eye ; the reports that were circulated eagerly, tending to shew the violent intentions of the court, as if it were bent on the utter extir-

pation of the French nation, except the party of the queen, are perfectly incredible for their gross absurdity: yet nothing was so glaringly ridiculous, but the mob swallowed it with indiscriminating faith. It was, however, curious to remark, among persons of another description (for I was in several parties after the news arrived) that the balance of opinions was clearly that the national assembly, as it called itself, had gone too far; had been too precipitate; and too violent; had taken steps that the mass of the people would not support. From which we may conclude, that if the court, having seen the tendency of their late proceedings, shall pursue a firm and politic plan, the popular cause will have little to boast.

The 21st. It is impossible to have any other employment at so critical a moment, than going from house to house demanding news; and remarking the opinions and ideas most current. The present moment is, of all others, perhaps that which is most pregnant with the future destiny of France. The step the commons have taken of declaring themselves the national assembly, independent of the other orders, and of the king himself, precluding a dissolution, is in fact an assumption of all the authority in the kingdom. They have at one stroke converted themselves into the long parliament of Charles I. It needs not the assistance of much penetration to see that if such a pretension and declaration be not done away, king, lords, and clergy are deprived of their shares in the legislature of France. So bold, and apparently desperate a step, equally destructive to the royal authority, the parliaments, and the army, and to every interest in the realm, can never be allowed. If it be not opposed, all other powers will lie in ruins around that of the commons. With what anxious expectation must one therefore wait to see if the crown will exert itself firmly on the occasion, with such an attention to an improved system of liberty, as is absolutely necessary to the moment! All things considered, that is, the characters of those who are in possession of power, no well digested system and steady execution are to be looked for. In the evening of the play; madame Rocquere performed the queen in Hamlet; it may easily be supposed how that play of Shakspeare is cut in pieces. It has however effect by her admirable acting.

The 22d. To Versailles at six in the morning, to be ready for the seance royale. Breakfasting with the due de Liancourt, we found that the king had put off going to the states till to-morrow morning. A committee of council was held last night, which sat till midnight, at which were present Monsieur and the count d'Artois for the first time: an event considered as extraordinary, and attributed to the influence of the queen. The count d'Artois, the determined enemy of Mons. Necker's plans, opposed his system, and prevailed to have the seance put off to give time for a council in the king's presence to-day. From the chateau we went to find out the deputies; reports were various where they were assembling. To the Recolets, where they had been, but finding it incommodious, they went to the church of St. Louis, whither we followed them, and were in time to see M. Bailly take the chair, and read the king's letter, putting off the seance till to-morrow. The spectacle of this meeting was singular; the crowd that attended in and around was great; and the anxiety and suspense in every eye, with the variety of expression that flowed from different views and different characters, gave to the countenances of all the world an impression I had never witnessed before. The only business of importance transacted, but which lasted till three o'clock, was receiving the oaths and signatures of some deputies, who had not taken them at the Jeu de paume; and the union of three bishops and one hundred and fifty of the deputies of the clergy, who came to verify their powers, and were received by such applause, with such clapping and shouting from all present, that the church resounded.



Apparently the inhabitants of Versailles, which having a population of sixty thousand people can afford a pretty numerous mob, are to the last person in the interest of the commons; remarkable, as this town is absolutely fed by the palace; and if the cause of the court be not popular here, it is easy to suppose what it must be in all the rest of the kingdom. Dine with the duc de Liancourt, in the palace, a large party of nobility and deputies of the commons, the duc d'Orleans amongst them; the bishop of Rodez, abbe Sicyes, and Mons. Rabaud St. Etienne. This was one of the most striking instances of the impression made on men of different ranks by great events. In the streets, and in the church of St. Louis, such anxiety was in every face, that the importance of the moment was written in the physiognomy; and all the common forms and salutations of habitual civility lost in attention: but amongst a class so much higher as those I dined with, I was struck with the difference. There were not, in thirty persons, five in whose countenances you could guess that any extraordinary event was going forward: more of the conversation was indifferent than I should have expected. Had it all been so, there would have been no room for wonder; but observations were made of the greatest freedom, and so received as to mark that there was not the least impropriety in making them. In such a case, would not one have expected more energy of feeling and expression, and more attention in conversation to the crisis that must in its nature fill every bosom? Yet they ate, and drank, and sat, and walked, loitered, and smirked and smiled, and chatted with that easy indifference, that made me stare at their insipidity. Perhaps there is a certain nonchalance that is natural to people of fashion from long habit, and which marks them from the vulgar, who have a thousand asperities in the expression of their feelings, that cannot be found on the polished surface of those whose manners are smoothed by society, not worn by attrition. Such an observation would therefore in all common cases be unjust; but I confess the present moment, which is beyond all question the most critical that France has seen from the foundation of the monarchy, since the council was assembled that must finally determine the king's conduct, was such as might have accounted for a behaviour totally different. The presence of the duc d'Orleans might do a little, but not much; his manner might do more; for it was not without some disgust, that I observed him sometimes playing off that small sort of wit, and flippant readiness to titter, which, I suppose, is a part of his character, or it would not have appeared to-day. From his manner, he seemed not at all displeased. The abbe Sicyes has a remarkable physiognomy, a quick rolling eye; penetrating the ideas of other people, but so cautiously reserved as to guard his own. There is as much character in his air and manner as there is vacuity of it in the countenance of Mons. Rabaud St. Etienne, whose physiognomy, however, is far from doing him justice, for he has undoubted talents. It seems agreed, that if in the council the count d'Artois carries his point, Mons. Necker, the count de Montmorin, and Mons. de St. Priest will resign; in which case Mons. Necker's return to power, and in triumph, will inevitably happen. Such a turn, however, must depend on events.—Evening. The plan of the count d'Artois accepted; the king will declare it in his speech to-morrow. Mons. Necker demanded to resign, but was refused by the king. All is now anxiety to know what the plan is.

The 23d. The important day is over: in the morning Versailles seemed filled with troops: the streets about ten o'clock were lined with the French guards, and some Swiss regiments, &c. the hall of the states was surrounded, and centinels fixed in all the passages, and at the doors; and none but deputies admitted. This military preparation was ill-judged, for it seemed admitting the impropriety and unpopularity of the intended measure, and the expectation, perhaps fear, of popular commotions. They

pronounced, before the king left the chateau, that his plan was adverse to the people, from the military parade with which it was ushered in. The contrary, however, proved to be the fact; the propositions are known to all the world: the plan was a good one; much was granted to the people in great and essential points; and as it was granted before they had provided for those public necessities of finance, which occasioned the states being called together; and consequently left them at full power in future to procure for the people all that opportunity might present, they apparently ought to accept them, provided some security be given for the future meetings of the states, without which all the rest would be insecure; but as a little negotiation may easily secure this, I apprehend the deputies will accept them conditionally: the use of soldiers, and some imprudencies in the manner of forcing the king's system, relative to the interior constitution, and assembling of the deputies, as well as the ill-blood which had had time to brood for three days past in their minds, prevented the commons from receiving the king with any expressions of applause; the clergy, and some of the nobility, cried "vive le Roi!" but treble the number of mouths being silent, took off all effect. It seems they had previously determined to submit not to violence: when the king was gone, and the clergy and nobility retired, the marquis de Breze waiting a moment to see if they meant to obey the king's express orders, to retire also to another chamber prepared for them, and perceiving that no one moved, addressed them, "Messieurs, vous connoissez les intentions du Roi." A dead silence ensued; and then it was that superior talents bore the sway, that overpowers in critical moments all other considerations. The eyes of the whole assembly were turned on the count de Mirabeau, who instantly replied to the marquis de Breze; "Oui, Monsieur, nous avons entendu les intentions qu'on a suggerees au Roi, & vous qui ne sauriez etre son organe aupres des etats generaux, vous qui n'avez ici ni place, ni voix, ni droit de parler, vous n'etes pas fait pour nous rappeler son discours. Cependant pour eviter toute equivoque, & tout delai, je vous declare que si l'on vous a charge de nous faire sortir d'ici, vous devez demander des ordres pour employer la force, car nous ne quitterons nos places que par la puissance de la baionette." On which there was a general cry of—"Tel est le vœu de l'assemblee." They then immediately passed a confirmation of their preceding arretes; and, on the motion of the count de Mirabeau, a declaration that their persons, individually and collectively, were sacred; and that all who made any attempts against them should be deemed infamous traitors to their country.

The 24th. The ferment at Paris is beyond conception; ten thousand people have been all this day in the palais royal; a full detail of yesterday's proceedings was brought this morning, and read by many apparent leaders of little parties, with comments to the people. To my surprize, the king's propositions are received with universal disgust. He said nothing explicit on the periodical meeting of the states; he declared all the old feudal rights to be retained as property. These, and the change in the balance of representation in the provincial assemblies, are the articles that give the greatest offence. But, instead of looking to, or hoping for further concessions on these points, in order to make them more consonant to the general wishes, the people seem, with a sort of phrenzy, to reject all idea of compromise, and to insist on the necessity of the orders uniting, that full power may consequently reside in the commons, to effect what they call the regeneration of the kingdom; a favourite term, to which they affix no precise idea, but add the indefinite explanation of the general reform of all abuses. They are also full of suspicions at M. Necker's offering to resign, to which circumstance they seem to look more than to much more essential points. It is plain to me, from many conversations and harangues I have been witness to, that the constant meetings at

the palais royal, which are carried to a degree of licentiousness and fury of liberty, that is scarcely credible, united with the innumerable inflammatory publications that have been hourly appearing since the assembly of the states, have so heated the people's expectations, and given them the idea of such total changes, that nothing the king or court could do would now satisfy them; consequently it would be idleness itself to make concessions that are not steadily adhered to, not only to be observed by the king, but to be enforced on the people, and good order at the same time restored. But the stumbling-block to this and every plan that can be devised, as the people know and declare in every corner, is the situation of the finances, which cannot possibly be restored but by liberal grants of the states on the one hand, or by a bankruptcy on the other. It is well known, that this point has been warmly debated in the council: Mons. Necker has proved to them, that a bankruptcy is inevitable, if they break with the states before the finances are restored; and the dread and terror of taking such a step, which no minister would at present dare to venture on, has been the great difficulty that opposed itself to the projects of the queen and the count d'Artois. The measure they have taken is a middle one, from which they hope to gain a party among the people, and render the deputies unpopular enough to get rid of them: an expectation, however, in which they will infallibly be mistaken. If, on the side of the people it be urged, that the vices of the old government make a new system necessary, and that it can only be by the firmest measures that the people can be put in possession of the blessings of a free government; it is to be replied, on the other hand, that the personal character of the king is a just foundation for relying that no measures of actual violence can be seriously feared: that the state of the finances, under any possible regimen, whether of faith or bankruptcy, must secure their existence, at least for time sufficient to secure by negotiation, what may be hazarded by violence; that by driving things to extremities, they risque an union between all the other orders of the state, with the parliaments, army, and a great body even of the people, who must disapprove of all extremities; and when to this is added the possibility of involving the kingdom in a civil war, now so familiarly talked of, that it is upon the lips of all the world, we must confess, that the commons, if they steadily refuse what is now held out to them, put immense and certain benefits to the chance of fortune, to that hazard which may make posterity curse, instead of bless, their memories as real patriots, who had nothing in view but the happiness of their country. Such an incessant buzz of politics has been in my ears for some days past, that I went to night to the Italian opera, for relaxation. Nothing could be better calculated for that effect, than the piece performed, "La Villanella Rapita," by Bianchi, a delicious composition. Can it be believed, that this people, who so lately valued nothing at an opera but the dances, and could hear nothing but a squall, now attend with feeling to Italian melodies, applaud with taste and rapture, and this without the mercetricious aid of a single dance! The music of this piece is charming, elegantly playful, airy, and pleasing, with a duet, between Signora Mandini and Viganoni, of the first lustre. The former is a most fascinating singer; her voice nothing, but her grace, expression, soul, all strung to exquisite sensibility.

The 25th. The criticisms that are made on Mons. Necker's conduct, even by his friends, if above the level of the people, are severe. It is positively asserted, that abbe Sieyes, Messrs. Mounier, Chapellier, Bernave, Target, Tourette, Rabaud, and other leaders, were almost on their knees to him, to insist peremptorily on his resignation being accepted, as they were well convinced that his retreat would throw the queen's party into infinitely greater difficulties and embarrassment than any other circumstance. But his vanity prevailed over all their efforts to listen to the insidious persuasions of the

queen, who spoke to him in the style of asking it as a request, that he would keep the crown on the king's head; at the same time that he yielded to do it, contrary to the interest of the friends of liberty, he seemed so pleased with the huzzas of the mob of Versailles, that it did much mischief. The ministers never go to and from the king's apartment on foot, across the court, which Mons. Necker took this opportunity of doing, though he himself had not done it in quiet times, in order to court the flattery of being called the father of the people, and moving with an immense and shouting multitude at his heels. Nearly at the time that the queen, in an audience almost private, spoke as above to M. Necker, she received the deputation from the nobility, with the dauphin in her hand, whom she presented to them, claiming of their honour, the protection of her son's rights; clearly implying, that if the step the king had taken was not steadily pursued, the monarchy would be lost, and the nobility sunk. While M. Necker's mob was heard through every apartment of the chateau, the king passed in his coach to Marly, through a dead and mournful silence; and that just after having given to his people, and the cause of liberty, more perhaps than ever any monarch had done before. Of such materials are all mobs made; so impossible is it to satisfy in moments like these, when the heated imagination dresses every visionary project of the brain in the bewitching colours of liberty. I feel great anxiety to know what will be the result of the deliberations of the commons, after their first protests are over, against the military violence which was so unjustifiably and injudiciously used. Had the king's proposition come after the supplies were granted, and on any inferior question, it would be quite another affair; but to offer this before one shilling is granted, or a step taken, makes all the difference imaginable. Evening. The conduct of the court is inexplicable, and without a plan: while the late step was taken, to secure the orders sitting separate, a great body of the clergy had been permitted to go to the commons, and the duc d'Orleans, at the head of forty-seven of the nobility, has done the same: and, what is equally a proof of the unsteadiness of the court, the commons are in the common hall of the states, contrary to the express command of the king. The fact is, the seance royale was repugnant to the personal feelings of the king, and he was brought to it by the council with much difficulty; and when it afterwards became necessary, as it did every hour, to give new and effective orders to support the system then laid down, it was requisite to have a new battle for every point; and thus the scheme was only opened, and not persisted in: this is the report, and apparently authentic: it is easy to see, that that step had better, on a thousand reasons, not have been taken at all, for all vigour and effect of government will be lost, and the people be more assuming than ever. Yesterday, at Versailles, the mob was violent; they insulted, and even attacked all the clergy and nobility that are known to be strenuous for preserving the separation of orders. The bishop of Beauvais had a stone on his head, that almost struck him down.\* The archbishop of Paris had all his windows broken, and forced to move his lodgings: and the cardinal de la Rouchefoucauld hissed and hooted. The confusion is so great, that the court have only the troops to depend on; and it is now said confidently, that if an order be given to the French guards to fire on the people, they will refuse obedience: this astonishes all, except those who know how they have been disgusted by the treatment, conduct, and manœuvres of the duc de Chatlet, their colonel: so wretchedly have the affairs of the court, in every particular, been managed; so miserable its choice

\* If they had treated him more severely, he would not have been an object of much pity. At a meeting of the Society of Agriculture in the country, where common farmers were admitted to dine with people of the first rank, this proud fool made difficulties of sitting down in such company.

of the men in offices, even such as are the most intimately connected with its safety, and even existence. What a lesson to princes, how they allow intriguing courtiers, women, and fools, to interfere, or assume the power that can be lodged, with safety, only in the hands of ability and experience! It is asserted expressly, that these mobs have been excited and instigated by the leaders of the commons, and some of them paid by the duc d'Orleans. The distraction of the ministry is extreme. At night to the theatre Francois; the earl of Essex, and the Maison de Moliere.

The 26th. Every hour that passes here seems to give the people fresh spirit: the meetings at the palais royal are more numerous, more violent, and more assured; and in the assembly of electors, at Paris, for sending a deputation to the national assembly, the language that was talked, by all ranks of people, was nothing less than a revolution in the government, and the establishment of a free constitution; what they mean by a free constitution is easily understood, a republic; for the doctrine of the times runs every day more and more to that point; yet they profess, that the kingdom ought to be a monarchy too; or, at least, that there ought to be a king. In the streets one is stunned by the hawkers of seditious pamphlets, and descriptions of pretended events, that all tend to keep the people equally ignorant and alarmed. The supineness, and even stupidity of the court, is without example: the moment demands the greatest decision; and yesterday, while it was actually a question, whether he should be a doge of Venice, or a king of France, the king went a hunting! The spectacle of the palais royal presented this night, till eleven o'clock, and, as we afterwards heard, almost till morning, is curious. The crowd was prodigious, and fire-works of all sorts were played off, and all the building was illuminated: these were said to be rejoicings on account of the duc d'Orleans and the nobility joining the commons; but united with the excessive freedom, and even licentiousness of the orators, who harangue the people; with the general movement which before was threatening, all this bustle and noise, which will not leave them a moment tranquil, has a prodigious effect in preparing them for whatever purposes the leaders of the commons shall have in view; consequently they are grossly and diametrically opposite to the interests of the court; but all these are blind and infatuated. It is now understood by every body, that the king's officers, in the seance royale, are out of the question. The moment the commons found a relaxation, even in the trifling point of assembling in the great hall, they disregarded all the rest, and considered the whole as null, and not to be taken notice of, unless enforced in a manner of which there were no signs. They lay it down for a maxim, that they have a right to a great deal more than what the king touched on, but that they will accept of nothing as the concession of power; they will assume and secure all to themselves, as matters of right. Many persons I talk with, seem to think there is nothing extraordinary in this; but it appears, that such pretensions are equally dangerous and inadmissible, and lead directly to a civil war, which would be the height of madness and folly, when public liberty might certainly be secured, without any such extremity. If the commons are to assume every thing as their right, what power is there in the state, short of arms, to prevent them from assuming what is not their right? They instigate the people to the most extensive expectations, and if they be not gratified, all must be confusion; and even the king himself, easy and lethargic as he is, and indifferent to power, will by and by be seriously alarmed, and ready to listen to measures, to which he will not at present give a moment's attention. All this seems to point strongly to great confusion, and even civil commotions; and to make it apparent, that to have accepted the king's offers, and made them the foundation of future negociation, would have been the wisest conduct, and with that idea I shall leave Paris.

The 27th. The whole business now seems over, and the revolution complete. The king has been frightened by the mobs into overturning his own act of the *seance royale*, by writing to the presidents of the orders of the nobility and clergy, requiring them to join the commons, in direct contradiction to what he had ordained before. It was represented to him, that the want of bread was so great in every part of the kingdom, that there was no extremity to which the people might not be driven: that they were nearly starving, and consequently ready to listen to any suggestions, and on the *qui vive* for all sorts of mischief: that Paris and Versailles would inevitably be burnt; and in a word, that all sorts of misery and confusion would follow his adherence to the system announced in the *seance royale*. His apprehensions got the better of the party who had for some days guided him; and he was thus induced to take this step, which is of such importance, that he will never more know where to stop, or what to refuse; or rather he will find, that in the future arrangement of the kingdom, his situation will be very nearly that of Charles I, a spectator, without power, of the effective resolutions of a long parliament. The joy this step occasioned was infinite; the whole assembly, uniting with the people, hurried to the chateau. *Vive le Roy* might have been heard at Marly: the king and queen appeared in the balcony, and were received with the loudest shouts of applause; the leaders, who governed these motions, knew the value of the concession much better than those who made it. I have to-day had conversation with many persons on this business; and to my amazement, there is an idea, and even among many of the nobility, that this union of the orders is only for the verification of their powers, and for making the constitution, which is a new term they have adopted; and which they use as if a constitution were a pudding to be made by a receipt. In vain I have asked, where is the power that can separate them hereafter, if the commons insist on remaining together, which may be supposed, as such an arrangement will leave all the power in their hands? And in vain I appeal to the evidence of the pamphlets written by the leaders of that assembly, in which they hold the English constitution cheap, because the people have not power enough, on account of that of the crown and the house of lords. The event now appears so clear, as not to be difficult to predict: all real power will be henceforward in the commons; having so much inflamed the people in the exercise of it, they will find themselves unable to use it temperately; the court cannot sit to have their hands tied behind them; the clergy, nobility, parliaments, and army, will, when they find themselves in danger of annihilation, unite in their mutual defence; but as such an union will demand time, they will find the people armed, and a bloody civil war must be the result. I have more than once declared this as my opinion, but do not find that others unite in it.\* At all events, however, the tide now runs so strongly in favour of the people, and the conduct of the court so weak, divided, and blind, that little can happen that will not clearly be dated from the present moment. Vigour and abilities would have turned every thing on the side of the court; for the great mass of nobility in the kingdom, the higher clergy, the parliaments, and the army, were with the crown; but this desertion of the conduct which was necessary to secure its power, at a moment so critical, must lead to

\* I may remark at present, long after this was written, that, although I was totally mistaken in my prediction, yet, on a revision, I think I had a reasonable ground for it, and that the common course of events would have produced such a civil war, to which every thing tended, from the moment the commons rejected the king's propositions of the *seance royale*, which I now think, more than ever, they ought, with qualifications, to have accepted. The events that followed were as little to be thought of as of myself being made king of France.

all sorts of pretensions. At night, the fire-works, and illuminations, and mob, and noise, at the palais royal increased; the expence must be enormous; and yet nobody knows with certainty whence it arises: shops there are, however, that for 12 sous, give as many squibs and serpents as would cost five livres. There is no doubt of its being the duc d'Orleans's money: the people are thus kept in a continual ferment, are for ever assembled, and ready to be in the last degree of commotion whenever called on by the men they have confidence in. Lately a company of Swiss would have crushed all this; a regiment would do it now if led with firmness; but, let it last a fortnight longer, and an army will be requisite. At the play, *Mademoiselle Contat*, in the *Misanthrope* of Moliere, charmed me. She is truly a great actress; ease, grace, person, beauty, wit, and soul. Moliere did the *Misanthrope* admirably. I will not take leave of the theatre Francois without once more giving it the preference to all I have ever seen.

I shall leave Paris truly rejoiced that the representatives of the people have it undoubtedly in their power so to improve the constitution of their country, as to render all great abuses in future, if not impossible, at least exceedingly difficult, and consequently will establish to all useful purposes, an undoubted political liberty; and if they effect this, it cannot be doubted but that they will have a thousand opportunities to secure to their fellow-subjects the invaluable blessing of civil liberty also. The state of the finances is such, that the government may easily be kept virtually dependant on the states, and their periodical existence absolutely secured. Such benefits will confer happiness on twenty-five millions of people; a noble and animating idea, that ought to fill the mind of every citizen of the world, whatever be his country, religion, or pursuit. I will not allow myself to believe for a moment, that the representatives of the people can ever so far forget their duty to the French nation, to humanity, and their own fame, as to suffer any inordinate and impracticable views; any visionary or theoretic systems; any frivolous ideas of speculative perfection; much less any ambitious private views, to impede their progress, or turn aside their exertions, from that security which is in their hands, to place on the chance and hazard of public commotion and civil war, the invaluable blessings which are certainly in their power. I will not conceive it possible, that men, who have eternal fame within their grasp, will place the rich inheritance on the cast of a die, and losing the venture, be damned among the worst and most profligate adventurers that ever disgraced humanity. The duc de Liancourt having made an immense collection of pamphlets, buying every thing that has a relation to the present period; and among the rest, the cahiers of all the districts and towns of France of the three orders; it was a great object with me to read these, as I was sure of finding in them a representation of the grievances of the three orders, and an explanation of the improvements wished for in the government and administration; these cahiers being instructions given to their deputies, I have now gone through them all, with a pen in hand, to make extracts, and shall therefore leave Paris to-morrow.

The 28th. Having provided myself a light French cabriolet for one horse, or gig Anglois, and a horse, I left Paris, taking leave of my excellent friend Monsieur Lazowski, whose anxiety for the fate of his country made me respect his character as much as I had reason to love it for the thousand attentions I was in the daily habit of receiving from him. My kind protectress, the duchess d'Estissac, had the goodness to make me promise, that I would return again to her hospitable hotel, when I had finished the journey I was about to undertake. Of the place I dined at on my road to Nangis, I forget the name, but it is a post-house on the left, at a small distance out of

the road. It afforded me a bad room, bare walls, cold raw weather, and no fire; for, when lighted, it smoked too much to be borne; I was thoroughly out of humour: I had passed sometime at Paris amidst the fire, energy, and animation of a great revolution. And for those moments not filled by political events, I had enjoyed the resources of liberal and instructing conversation; the amusements of the first theatre in the world, and the fascinating accents of Mandini, had by turns solaced and charmed the fleeting moments: the change to inns, and those French inns; the ignorance in all persons of those events that were now passing, and which so intimately concerned them; the detestable circumstance of having no newspapers, with a press much freer than the English, altogether formed such a contrast, that my heart sunk with depression. At Guignes, an itinerant dancing-master was fiddling to some children of tradesmen; to relieve my sadness, I became a spectator of their innocent pleasures, and, with great magnificence, I gave four 12s. pieces for a cake for the children, which made them dance with fresh animation; but my host, the post-master, who is a surly pickpocket, thought that if I was so rich, he ought also to receive the benefit, and made me pay 9 livres 10s. for a miserable tough chicken, a cutlet, a sallad, and a bottle of sorry wine. Such a dirty, pilfering disposition, did not tend to bring me into better humour. 30 miles.

The 29th. To Nangis, the chateau of which belongs to the marquis de Guerchy, who last year at Caen had kindly made me promise to spend a few days here. A house almost full of company, and some of them agreeable, with the eagerness of Monsieur de Guerchy for farming, and the amiable naivete of the Marchioness, whether in life, politics, or a farm, were well calculated to bring me into tune again. But I found myself in a circle of politicians, with whom I could agree in hardly any other particular, except the general one of cordially wishing that France might establish an indestructible system of liberty; but for the means of doing it, we were far as the poles asunder. The chaplain of Monsieur de Guerchy's regiment, who has a cure here, and whom I had known at Caen, Monsieur l'abbé de —, was particularly strenuous for what is called the regeneration of the kingdom, by which it is impossible, from the explanation, to understand any thing more than a theoretic perfection of government; questionable in its origin, hazardous in its progress, and visionary in its end; but always presenting itself under a most suspicious appearance to me, because all its advocates, from the pamphlets of the leaders in the national assembly, to the gentlemen who make its panegyric at present, affect to hold the constitution of England cheap in respect of liberty: and as that is unquestionably, and by their own admission, the best the world ever saw, they profess to appeal from practice to theory, which, in the arrangement of a question of science, might be admitted, though with caution; but, in establishing the complex interest of a great kingdom, in securing freedom to twenty-five millions of people, seems to me the very acme of imprudence, the very quintessence of insanity. My argument was an appeal to the English constitution; take it at once, which is the business of a single vote; by your possession of a real and equal representation of the people, you have freed it from its only great objection; in the remaining circumstances, which are but of small importance, improve it, but improve it cautiously; for surely that ought to be touched with caution, which has given, from the moment of its establishment, felicity to a great nation; which has given greatness to a people designed by nature to be little; and, from being the humble copiers of every neighbour, has rendered them, in a single century, rivals of the most successful nations in those decorative arts that embellish human life; and the masters of the world in all those that contribute to its convenience. I was commended for my attachment to what I thought



was liberty ; but answered, that the king of France must have no veto on the will of the nation ; and that the army must be in the hands of the provinces, with an hundred ideas equally impracticable and preposterous. Yet these are the sentiments which the court has done all in its power to spread through the kingdom ; for will posterity believe, that while the press has swarmed with inflammatory productions, that tend to prove the blessings of theoretical confusion, and speculative licentiousness, not one writer of talents has been employed to refute and confound the fashionable doctrines, nor the least care taken to disseminate works of another complexion ? By the way, when the court found that the states could not be assembled on the old plan, and that great innovations must accordingly be made, they ought to have taken the constitution of England for their model ; in the mode of assembling, they should have thrown the clergy and nobles into one chamber, with a throne for the king, when present. The commons should have assembled in another, and each chamber, as in England, should have verified its powers to itself only. And when the king held a *feance royale*, the commons should have been sent for to the bar of the lords, where seats should have been provided ; and the king, in the edict that constituted the states, should have copied from England enough of the rules and orders of proceeding to prevent those preliminary discussions, which in France lost two months, and gave time for heated imaginations to work upon the people too much. By taking such steps, security would have been had, that if changes or events unforeseen arose, they would at least be met with in no such dangerous channel as another form and order of arrangement would permit.

15 miles.

The 30th. My friend's chateau is a considerable one, and much better built than was common in England in the same period, two hundred years ago ; I believe, however, that this superiority was universal in France, in all the arts. They were, I apprehend, in the reign of Henry IV, far beyond us in towns, houses, streets, roads, and, in short, in every thing. We have since, thanks to liberty, contrived to turn the tables on them. Like all the chateaus I have seen in France, it stands close to the town, indeed joining the end of it ; but the back front, by means of some very judicious plantations, has entirely the air of the country, without the sight of any buildings. There the present marquis has formed an English lawn, with some agreeable winding walks of gravel, and other decorations, to skirt it. In this lawn they are making hay, and I have had the marquis, Mons. l'Abbe, and some others on the stack to shew them how to make and tread it : such hot politicians ! it is well they did not set the stack on fire. Nangis is near enough to Paris for the people to be politicians ; the *peruquier* that dressed me this morning tells me, that every body is determined to pay no taxes, should the national assembly so ordain. But the soldiers will have something to say. No, Sir, never : be assured as we are, that the French soldiers will never fire on the people : but, if they should, it is better to be shot than starved. He gave me a frightful account of the misery of the people ; whole families in the utmost distress ; those that work have a pay insufficient to feed them ; and many that find it difficult to get work at all. I inquired of Mons. de Guerchy concerning this, and found it true. By order of the magistrates, no person is allowed to buy more than two bushels of wheat at a market, to prevent monopolizing. It is clear to common sense, that all such regulations have a direct tendency to increase the evil, but it is in vain to reason with people whose ideas are immoveably fixed. Being here on a market-day, I attended, and saw the wheat sold out under this regulation, with a party of dragoons drawn up before the market-cross to prevent violence. The people quarrel with the bakers, asserting the prices they demand for bread are beyond the proportion of wheat, and proceeding

from words to scuffling, raise a riot, and then run away with bread and wheat for nothing: this has happened at Nangis, and many other markets; the consequence was that neither farmers nor bakers would supply them till they were in danger of starving, and prices under such circumstances, must necessarily rise enormously, which aggravated the mischief, till troops became really necessary to give security to those who supplied the markets. I have been sifting madame de Guerchy on the expences of living; our friend Mons. P'Abbe joined the conversation, and I collect from it, that to live in a chateau like this, with six men servants, five maids, eight horses, a garden, and a regular table, with company, but never to go to Paris, might be done for 1000 louis a year. It would in England cost 2000; the mode of living (not the price of things) is therefore cent. per cent. different. There are gentlemen (noblesse) who live in this country on 6 or 8000 livres (262l. to 350l.) that keep two men, two maids, three horses, and a cabriolet; there are the same in England, but they are fools. Among the neighbours who visited Nangis was Mons. Trudaine de Montigny, with his new and pretty wife, to return the first visit of ceremony: he has a fine chateau at Montigny, and an estate of 4000 louis a year. This lady was Mademoiselle de Cour Breton, niece to Madame Calonne; she was to have been married to the son of Mons. Lamoignon, but much against her inclinations; finding that common refusals had no avail, she determined on a very uncommon one, which was to go to church, in obedience to her father's orders, but to give a solemn no instead of a yea. She was afterwards at Dijon, and never stirred but she was received with huzzas and acclamations by the people for refusing to be allied with la Cour Pleniere; and her firmness was every where spoken of much to her advantage. Mons. la Luzerne, nephew to the French ambassador at London, was there, and who informed me, that he had learned to box of Mendoza. No one can say that he has travelled without making acquisitions. Has the duc d'Orleans also learned to box? The news from Paris is bad: the commotions increase greatly: and such an alarm has spread, that the queen has called the marechal de Broglio to the king's closet; he has had several conferences: the report is, that an army will be collected under him. It may be now necessary; but woeful management to have made it so.

July 2. To Meux. Mons. de Guerchy was so kind as to accompany me to Columiers; I had a letter to Mons. Anvee Dumeé. Pass Rosoy to Maupertius, through a country cheerfully diversified by woods, and scattered with villages; and single farms spread every where as about Nangis. Maupertius seems to have been the creation of the marquis de Montesquieu, who has here a very fine chateau of his own building; an extensive English garden, made by the count d'Artois's gardener, with the town, has all been of his own forming. I viewed the garden with pleasure; a proper advantage has been taken of a good command of a stream, and many fine springs which rise in the grounds; they are well conducted, and the whole executed with taste. In the kitchen-garden, which is on the slope of a hill, one of these springs has been applied to excellent use: it is made to wind in many doubles through the whole on a paved bed, forming numerous basins for watering the garden, and might, with little trouble, be conducted alternately to every bed as in Spain. This is a hint of real utility to all those who form gardens on the sides of hills; for watering with pots and pails is a miserable, as well as expensive succeedancum to this infinitely more effective method. There is but one fault in this garden, which is its being placed near the house, where there should be nothing but lawn and scattered trees when viewed from the chateau. The road might be hidden by a judicious use of planting. The road to Columiers is admirably formed of broken stone, like gravel, by the marquis of Montesquieu, partly at his own ex-

pence. Before I finish with this nobleman, let me observe, that he is esteemed by some the second family in France, and by others, who admit his pretensions, even the first; he claims from the house of Armagnac, which was undoubtedly from Charlemagne: the present king of France, when he signed some paper relative to this family, that seemed to admit the claim, or refer to it, remarked, that it was declaring one of his subjects to be a better gentleman than himself. But the house of Montmorenci, of which family are the dukes of Luxembourg and Laval, and the prince of Robecq, is generally admitted to be the first. Mons. de Montesquieu is a deputy in the states, one of the quarante in the French academy, having written several pieces: he is also chief minister to Monsieur, the king's brother, an office that is worth 100,000 livres a year (4375l.) Dine with Mons. and Madame Dumee; conversation here, as in every other town of the country, seems more occupied on the dearness of wheat than on any other circumstance; yesterday was market-day, and a riot ensued of the populace, in spite of the troops, that were drawn up as usual to protect the corn: it rises to 46 livres (2l. 3d.) the septier, or half-quarter, and some is sold yet higher. To Meux. 32 miles.

The 3d. Meux was by no means in my direct road; but its district, Brie, is so highly celebrated for fertility, that it was an object not to omit. I was provided with letters for M. Bernier, a considerable farmer, at Chaucaudin, near Meux; and for M. Gibert, of Neuf Moutier, a considerable cultivator, whose father and himself had between them made a fortune by agriculture. The former gentleman was not at home; by the latter I was received with great hospitality; and I found in him the strongest desire to give me every information I wished. Mons. Gibert has built a very handsome and commodious house, with farming-offices, on the most ample and solid scale. I was pleased to find his wealth, which is not inconsiderable, to have arisen wholly from the plough. He did not forget to let me know, that he was noble, and exempted from all tailles; and that he had the honours of the chace, his father having purchased the charge of Secretaire du Roi: but he very wisely lives en fermier. His wife made ready the table for dinner, and his bailiff, with the female domestic, who has the charge of the dairy, &c. both dined with us. This is in a true farming style; it has many conveniences, and looks like a plan of living, which does not promise, like the foppish modes of little gentlemen, to run through a fortune, from false shame and silly pretensions. I can find no other fault with his system than having built a house enormously beyond his plan of living, which can have no other effect than tempting some successor, less prudent than himself, into expences that might dissipate all his and his father's savings. In England that would certainly be the case; the danger, however, is not equal in France.

The 4th. To Chateau Thiery, following the course of the Marne. The country is pleasantly varied, and hilly enough to be rendered a constant picture, were it enclosed. Thiery is beautifully situated on the same river. I arrived there by five o'clock, and wished, in a period so interesting to France, and indeed to all Europe, to see a newspaper. I asked for a coffee-house, not one in the town. Here are two parishes, and some thousands of inhabitants, and not a newspaper to be seen by a traveller, even in a moment when all ought to be anxiety. What stupidity, poverty, and want of circulation! This people hardly deserve to be free; and should there be the least attempt with vigour to keep them otherwise, it can hardly fail of succeeding. To those who have been used to travel amidst the energetic and rapid circulation of wealth, animation, and intelligence of England, it is not possible to describe, in words adequate to one's feelings, the dulness and stupidity of France. I have been to-day on one of their greatest roads, within thirty miles of Paris, yet I have not seen one diligence, and met but a

single gentleman's carriage, nor any thing on the road that looked like a gentleman. 30 miles.

The 5th. To Marcuil. The Marne, about twenty-five rods broad, flows in an arable vale to the right. The country hilly, and parts of it pleasant; from one elevation there is a noble view of the river. Marcuil is the residence of Mons. Le Blanc, of whose husbandry and improvements, particularly in sheep of Spain, and cows of Switzerland, Mons. de Broussonet had spoken very advantageously. This was the gentleman also on whom I depended for information relative to the famous vineyards of Epernay; that produce the fine Champagne. What therefore was my disappointment, when his servants informed me that he was nine leagues off on business? Is Madame Le Blanc at home? No, she is at Dormans. My complaining ejaculations were interrupted by the approach of a very pretty young lady, whom I found to be Mademoiselle Le Blanc. Her mamma would return to dinner, her papa at night; and if I wished to see him, I had better stay. When persuasion takes so pleasing a form, it is not easy to resist it. There is a manner of doing every thing that either leaves it absolutely indifferent or that interests. The unaffected good humour and simplicity of Mademoiselle Le Blanc entertained me till the return of her mamma, and made me say to myself, you will make a good farmer's wife. Madame Le Blanc, when she returned, confirmed the native hospitality of her daughter; assured me that her husband would be at home early in the morning, as she must dispatch a messenger to him on other business. In the evening we supped with Mons. B. in the same village, who married Madame Le Blanc's niece; we pass Mareuil, through it, has the appearance of a small hamlet of inconsiderable farmers, with the houses of their labourers; and the sentiment that would arise in most bosoms, would be that of picturing the banishment of being condemned to live in it. Who would think that there should be two gentlemen's families in it; and that in one I should find Mademoiselle Le Blanc singing to her systum, and in the other Madame B. young and handsome, performing on an excellent English piano forte? Compared notes of the expences of living in Champagne and Suffolk; agreed, that 100 louis d'or a year in Champagne, were as good an income as 180 in England. On his return Mons. Le Blanc, in the most obliging manner, satisfied all my inquiries, and gave me letters for the most celebrated wine districts.

The 7th. To Epernay, famous for its wines. I had letters for Mons. Paretilaine, one of the most considerable merchants, who was so obliging as to enter, with two other gentlemen, into a minute disquisition of the produce and profit of the fine vineyards. The hotel de Rohan here is a very good inn, where I solaced myself with a bottle of excellent vin mousseux for 40s. and drank prosperity to *true* liberty in France. 12 miles.

The 8th. To Ay, a village not far out of the road to Rheims, very famous for its wines. I had a letter for Mons. Lasnier, who has 60,000 bottles in his cellar, but unfortunately he was not at home. Mons. Dorsee has from 30 to 40,000. All through this country the crop promises miserably, not on account of the great frost, but the cold weather of last week.

To Rheims, through a forest of five miles, on the crown of the hill, which separates the narrow vale of Epernay from the great plain of Rheims. The first view of that city from this hill, just before the descent, at the distance of about four miles, is magnificent. The cathedral makes a great figure, and the church of St. Remy, terminates the town proudly. Many times I have had such a view of towns in France, but when you enter them, all is a clutter of narrow, crooked, dark, and dirty lanes. At Rheims it is very different: the streets are almost all broad, straight, and well built, equal in that

respect to any I have seen; and the inn, the hotel de Moulinet, is so large and well-served; as not to check the emotions raised by agreeable objects, by giving an impulse to contrary vibrations in the bosom of the traveller, which at inns in France is too often the case. At dinner they gave me a bottle also of excellent wine. I suppose fixed air is good for the rheumatism; I had some writhes of it before I entered Champagne, but the vin mousseux has absolutely banished it. I had letters for Mons. Cadot L'aine, a considerable manufacturer, and the possessor of a large vineyard, which he cultivates himself; he was therefore a double fund to me. He received me very politely, answered my inquiries, and shewed me his fabric. The cathedral is large, but does not strike me like that of Amiens, yet ornamented, and many painted windows. They shewed me the spot where the kings are crowned. You enter and quit Rheims through superb and elegant iron gates: in such public decorations, promenades, &c. French towns are much beyond English ones. Stopped at Sillery, to view the wine press of the marquis de Sillery; he is the greatest wine-farmer in all Champagne, having in his own hands one hundred and eighty arpents. Till I got to Sillery, I knew not that it belonged to the husband of Madame de Genlis; but I determined, on hearing that it did, to presume to introduce myself to the marquis, should he be at home: I did not like to pass the door of Madame de Genlis without seeing her: her writings are too celebrated. La Petite Loge, where I slept, is bad enough indeed, but such a reflection would have made it ten times worse: the absence, however, of both Mons. and Madame quieted both my wishes and anxieties. He is in the states. 28 miles.

The 9th. To Chalons, through a poor country and poor crops. M. de Broussonet had given me a letter to Mons. Sabbatier, secretary to the Academy of Sciences, but he was absent. A regiment passing to Paris, an officer at the inn addressed me in English. He had learned, he said, in America, damme! He had taken lord Cornwallis, damme! Marechal Broglio was appointed to command an army of fifty thousand men near Paris; it was necessary. The tiers etat were running mad; and wanted some wholesome correction; they want to establish a republic, absurd! Pray, Sir, what did you fight for in America? To establish a republic. What was so good for the Americans, is it so bad for the French? Aye, damme! that is the way the English want to be revenged. It is, to be sure, no bad opportunity. Can the English follow a better example? He then made many inquiries about what we thought and said upon it in England: and I may remark, that almost every person I meet with has the same idea: The English must be very well contented at our confusion. They feel pretty pointedly what they deserve. 12 and a half miles.

The 10th. To Ove. Pass Courtisscau, a small village, with a great church; and though a good stream is here, not an idea of irrigation. Roofs of houses almost flat, with projecting eaves, resembling those from Pau to Bayonne. At St. Menchoud a dreadful tempest, after a burning day, with such a fall of rain, that I could hardly get to Mons. l'abbe Michel, to whom I had a letter. When I found him, the incessant flashes of lightning would allow me no conversation; for all the females of the house came into the room for the abbe's protection I suppose; so I took leave. The vin de Champagne, which is 40s. at Rheims, is 3 livres at Chalons and here, and execrably bad; so there is an end of my physic for the rheumatism. 25 miles.

The 11th. Pass Islets, a town (or rather collection of dirt and dung) of new features, that seem to mark, with the faces of the people, a country not French. 25 miles.

The 12th. Walking up a long hill, to ease my mare, I was joined by a poor woman, who complained of the times, and that it was a sad country; on my demanding her

reasons, she said her husband had but a morsel of land, one cow, and a poor little horse, yet he had a franchar (42lb.) of wheat, and three chickens, to pay as a quit-rent to one sieigneur; and four franchar of oats, one chicken and 1s. to pay another, beside very heavy tailles and other taxes. She had seven children, and the cow's milk helped to make the soup. But why, instead of a horse, do not you keep another cow? Oh, her husband could not carry his produce so well without a horse; and asses are little used in the country. It was said, at present, that something was to be done by some great folks for such poor ones, but she did not know who nor how, but God send us better, car les tailles & les droits nous ecrasent. This woman, at no great distance, might have been taken for sixty or seventy, her figure was so bent, and her face so furrowed and hardened by labour, but she said she was only twenty-eight. An Englishman, who has not travelled, cannot imagine the figure made by infinitely the greater part of the countrywomen in France; it speaks, at the first sight, hard and severe labour: I am inclined to think, that they work harder than the men, and this united with the more miserable labour of bringing a new race of slaves into the world, destroys absolutely all symmetry of person and every feminine appearance. To what are we to attribute this difference in the manners of the lower people in the two kingdoms? To government. 23 miles.

The 13th. Leave Mar-le Tour at four in the morning: the village herdsman was sounding his horn; and it was droll to see every door vomiting out its hogs or sheep, and some a few goats, the flock collecting as it advances. Very poor sheep, and the pigs with mathematical backs, large segments of small circles. They must have abundance of commons here, but, if I may judge by the report of animals carcasses, dreadfully overstocked. To Metz, one of the strongest places in France; pass three draw-bridges, but the command of water must give a strength equal to its works. The common garrison is ten thousand men, but there are fewer at present. Waited on M. de Payen, secretary of the Academy of Sciences; he asked my plan, which I explained; he appointed me at four in the afternoon, at the academy, as there would be a seance held; and he promised to introduce me to some persons who could answer my inquiries. I attended accordingly, when I found the academy assembled at one of their weekly meetings. Mons. Payen introduced me to the members, and, before they proceeded to their business, they had the goodness to sit in council on my inquiries, and to resolve many of them. In the Almanach de Trois Eveches, 1789, this academy is said to have been instituted particularly for agriculture; I turned to the list of their honorary members to see what attention they had paid to the men who, in the present age, have advanced that art. I found an Englishman, Dom Cowley, of London. Who is Dom Cowley? Dined at the table d'hote, with seven officers, out of whose mouths, at this important moment, in which conversation is as free as the press, not one word issued for which I would give a straw, nor a subject touched on of more importance, than a coat, or a puppy dog. At tables de hotes of officers, you have voluble garniture of bawdry or nonsense; at those of merchants, a mournful and stupid silence. Take the mass of mankind, and you have more good sense in half an hour in England than in half a year in France. Government! Again: all, all, is government. 15 miles.

The 14th. They have a cabinet literaire at Metz, something like that I described at Nantes, but not on so great a plan; and they admit any person to read or go in and out for a day, on paying 4s. To this I eagerly resorted, and the news from Paris, both in the public prints, and by the information of a gentleman, I found to be interesting. Versailles and Paris are surrounded by troops: thirty-five thousand men are

assembled, and twenty thousand more on the road, large trains of artillery collected, and all the preparations of war. The assembling of such a number of troops has added to the scarcity of bread; and the magazines that have been made for their support are not easily by the people distinguished from those they suspect of being collected by monopolists. This has aggravated their evils almost to madness; so that the confusion and tumult of the capital are extreme. A gentleman of an excellent understanding, and apparently of consideration, from the attention paid him, with whom I had some conversation on the subject, lamented, in the most pathetic terms, the situation of his country; he considers a civil war as impossible to be avoided. There is not, he added, a doubt but the court, finding it impossible to bring the national assembly to terms, will get rid of them; a bankruptcy at the same moment is inevitable; the union of such confusion must be a civil war; and it is now only by torrents of blood that we have any hope of establishing a freer constitution: yet it must be established; for the old government is rivetted to abuses that are insupportable. He agreed with me entirely, that the propositions of the *seance royale*, though certainly not sufficiently satisfactory, yet, were the ground for a negotiation, that would have secured by degrees all even that the sword can give us, let it be as successful as it will. The purse, the power of the purse is every thing; skilfully managed, with so necessitous a government as ours, it would, one after another, have gained all we wished. As to a war, Heaven knows the event; and if we have success, success itself may ruin us; France may have a Cromwell in its bosom, as well as England. Metz is, without exception, the cheapest town I have been in. The table d'hote is 36s. a head, plenty of good wine included. We were ten, and had two courses and a desert of ten dishes each, and those courses plentiful. The supper is the same; I had mine, of a pint of wine and a large plate of chaudies, in my chamber, for 10s. a horse, hay, and corn, 25s. and nothing for the apartment; my expence was therefore 71s. a day, or 2s. 11½d.; and with the table d'hote for supper, would have been but 97s. or 4s. 0½d. In addition, much civility and good attendance. It is at the Faisan. Why are the cheapest inns in France the best? The country to Pont-a-Mousson is all of bold features. The river Moselle, which is considerable, runs in the vale, and the hills on each side are high. Not far from Metz there are the remains of an ancient aqueduct for conducting the waters of a spring across the Moselle: there are many arches left on this side, with the houses of poor people built between them. At Pont-a-Mousson Mons. Pichon, the sub-delegate of the intendant, to whom I had letters, received me politely, satisfied my inquiries, which he was well able to do from his office, and conducted me to see whatever was worth viewing in the town. It does not contain much; the *ecole militaire*, for the sons of the poor nobility, also the convent de Premontre, which has a very fine library, one hundred and seven feet long, and twenty-five broad. I was introduced to the abbot as a person who had some knowledge in agriculture. 17 miles.

The 15th. I went to Nancy, with great expectation, having heard it represented as the prettiest town in France. I think, on the whole, it is not undeserving the character in point of building, direction, and breadth of streets. Bourdeaux is far more magnificent; Bayonne and Nantes are more lively; but there is more equality in Nancy; it is almost all good; and the public buildings are numerous. The *place royale*, and the adjoining area are superb. Letters from Paris! all confusion! the ministry removed: Mons. Necker ordered to quit the kingdom without noise. The effect on the people of Nancy was considerable. I was with Mons. Willemet when his letters arrived, and for some time his house was full of inquirers; all agreed, that

it was fatal news, and that it would occasion great commotions. What will be the result at Nancy? The answer was in effect the same from all I put this question to: We are a provincial town, we must wait to see what is done at Paris; but every thing is to be feared from the people, because bread is so dear, they are half starved, and are consequently ready for commotion. This is the general feeling; they are as nearly concerned as Paris; but they dare not stir; they dare not even have an opinion of their own till they know what Paris thinks; so that if a starving populace were not in question, no one would dream of moving. This confirms what I have often heard remarked, that the deficit would not have produced the revolution but in concurrence with the price of bread. Does not this shew the infinite consequence of great cities to the liberty of mankind? Without Paris, I question whether the present revolution, which is rapidly working in France, could possibly have had an origin. It is not in the villages of Syria or Diarbekir that the grand signor meets with a murmur against his will: it is at Constantinople that he is obliged to manage and mix caution even with despotism. Mr. Willemet, who is demonstrator of botany, shewed me the botanical garden, but it is in a condition that speaks the want of better funds. He introduced me to Mons. Durival, who has written on the vine, and gave me one of his treatises, and also two of his own on botanical subjects. He also conducted me to Mons. l'abbé Grandperc, a gentleman curious in gardening, who, as soon as he knew that I was an Englishman, whimsically took it into his head to introduce me to a lady, my countrywoman, who hired, he said, the greatest part of his house. I remonstrated against the impropriety of this, but all in vain; the abbe had never travelled, and thought that if he were at the distance of England from France (the French are not commonly good geographers) he should be very glad to see a Frenchman; and that, by parity of reasoning, this lady must be the same to meet a countryman she never saw or heard of. Away he went, and would not rest till I was conducted into her apartment. It was the dowager lady Douglass; she was unaffected, and good enough not to be offended at such a strange intrusion. She had been here but a few days; had two fine daughters with her, and a beautiful Kamschatka dog; she was much troubled with the intelligence her friends in the town had just given her, since she would, in all probability, be forced to move again, as the news of Mons. Necker's removal, and the new ministry being appointed, would certainly occasion such dreadful tumults, that a foreign family would probably find it equally dangerous and disagreeable. 18 miles.

The 16th. All the houses at Nancy have tin eave troughs and pipes, which render walking in the streets much more easy and agreeable; it is also an additional consumption, which is politically useful. Both this place and Lunville are lighted in the English manner, instead of the lamps being strung across the streets as in other French towns. Before I quit Nancy, let me caution the unwary traveller, if he is not a great lord, with plenty of money that he does not know what to do with, against the hotel d'Angleterre; a bad dinner, 3 livres, and for the room as much more. A pint of wine and a plate of chaudie 20s. which at Metz was 10s. and in addition, I liked so little my treatment, that I changed my quarters to the hotel de Halle, where at the table d'hôte, I had the company of some agreeable officers, two good courses, and a desert for 86s. with a bottle of wine. The chamber 20s.; for building, however, the hotel d'Angleterre is much superior, and is the first inn. In the evening to Lunville. The country about Nancy is pleasing. 17 miles.

The 17th. Lunville being the residence of Mons. Lazowski, the father of my much esteemed friend, who was advertised of my journey, I waited on him in the morning;



he received me with not politeness only, but hospitality with a hospitality I began to think was not to be found on this side of the kingdom. From Mareuil hither, I had really been so unaccustomed to receive any attentions of that sort, that it awakened me to a train of new feelings agreeable enough. An apartment was ready for me, which I was pressed to occupy, desired to dine, and expected to stay some days: he introduced me to his wife and family, particularly to M. l'abbe Lazowski, who, with the most obligingly alacrity, undertook the office of shewing me whatever was worth seeing. We examined, in a walk before dinner, the establishment of the orphans; well regulated and conducted. Luneville wants such establishments, for it has no manufactory, and therefore is very poor; I was assured not less than half the population of the place, or ten thousand persons are poor. Luneville is cheap. A cook's wages two, three, or four louis; a maid's, that dresses hair, three or four louis; a common house-maid, one louis; a common footman, or a house lad, three louis. Rent of a good house sixteen or seventeen louis. Lodgings of four or five rooms, some of them small, nine louis. After dinner, wait on M. Vaux dit Pompone, an intimate acquaintance of my friend; here mingled hospitality and politeness also received me; and so much was I pressed to dine with him to-morrow, that I should certainly stay, were it merely for the pleasure of more conversation with a very sensible and cultivated man, who, though advanced in years, has the talents and good humour to render his company universally agreeable: but I was obliged to refuse it, having been out of order all day. Yesterday's heat was followed, after some lightning, by a cold night, and I laid, without knowing it, with the windows open, and caught cold, I suppose, from the information of my bones. I am acquainted with strangers as easily and quickly as any body, a habit that much travelling can scarcely fail to give, but to be ill among them would be enuyante, demand too much attention and encroach on their humanity. This induced me to refuse the obliging wishes of both the Messrs. Lazowski's, Mons. Pompone, and also of a pretty and agreeable American lady, I met at the house of the latter. Her history is singular, and yet very natural. She was Miss Blake, of New-York; what carried her to Dominica I know not; but the sun did not spoil her complexion: a French officer, Mons. Tibalie, on taking the island, made her his captive, and in turn became hers, fell in love, and married her; brought his prize to France, and settled her in his native town of Luneville. The regiment, of which he is major, being quartered in a distant province, she complained of seeing her husband not more than for six months in two years. She has been four years at Luneville; and having the society of three children, is reconciled to a scene of life new to her. Mons. Pompone, who, she assured me, is one of the best men in the world, has parties every day at his house, not more to his own satisfaction than to her comfort. This gentleman is another instance, as well as the major, of attachment to the place of nativity; he was born at Luneville; attended king Stanislaus in some respectable office near his person; has lived much at Paris, and with the great, and had first ministers of state for his intimate friends; but the love of the natale solum brought him back to Luneville, where he has lived beloved and respected for many years, surrounded by an elegant collection of books, amongst which the poets are not forgotten, having himself no inconsiderable talents in transfusing agreeable sentiments into pleasing verses. He has some couplets of his own composition, under the portraits of his friends, which are pretty and easy. It would have given me much pleasure to have spent some days at Luneville; an opening was made for me in two houses, where I should have met with a friendly and agreeable reception: but the misfortunes of tra-

velling are sometimes the accidents that cross the moments prepared for enjoyment; and at others, the system of a journey inconsistent with the plans of destined pleasure.

The 18th. To Haming, through an uninteresting country. 28 miles.

The 19th. To Savern, in Alsace: the country to Phalsbourg, a small fortified town, on the frontiers, is much the same in appearance as hitherto. The women in Alsace wear straw hats, as large as those worn in England; they shelter the face, and should secure some pretty country girls, but I have seen none yet. Coming out of Phalsbourg, there are some hovels miserable enough, yet have chimneys and windows, but the inhabitants in the lowest poverty. From that town to Savern all a mountain of oak timber, the descent steep, and the road winding. In Savern I found myself to all appearance truly in Germany; for two days past much tendency to a change, but here not one person in an hundred has a word of French; the rooms are warmed by stoves; the kitchen-hearth is three or four feet high, and various other trifles shew, that you are among another people. Looking at a map of France, and reading histories of Louis XIV, never threw his conquest or seizure of Alsace into the same light, which travelling into it did: to cross a great range of mountains; to enter a level plain, inhabited by a people totally distinct and different from France, with manners, language, ideas, prejudices, and habits all different, made an impression of the injustice and ambition of such a conduct, much more forcible than ever reading had done: so much more powerful are things than words. 22 miles.

The 20th. To Strasbourg, through one of the richest scenes of soil and cultivation to be met with in France, and exceeded by Flanders only. I arrived at Strasbourg at a critical moment, which I thought would have broken my neck; a detachment of horse, with their trumpets on one side, a party of infantry, with their drums beating on the other, and a great mob hallooing, frightened my French mare; and I could scarcely keep her from trampling on Messrs. the tiers etat. On arriving at the inn, hear the interesting news of the revolt of Paris. The Gardes Francoises joining the people; the little dependence on the rest of the troops; the taking of the Bastile; and the institution of the milice bourgeoise; in a word, of the absolute overthrow of the old government. Every thing being now decided, and the kingdom in the hands of the assembly, they have the power to make a new constitution, such as they think proper; and it will be a great spectacle for the world to view, in this enlightened age, the representatives of twenty-five millions of people sitting on the construction of a new and better order and fabric of liberty, than Europe has yet offered. It will now be seen, whether they will copy the constitution of England, freed from its faults, or attempt, from theory, to frame something absolutely speculative: in the former case, they will prove a blessing to their country; in the latter, they will probably involve it in inextricable confusions and civil wars, perhaps not in the present period, but certainly at some future one. I hear not of their removing from Versailles; if they stay there under the controul of an armed mob, they must make a government that will please the mob; but they will, I suppose, be wise enough to move to some central town, Tours, Blois, or Orleans, where their deliberations may be free. But the Parisian spirit of commotion spreads quickly; it is here; the troops that were near breaking my neck, are employed to keep an eye on the people who shew signs of an intended revolt. They have broken the windows of some magistrates that are no favourites; and a great mob of them is at this moment assembled, demanding clamorously to have meat at 5s. a pound. They have a cry among them that will conduct them to good lengths—"Point d'impot & vivent les etats." Waited on Mons. Herman, professor of natural history in the Uni-

versity here, to whom I had letters: he replied to some of my questions, and introduced me for others to Mons. Zimmer, who having been in some degree a practitioner, had understanding enough of the subject to afford me some information that was valuable. View the public buildings, and cross the Rhine passing for some little distance into Germany, but no new features to mark a change; Alsace is Germany, and the change great on descending the mountains. The exterior of the cathedral is fine, and the tower singularly light and beautiful; it is well known to be one of the highest in Europe; commands a noble and rich plain, through which the Rhine, from the number of its islands, has the appearance of a chain of lakes rather than of a river. Monument of Marechal Saxe, &c. &c. I am puzzled about going to Carlsruh, the residence of the Margrave of Baden: it was my intention formerly to do it, if ever I were within an hundred miles; for there are some features in the reputation of that sovereign, which made me wish to be there. He fixed Mr. Taylor, of Bifrons, in Kent, whose husbandry I described in my Eastern Tour, on a large farm; and the œconomists in their writings, or rather Physiocratical rubbish, speak much of an experiment he made, which however erroneous their principles might be, marked much merit in the prince. Mons. Herman tells me also, that he has sent a person into Spain to purchase rams for the improvement of wool. I wish he had fixed on somebody likely to understand a good ram, which a professor of botany is not likely to do too well. This botanist is the only person Mons. Herman knows at Carlsruh, and therefore can give me no letter thither, and how I can go, unknown to all the world, to the residence of a sovereign prince (for Mr. Taylor has left him) is a difficulty apparently insurmountable. 22½ miles.

The 21st. I have spent some time this morning at the cabinet littéraire, reading the gazettes and journals that give an account of the transactions at Paris: and I have had some conversation with several sensible and intelligent men on the present revolution. The spirit of revolt is gone forth into various parts of the kingdom; the price of bread has prepared the populace every where for all sorts of violence; at Lyons there have been commotions as furious as at Paris, and the same at a great many other places: Dauphine is in arms: and Bretagne in absolute rebellion. The idea is, that the people will, from hunger, be driven to revolt; and when once they find any other means of subsistence than that of honest labour, every thing will be to be feared. Of such consequence it is to a country, and indeed to every country, to have a good police of corn; a police that shall, by securing a high price to the farmer, encourage his culture enough to secure the people at the same time from famine. My anxiety about Carlsruh is at an end; the Margrave is at Spaw; I shall not therefore think of going. Night. I have been witness to a scene curious to a foreigner; but dreadful to Frenchmen that are considerate. Passing through the square of the hotel de ville, the mob were breaking the windows with stones, notwithstanding an officer and a detachment of horse were in the square. Perceiving that their numbers not only increased, but that they grew bolder and bolder every moment, I thought it worth staying to see what it would end in, and clambered on to the roof of a row of low stalls opposite to the building, against which their malice was directed. Here I beheld the whole commodiously. Finding that the troops would not attack them, except in words and menaces, they grew more violent, and furiously attempted to beat the doors in pieces with iron crows; placing ladders to the windows. In about a quarter of an hour, which gave time for the assembled magistrates to escape by a back door, they burst all open, and entered like a torrent with an universal shout of the spectators. From that minute a shower of casements, sashes, shutters, chairs, tables, sofas, books, papers, pictures, &c. rained incessantly from all the windows of the house, which is seventy or eighty feet long, and

which was then succeeded by tiles, skirting boards, bannisters, frame-work, and every part of the building that force could detach. The troops, both horse and foot, were quiet spectators. They were at first too few to interpose, and, when they became more numerous, the mischief was too far advanced to admit of any other conduct than guarding every avenue around, permitting none to go to the scene of action, but letting every one that pleased retire with his plunder; guards being at the same time placed at the doors of the churches, and all public buildings. I was for two hours a spectator at different places of the scene, secure myself from the falling furniture, but near enough to see a fine youth crushed to death by something, as he was handing plunder to a woman, I suppose his mother, from the horror that was pictured in her countenance. I remarked several common soldiers, with their white cockades, among the plunderers, and instigating the mob even in sight of the officers of the detachment. There were amongst them people so decently dressed, that I regarded them with no small surprise: they destroyed all the public archives; the streets for some way around strewed with papers; this has been a wanton mischief; for it will be the ruin of many families unconnected with the magistrates.

The 22d. To Schelestadt. At Strasbourg, and the country I passed, the lower ranks of women wear their hair in a toupee in front, and behind braided into a circular plait, three inches thick, and most curiously contrived to convince one that they rarely pass a comb through it. I could not but picture them as the nidus of living colonies, that never approached me (they are not burthened with too much beauty) but I scratched my head from sensations of imaginary itching. The moment you are out of a great town all in this country is German; the inns have one common large room, many tables and cloths ready spread, where every company dines; gentry at some, and the poor at others. Cookery also German; schnitz is a dish of bacon and fried pears; has the appearance of an infamous mess; but I was surprised, on tasting, to find it better than passable. At Schelstadt I had the pleasure of finding the count de la Rouchefoucauld, whose regiment (of Champagne) of which he is second major, is quartered here. No attentions could be kinder than what I received from him; they were the renewal of the numerous ones I was in the habit of experiencing from his family; and he introduced me to a good farmer, from whom I had the intelligence I wanted. 25 miles.

The 23d. An agreeable quiet day, with the count de la Rouchefoucauld: dine with the officers of the regiment, the count de Loumene, the colonel, nephew to the cardinal de Loumene, present. Sup at my friend's lodgings; an officer of infantry, a Dutch gentleman, who has been much in the East Indies, and speaks English. This has been a refreshing day; the society of well informed people, liberal, polite, and communicative, has been a contrast to the sombre stupidity of tables d'hotes.

The 24th. To Isenheim, by Colmar. The country is in general a dead level, with the Voge mountains very near to the right; those of Suabia to the left; and there is another range very distant, that appears in the opening to the south. The news at the table d'hote at Colmar curious, that the queen had a plot, nearly on the point of execution, to blow up the national assembly by a mine, and to march the army instantly to massacre all Paris. A French officer present presumed but to doubt of the truth of it, and was immediately overpowered with numbers of tongues. A deputy had written the news; they had seen the letter, and not a hesitation could be admitted: I strenuously contended, that it was folly and nonsense, a mere invention to render persons odious who, for what I knew, might deserve to be so, but certainly not by such means; if the angel Gabriel had descended and taken a chair at table to convince them, it would not have

shaken their faith. Thus it is in revolutions, one rascal writes, and an hundred thousand fools believe. 25 miles.

The 25th. From Isenheim, the country changes from the dead flat, to pleasant views and inequalities, improving all the way to Befort, but neither scattered houses nor inclosures. Great riots at Befort: last night a body of mob and peasants demanded of the magistrates the arms in the magazine, to the amount of three or four thousand stands; being refused, they grew riotous, and threatened to set fire to the town, on which the gates were shut; and to-day the regiment of Bourgogne arrived for their protection. Mons. Necker passed here to-day in his way from Basle to Paris, escorted by fifty Bourgeois horsemen, and through the town by the music of all the troops. But the most brilliant period of his life is past; from the moment of his reinstatement in power to the assembling of the states, the fate of France, and of the Bourbons, was then in his hands; and whatever may be the result of the present confusions they will, by posterity, be attributed to his conduct, since he had unquestionably the power of assembling the states in whatever form he pleased: he might have had two chambers, three or one; he might have given what would unavoidably have melted into the constitution of England; all was in his hands; he had the greatest opportunity of political architecture that ever was in the power of man: the great legislators of antiquity never possessed such a moment: in my opinion he missed it completely, and threw that to the chance of the winds and waves, to which he might have given impulse, direction, and life. I had letters to Mons. de Bellonde, commissaire de Guerre; I found him alone: he asked me to sup, saying he should have some persons to meet me who could give me information. On my returning, he introduced me to Madame de Bellonde, and a circle of a dozen ladies, with three or four young officers, leaving the room himself to attend Madame, the princess of something, who was on her flight to Switzerland. I wished the whole company very cordially at a great distance, for I saw, at one glance, what sort of information I should have. There was a little coterie in one corner listening to an officer's detail of leaving Paris. This gentleman informed us, that the count d'Artois, and all the princes of the blood, except Monsieur, and the duke d'Orleans, the whole connection of Polignac, the Marechal de Broglio, and an infinite number of the first nobility had fled the kingdom, and were daily followed by others; and lastly, that the king, queen, and royal family, were in a situation at Versailles really dangerous and alarming, without any dependence on the troops near them, and, in fact, more like prisoners than free. Here is, therefore, a revolution effected by a sort of magic; all powers in the realm are destroyed but that of the commons; and it now will remain to see what sort of architects they are at rebuilding an edifice in the place of that which has been thus marvellously tumbled in ruins. Supper being announced, the company quitted the room, and as I did not push myself forward, I remained at the rear till I was very whimsically alone; I was a little struck at the turn of the moment, and did not advance when I found myself in such an extraordinary situation, in order to see whether it would arrive at the point it did. I then, smiling, took my hat, and walked fairly out of the house. I was, however, overtaken below; but I talked of business, or pleasure, or of something, or nothing; and hurried to the inn. I should not have related this, if it had not been at a moment that carried with it its apology: the anxiety and distraction of the time must fill the head, and occupy the attention of a gentleman; and, as to ladies, what can French ladies think of a man who travels for the plough? 25 miles.

The 26th. For twenty miles to Lisle sur Daube, the country nearly as before; but after that, to Baumes les Dames, it is all mountainous and rocky, much wood, and many pleasing scenes of the river flowing beneath. The whole country is in the greatest

agitation; at one of the little towns I passed, I was questioned for not having a cockade of the tiers etat. They said it was ordained by the tiers, and if I were not a seigneur, I ought to obey. But suppose I am a seigneur, what then, my friends? What then? they replied sternly, why, be hanged; for that most likely is what you deserve. It was plain this was no moment for joking, the boys and girls began to gather, whose assembling has every where been the preliminaries of mischief; and if I had not declared myself an Englishman, and ignorant of the ordinance, I had not escaped very well. I immediately bought a cockade, but the hussy pinned it into my hat so loosely, that before I got to Lisle, it blew into the river, and I was again in the same danger. My assertion of being English would not do. I was a seigneur, perhaps in disguise, and without doubt a great rogue. At this moment a priest came into the street with a letter in his hand: the people immediately collected around him, and he then read aloud a detail from Befort, giving an account of M. Neeker's passing, with some general features of news from Paris, and assurances that the condition of the people would be improved. When he had finished, he exhorted them to abstain from all violence; and assured them, they must not indulge themselves with any ideas of impositions being abolished; which he touched on as if he knew that they had gotten such notions. When he retired, they again surrounded me, who had attended to the letter like others; were very menacing in their manner; and expressed many suspicions: I did not like my situation at all, especially on hearing one of them say that I ought to be secured till somebody would give an account of me. I was on the steps of the inn, and begged they would permit me a few words: I assured them that I was an English traveller, and to prove it, I desired to explain to them a circumstance in English taxation, which would be a satisfactory comment on what Monsieur l'abbe had told them, to the purport of which I could not agree. He had asserted, that the impositions must and would be paid as heretofore; that the impositions must be paid as certain, but not as heretofore, as they might be paid as they were in England. "Gentlemen, we have a great number of taxes in England, which you know nothing of in France; but the tiers etat, the poor do not pay them: they are laid on the rich; every window in a man's house pays; but if he has no more than six windows, he pays nothing; a seigneur, with a great estate, pays the vingtiemes and tailles, but the little proprietor of a garden pays nothing; the rich for their horses, their voitures, their servants, and even for liberty to kill their own partridges, but the poor farmer nothing of all this; and what is more, we have in England a tax paid by the rich for the relief of the poor; hence the assertion of Monsieur l'abbe, that because taxes existed before they must exist again, did not at all prove that they must be levied in the same manner; our English method seemed much better." There was not a word of this discourse they did not approve of; they seemed to think that I might be an honest fellow, which I confirmed by crying, "vive le tiers, sans impositions," when they gave me a bit of a huzza, and I had no more interruption from them. My miserable French was pretty much on a par with their patois. I got, however, another cockade, which I took care to have so fastened as to lose it no more. I do not like travelling in such an unquiet and fermenting moment; one is not secure for an hour beforehand. 35 miles.

The 27th. To Besançon; the country mountain, rock, and wood, above the river; some scenes are fine. I had not arrived an hour before I saw a peasant pass the inn on horseback, followed by an officer of the garde burgeoise, of which there are twelve hundred here, and two hundred under arms, and his party-coloured detachment, and these by some infantry and eavalry. I asked why the militia took the pass of the king's

troops? "For a very good reason, they replied, the troops would be attacked and knocked on the head, but the populacc will not resist the militia." This peasant, who is a rich proprietor, applied for a guard to protect his house, in a village where there is much plundering and burning. The mischiefs which have been perpetrated in the country, towards the mountains and Vesoul, are numerous and shocking. Many chateaus have been burnt, others plundered, the seigneurs hunted down like wild beasts, their wives and daughters ravished, their papers and titles burnt, and all their property destroyed; and these abominations not inflicted on marked persons, who were odious for their former conduct or principles, but an indiscriminating blind rage for the love of plunder. Robbers, galley-slaves, and villains of all denominations, have collected and instigated the peasants to commit all sorts of outrages. Some gentlemen at the table d'hote informed me, that letters were received from the Maconois, the Lyonois, Auvergne, Dauphinc, &c. and that similar commotions and mischiefs were perpetrating every where; and that it was expected they would pervade the whole kingdom. The backwardness of France is beyond credibility in every thing that pertains to intelligence. From Strasbourg hither, I have not been able to see a newspaper. Here I asked for the Cabinet Litteraire? None. The gazettes? At the coffee-house. Very easily replied; but not so easily found. Nothing but the Gazette de France; for which, at this period, a man of common sense would not give one sol. To four other coffee-houses, at some no paper at all, not even the Mercure; at the Caffé Militaire, the Courier de l'Europe a fortnight old; and well-dressed people are now talking of the news of two or three weeks past, and plainly by their discourse know nothing of what is passing. The whole town of Besancon has not been able to afford me a sight of the Journal de Paris, nor of any paper that gives a detail of the transactions of the states; yet it is the capital of a province, large as half a dozen English counties, and containing twenty-five thousand souls; and, strange to say! the post coming in but three times a week. At this eventful moment, with no licence, nor even the least restraint on the press, not one paper established at Paris for circulation in the provinces, with the necessary steps taken by affiche, or placard, to inform the people in all the towns of its establishment. For what the country knows to the contrary, their deputies are in the Bastille, instead of the Bastille being razed; so the mob plunder, burn, and destroy, in complete ignorance: and yet, with all these shades of darkness, this universal mass of ignorance, there are men every day in the states, who are puffing themselves off for the first nation in Europe! the greatest people in the universe! as if the political jontos, or literary circles of a capital constituted the people; instead of the universal illumination of knowledge, acting by rapid intelligence on minds prepared by habitual energy of reasoning, to receive, combine, and comprehend it. That this dreadful ignorance of the mass of the people, of the events that most intimately concern them, arises from the old government, no one can doubt; it is, however, curious to remark, that if the nobility of other provinces are hunted like those of Franche Comte, of which there is little reason to doubt, that whole order of men undergo a proscription, and suffer like sheep, without making the least effort to resist the attack. This appears marvellous; with a body that have an army of one hundred and fifty thousand men in their hands; for though a part of those troops would certainly disobey their leaders, yet let it be remembered, that out of the forty thousand, or possibly one hundred thousand nobless of France, they might, if they had intelligence and union amongst themselves, fill half the ranks of more than half the regiments of the kingdom, with men who have fellow-feelings and fellow-sufferings with themselves; but no meetings; no associations among them; no union with military men; no taking of refuge in the

ranks of regiments to defend or avenge their cause; fortunately for France, they fall without a struggle, and die without a blow. That universal circulation of intelligence, which in England transmits the least vibration of feeling or alarm, with electric sensibility, from one end of the kingdom to another, and which unites in bands of connection men of similar interests and situations, has no existence in France. Thus it may be said, perhaps with truth, that the fall of the king, court, lords, nobles, army, church, and parliaments, proceeds from a want of intelligence being quickly circulated, consequently from the very effects of that thralldom in which they held the people: it is therefore a retribution rather than a punishment. 18 miles.

The 28th. At the table d'hote last night a person gave an account of being stopped at Salins for want of a passport, and suffering the greatest inconveniences; I found it necessary, therefore, to demand one for myself, and went accordingly to the Bureau; but went in vain: this was an air veritablement d'un commis. These passports are new things from new men, in new power, and shew that they do not bear their new honours too meekly. Thus it is impossible for me, without running my head against a wall, to visit the Salins or Arbois, where I have a letter from M. de Broussonet, but I must take my chance and get to Dijon as fast as I can, where the president de Virly knows me, having spent some days at Bradfield, unless indeed being a president and a nobleman, he has been knocked on the head by the tiers etat. At night to the play; miserable performers; the theatre, which has not been built many years, is heavy; the arch that parts the stage from the house is like the entrance of a cavern, and the line of the amphitheatre, that of a wounded eel; I do not like the air and manners of the people here. The music, and bawling, and squeaking of l'Épreuve Villageoise of Gritty, which is wretched, had no power to put me in better humour. I will not take leave of this place, to which I never desire to come again, without saying that they have a fine promenade; and that Monsieur Arthaud, the arpenteur, to whom I applied for information without any letter of recommendation, was liberal and polite, and answered my inquiries satisfactorily.

The 29th. To Orecchamp the country is bold and rocky, with fine woods, and yet it is not agreeable; it is like many men that have estimable points in their characters, and yet we cannot love them. Poorly cultivated too. Coming out of St. Vete, a pretty riant landscape of the river doubling through the vale, enlivened by a village and some scattered houses; the most pleasing view I have seen in Franche Comte. 23 miles.

The 30th. The mayor of Dole is made of as good stuff as the notary of Besancon; he would give no passport; but as he accompanied his refusal with neither airs nor graces, I let him pass. To avoid the centinels, I went round the town. The country to Auxonne is cheerful. Cross the Soane at Auxonne; it is a fine river, through a region of flat meadow of beautiful verdure; commons for great herds of cattle; vastly flooded, and the hay-cocks under water. To Dijon is a fine country, but wants wood. My passport demanded at the gate; and as I had none, two bourgeois musqueteers conducted me to the hotel de ville, where I was questioned, but finding that I was known at Dijon, they let me go to my inn. Out of luck; Monsieur de Virly, on whom I most depended for Dijon, is at Bourbon le Bains, and Monsieur de Morveau, the celebrated chemist, who I expected would have had letters for me, had none, and though he received me very politely, when I was forced to announce myself as his brother in the Royal Society of London, yet I felt very awkwardly; however, he desired to see me again next morning. They tell me here, that the intendant is fled; and that the prince of Conde, who is governor of Burgundy, is in Germany;



they positively assert, and with very little ceremony, that they would both be hanged, if they were to come hither at present; such ideas do not mark too much authority in the milice burgeoise, as they have been instituted to stop and prevent hanging and plundering. They are too weak, however, to keep the peace; the licence and spirit of depredation, of which I heard so much in crossing Franche Compte, has taken place, but not equally in Burgundy. In this inn, la Ville de Lyon, there is at present a gentleman, unfortunately a seigneur, his wife, family, three servants, an infant but a few months old, who escaped from their flaming chateau half naked in the night; all their property lost except the land itself; and this family valued and esteemed by the neighbours, with many virtues to command the love of the poor, and no oppressions to provoke their enmity. Such abominable actions must bring the greatest detestation to the cause from being unnecessary; the kingdom might have been settled in a real system of liberty, without the regeneration of fire and sword, plunder and bloodshed. Three hundred bourgeois mount guard every day at Dijon, armed, but not paid at the expence of the town: they have also six pieces of cannon. The noblesse of the place, as the only means of safety, have joined them; so that there are croix de St. Louis in the ranks. The palais des etats here, is a large and splendid building, but not striking proportionably to the mass and expence. The arms of the prince of Conde are predominant; and the great saloon is called the Salle a manger de prince. A Dijon artist has painted the battle of Scniff, and the grand Conde thrown from his horse, and a cieling, both well executed. Tomb of the duke of Bourgogne, 1404. A picture by Reubens at the Chartreuse. They talk of the house of Mons. de Montigdy, but not shewn, his sister being in it. Dijon, on the whole, is a handsome town; the streets, though old built, are wide and very well paved, with the addition, uncommon in France, of trottoirs. 28 miles.

The 31st. Waited on Mons. de Morveau, who has, most fortunately for me, received, this morning, from Mons. de Virly, a recommendation of me, with four letters from Mons. de Broussonet; but Mons. Vaudrey, of this place, to whom one of them is addressed, is absent. We had some conversation on the interesting topic to all philosophers, phlogiston; Mons. de Morveau contends vehemently for its non-existence; treats Dr. Priestley's last publication as wide of the question; and declared, that he considers the controversy as much decided as the question of liberty is in France. He shewed me part of the article air in the New Encyclopædia by him, to be published soon; in which work, he thinks he has, beyond controversy, established the truth of the doctrine of the French chemists of its non-existence. Mons. de Morveau requested me to call on him in the evening to introduce me to a learned and agreeable lady; and engaged me to dine with him to-morrow. On leaving him I went to search coffee-houses; but will it be credited, that I could find but one in this capital of Burgundy, where I could read the newspapers? At a poor little one in the square, I read a paper, after waiting an hour to get it. The people I have found every where desirous of reading newspapers; but it is rare that they can gratify themselves; and the general ignorance of what is passing may be collected from this, that I found nobody at Dijon had heard of the riot at the town house of Strasbourg; I described it to a gentleman, and a party collected around me to hear it; not one of them had heard a syllable of it, yet it is nine days since it happened; had it been nineteen, I question whether they would but just have received the intelligence; but, though they are slow in knowing what has really happened, they are very quick in hearing what is impossible to happen. The current report at present, to which all possible credit is given, is, that the queen has been convicted of a plot to poison the king and Mon-

sieur, and give the regency to the count d'Artois; to set fire to Paris, and blow up the palais-royal by a mine! Why do not the several parties in the states cause papers to be printed, that shall transmit their own sentiments and opinions only, in order that no man in the nation, arranged under the same standard of reasoning, may want the facts that are necessary to govern his arguments, and the conclusions that great talents have drawn from those facts? The king has been advised to take several steps of authority against the states, but none of his ministers have advised the establishment of journals, and their speedy circulation, that should undeceive the people in those points his enemies have misrepresented. When numerous papers are published in opposition to each other, the people take pains to sift into and examine the truth; and that inquisitiveness alone the very act of searching, enlightens them; they become informed, and it is no longer easy to deceive them. At the table d'hôte three only, myself, and two noblemen, driven from their estates, as I conjecture by their conversation, but they did not hint at any thing like their houses being burnt. Their description of the state of that part of the province they come from, in the road from Langres to Gray, is terrible; the number of chateaus burnt not considerable, but three in five plundered, and the possessors driven out of the country, and glad to save their lives. One of these gentlemen is a very sensible well informed man; he considers all rank, and all the rights annexed to rank, as destroyed in fact in France; and that the leaders of the national assembly having no property, or very little themselves, are determined to attack that also, and attempt an equal division. The expectation is gotten among many of the people; but whether it take place or not, he considers France as absolutely ruined. That, I replied, was going too far, for the destruction of rank did not imply ruin. "I call nothing ruin," he replied, "but a general and confirmed civil war, or dismemberment of the kingdom; in my opinion, both are inevitable; not perhaps this year, or the next, or the year after that, but whatever government is built on the foundation now laying in France, cannot stand any rude shocks; an unsuccessful or a successful war will equally destroy it." He spoke with great knowledge of historical events, and drew his political conclusions with much acumen. I have met with very few such men at tables d'hotés. It may be believed, I did not forget M. de Morveau's appointment. He was as good as his word; Madame Picardet is as agreeable in conversation as she is learned in the closet; a very pleasing unaffected woman; she has translated Scheele from the German, and a part of Mr. Kirwan from the English; a treasure to M. de Morveau, for she is able and willing to converse with him on chemical subjects, and on any others that tend either to instruct or please. I accompanied them in their evening's promenade. She told me, that her brother, Mons. de Poule, was a great farmer, who had sown large quantities of sanfoin, which he used for fattening oxen; she was sorry he was engaged so closely in the municipal business at present, that he could not attend me to his farm.

August 1. Dined with Mons. de Morveau by appointment; Mons. Professur Chaussee, and Mons. Picardet of the party. It was a rich day to me; the great and just reputation of Mons. de Morveau, for being not only the first chemist of France, but one of the greatest that Europe has to boast, was alone sufficient to render his company interesting; but to find such a man void of affectation; free from those airs of superiority which are sometimes found in celebrated characters, and that reserve which oftener throws a veil over their talents, as well as conceals their deficiencies for which it is intended—was very pleasing. Mons. de Morveau is a lively, conversable, eloquent man, who, in any station of life, would be sought as an agreeable companion.

Even in this eventful moment of revolution, the conversation turned almost entirely on chemical subjects. I urged him as I have done Dr. Priestly more than once, and Mons. Lavoisier also, to turn his inquiries a little to the application of his science to agriculture; that there was a fine field for experiments in that line, which could scarcely fail of making discoveries; to which he assented; but added, that he had no time for such inquiries: it is clear, from his conversation, that his views are entirely occupied by the non-existence of phlogiston, except a little on the means of establishing and enforcing the new nomenclature. While we were at dinner a proof of the New Encyclopædia was brought, the chemical part of which work is printed at Dijon, for the convenience of Mons. de Morveau. I took the liberty of telling him, that a man who can devise the experiments which shall be most conclusive in ascertaining the questions of a science, and has talents to draw all the useful conclusions from them, should be entirely employed in experiments, and their register; and if I were king or minister of France, I would make that employment so profitable to him, that he should do nothing else. He laughed, and asked me, if I were such an advocate for working, and such an enemy to writing, what I thought of my friend Dr. Priestley? And he then explained to the two other gentlemen that great philosopher's attention to metaphysics, and polemic divinity. If an hundred had been at table, the sentiment would have been the same in every bosom. Mons. M. spoke, however, with great regard for the experimental talents of the Doctor, as indeed who in Europe does not? I afterwards reflected on Mons. de Morveau's not having time to make experiments that should apply chemistry to agriculture, yet having plenty of it for writing in so voluminous a work as Pankouek's. I lay it down as a maxim, that no man can establish or support a reputation in any branch of experimental philosophy, such as shall really descend to posterity, otherwise than by experiment; and that commonly the more a man works, and the less he writes the better, at least the more valuable will be his reputation. The profit of writing has ruined that of many (those who know Mons. de Morveau will be very sure I am far enough from having him in my eye; his situation in life puts it out of the question) that compression of materials which is luminous; that brevity which appropriates facts to their destined points, are alike inconsistent with the principles that govern all compilations; there are able and respectable men now in every country for compiling; experimenters of genius should range themselves in another class. If I were a sovereign, and capable consequently of rewarding merit, the moment I heard of a man of real genius engaged in such a work I would give him double the bookseller's price to let it alone, and to employ himself in paths that did not admit a rival at every door. There are those will think that this opinion comes oddly from one who has published so many books as I have; but I hope it will be admitted, to come naturally at least from one who is writing a work from which he does not expect to make one penny, who, therefore, has stronger motives to brevity than temptations to prolixity. The view of this great chemist's laboratory will shew that he is not idle: it consists of two large rooms, admirably furnished indeed. There are six or seven different furnaces (of which Macquer's is the most powerful) and such a variety and extent of apparatus, as I have seen no where else, with a furniture of specimens from the three kingdoms, as looks truly like business. There are little writing desks, with pens and paper, scattered every where, and in his library also, which is convenient. He has a large course of eudiometrical experiments going on at present, particularly with Fontana's and Volta's eudiometers. He seems to think, that eudiometrical trials are to be depended on: keeps his nitrous air in quart bottles, stopped with common corks, but reversed; and that the air is always

the same, if made from the same materials. A very simple and elegant method of ascertaining the proportion of vital air he explained to us, by making the experiment ; putting a morsel of phosphorus into a glass retort, confined by water or mercury, and inflaming it, by holding a bougie under it. The diminution of air marks the quantity that was vital on the antiphlogistic doctrine. After one extinction, it will boil, but not enflame. He has a pair of scales made at Paris, which, when loaded with three thousand grains, will turn with the twentieth part of one grain ; an air pump, with glass barrels, but one of them broken and repaired ; the count de Buffon's system of burning lens ; an absorber ; a respirator, with vital air in a jar on one side, and lime-water in another ; and abundance of new and most ingenious inventions for facilitating inquiries in the new philosophy of air. These are so various, and at the same time so well contrived to answer the purpose intended, that this species of invention seems to be one very great and essential part of Mons. de Morveau's merit ; I wish he would follow Dr. Priestley's idea of publishing his tools, it would add not inconsiderably to his great and well earned reputation, and at the same time promote the inquiries he engages amongst all other experimenters. M. de Morveau had the goodness to accompany me in the afternoon to the Academy of Sciences : they have a very handsome saloon, ornamented with the busts of Dijon worthies ; of such eminent men as this city has produced, Bossuet, Fevret, De Brosses, De Crebillon, Pyron, Bonhier, Rameau, and lastly, Buffon ; and some future traveller will doubtless see here, that of a man inferior to none of these, Mons. de Morveau, by whom I had now the honour of being conducted. In the evening we repaired again to Madame Picardet, and accompanied her promenade : I was pleased, in conversation on the present disturbances of France, to hear Mons. de Morveau remark that the outrages committed by the peasants arose from their defects of lumieres. In Dijon it had been publicly recommended to the curces to enlighten them somewhat politically in their sermons, but all in vain, not one would go out of the usual routine of his preaching. Quere, Would not one newspaper enlighten them more than a score of priests ? I asked Mons. de Morveau, how far it was true that the chateaus had been plundered and burnt by the peasants alone ; or whether by those troops of brigands, reported to be formidable ? He assured me, that he has made strict inquiries to ascertain this matter, and is of opinion that all the violences in this province, that have come to his knowledge, have been committed by the peasants only ; and much has been reported of brigands, but nothing proved. At Besancon I heard of eight hundred ; but how could a troop of eight hundred banditti march through a country, and leave their existence the least questionable ? as ridiculous as Mr. Bay's army incog.

The 2d. To Beaune ; a range of hills to the right under vines, and a flat plain to the left, all open, and too naked. At the little insignificant town of Nuys, forty men mount guard every day, and a large corps at Beaune. I am provided with a passport from the mayor of Dijon, and a flaming cockade of the tiers etat, and therefore hope to avoid difficulties ; though the reports of the riots of the peasants are so formidable, that it seems impossible to travel in safety. Stop at Nuys for intelligence concerning the vineyards of this country, so famous in France, and indeed in all Europe ; and examine the Clos de Voujaud, of one hundred journaux, walled in, and belonging to a convent of Bernardine Monks. When are we to find these fellows choosing badly ?\* The spots they appropriate shew what a righteous attention they give to things of the spirit. 22 miles.

\* Sold since by the Assembly, for 1,140,600 livres, or 500l. sterling, per Journal.





*Temple of Plato  
Athena Burgundy*

The 3d. Going out of Chagnie, where I quitted the great Lyons road, pass by the canal of Chaulais, which goes on very poorly; it is a truly useful undertaking, and therefore left undone; had it been for boring cannon, or coppering men of war, it would have been finished long ago. To Monteenis a disagreeable country; singular in its features. It is the seat of one of Mons. Weelkainsong's establishments for casting and boring cannon: I have already described one near Nantes. The French say, that this active Englishman is brother-in-law of Dr. Priestley, and therefore a friend of mankind; and that he taught them to bore cannon in order to give liberty to America. The establishment is very considerable; there are from five hundred to six hundred men employed, besides colliers; five steam engines are erected for giving the blasts, and for boring; and a new one building. I conversed with an Englishman who works in the glass-house, in the crystal branch; there were once many, but only two are left at present: he complained of the country, saying there was nothing good in it but wine and brandy; of which things I question not but he makes a sufficient use. 25 miles.

The 4th. By a miserable country most of the way, and through hideous roads to Autun. The first seven or eight miles the agriculture quite contemptible. From thence to Autun all, or nearly all, inclosed, and the first so for many miles. From the hill before Autun an immense view down on that town, and the flat country of the Bourbonnois for a great extent. View at Autun the temple of Janus; the walls; the cathedral; the abbey. The reports here of brigands, and burning and plundering, are as numerous as before; and when it was known in the inn that I came from Burgundy and Franche Comte, I had eight or ten people introducing themselves, in order to ask for news. The rumour of brigands here increased to one thousand six hundred strong. They were much surprised to find that I gave no credit to the existence of brigands, as I was well persuaded, that all the outrages that had been committed, were the work of the peasants only, for the sake of plundering. This they had no conception of, and quoted a list of chateaus burnt by them; but on analysing these reports, they plainly appeared to be ill founded. 20 miles.

The 5th. The extreme heat of yesterday made me feverish; and this morning I waked with a sore throat. I was inclined to waste a day here for the security of my health; but we are all fools in trifling with the things most valuable to us. Loss of time, and vain expence, are always in the head of a man who travels as much on philosophy as I am forced to do. To Maison de Bourgogne, I thought myself in a new world; the road is not only excellent, of gravel, but the country is inclosed and wooded. There are many gentle inequalities, and several ponds that add to the beauty of the country. The weather, since the commencement of August, has been clear, bright, and burning; too hot to be perfectly agreeable in the middle of the day, but no flies, and therefore I do not regard the heat. This circumstance may, I think, be fixed on as the test. In Languedoc, &c. these heats, as I have experienced, are attended by myriads, and consequently they are tormenting. One had need be sick at this Maison de Bourgogne; a healthy stomach would not easily be filled; yet it is the post-house. In the evening to Lusy, another miserable post-house. Note, through all Burgundy the women wear flapped men's hats, which have not nearly so good an effect as the straw ones of Alsace. 22 miles.

The 6th. To escape the heat, out at four in the morning, to Bourbon Lancy, through the same country inclosed, but wretchedly cultivated, and all amazingly improveable. If I had a large tract in this country, I think I should not be long in making a fortune; climate, prices, roads, inclosures, and every advantage, except government. All

from Autun to the Loire is a noble field for improvement, not by expensive operations of manuring and draining, but merely by substituting crops adapted to the soil. When I see such a country thus managed, and in the hands of starving metayers, instead of fat farmers, I know not how to pity the seigneurs, great as their present sufferings are. I met one of them, to whom I opened my mind: he pretended to talk of agriculture, finding I attended to it; and assured me he had abbe Roziere's crops complete, and he believed, from his accounts, that this country would not do for any thing but rye. I asked him, whether he or abbe Roziere knew the right end of a plough? He assured me, that the abbe was un homme de grand merite, beaucoup d'agriculteur. Cross the Loire by a ferry; it is here the same nasty scene of shingle, as in Touraine. Enter the Bourbonnois; the same inclosed country, and a beautiful gravel road. At Chavanne le Roi, Mons. Joly, the aubergiste, informed me of three domains (farms) to be sold, adjoining almost to his house, which is new and well built. I was for appropriating his inn at once in my imagination for a farm house, and was working on turnips and clover, when he told me, that if I would walk behind his stable, I might see, at a small distance, two of the houses; he said the price would be about 50 or 60,000 livres (2625l.) and would altogether make a noble farm. If I were twenty years younger, I should think seriously of such a speculation; but there again is the folly and deficiency of life; twenty years ago, such a thing would, for want of experience, have been my ruin; and, now I have the experience, I am too old for the undertaking. 27 miles.

The 7th. Moulins appears to be but a poor ill built town. I went to the Belle Image, but found it so bad, that I left, and went to the Lyon d'Or, which is worse. This capital of the Bourbonnois, and on the great post road to Italy, has not an inn equal to the little village of Chavanne. To read the papers, I went to the coffee-house of Madame Bourgeau, the best in the town, where I found near twenty tables set for company, but, as to a newspaper, I might as well have demanded an elephant. Here is a feature of national backwardness, ignorance, stupidity, and poverty! In the capital of a great province, the seat of an intendant, at a moment like the present, with a national assembly voting a revolution, and not a newspaper to inform the people whether Fayette, Mirabeau, or Louis XVI, were on the throne. Companies at a coffee-house, numerous enough to fill twenty tables, and curiosity not active enough to command one paper. What impudence and folly! Folly in the customers of such a house not to insist on half a dozen papers, and all the journals of the assembly; and impudence of the woman not to provide them! Could such a people as this ever have made a revolution, or become free? Never, in a thousand centuries! The enlightened mob of Paris, amidst hundreds of papers and publications, have done the whole. I demanded why they had no papers? They are too dear; but she made me pay 24s. for one dish of coffee, with milk, and a piece of butter about the size of a walnut. It is a great pity there is not a camp of brigands in your coffee-room, Madame Bourgeau. Among the many letters for which I am indebted to Mons. Broussonet, few have proved more valuable than one I had for Mons. l'abbe de Barut, principal of the college of Moulins, who entered with intelligence and animation into the object of my journey, and took every step that was possible to get me well informed. He carried me to Mons. le count de Grimau, lieutenant-general of the balliage, and director of the Society of Agriculture at Moulins, who kept us at dinner. He appears to be a man of considerable fortune, of information, and knowledge, agreeable and polite. He discoursed with me on the state of the Bourbonnois; and assured me, that estates were rather given away than sold: that the metayers were so miserably poor, it was impossible for them to cultivate well. I started some observations on the modes



which ought to be pursued; but all conversation of that sort is time lost in France. After dinner, M. Grimau carried me to his villa, at a small distance from the town, which is very prettily situated, commanding a view of the vale of the Allier. Letters from Paris, which contain nothing but accounts truly alarming, of the violences committed all over the kingdom, and particularly at and in the neighbourhood of the capital. M. Necker's return, which it was expected would have calmed every thing, has no effect at all; and it is particularly noted in the national assembly, that there is a violent party evidently bent on driving things to extremity: men who, from the violence and conflicts of the moment, find themselves in a position, and of an importance that results merely from public confusion, will take effectual care to prevent the settlement, order, and peace, which, if established, would be a mortal blow to their consequence: they mount by the storm, and would sink in a calm. Among other persons to whom Mons. l'abbé Barut introduced me, was the marquis de Goutte, chef d'escadre of the French fleet, who was taken by admiral Boscawen at Louisbourg, in 1758, and carried to England, where he learned English, of which he yet retains something. I had mentioned to Mons. l'abbé Barut, that I had a commission from a person of fortune in England, to look out for a good purchase in France; and knowing that the marquis would sell one of his estates, he mentioned it to him. Mons. de Goutte gave me such a description of it, that I thought, though my time was short, that it would be very well worth bestowing one day to view it, as it was no more than eight miles from Moulins, and, proposing to take me to it the next day in his coach, I readily consented. At the time appointed, I attended the marquis, with M. l'abbé Barut, to his chateau of Riaux, which is in the midst of the estate he would sell on such terms, that I never was more tempted to speculate: I have very little doubt but that the person who gave me a commission to look out for a purchase, is long since sickened of the scheme, which was that of a residence for pleasure, by the disturbances that have broken out here: so that I should clearly have the refusal of it myself. It would be upon the whole a more beneficial purchase than I had any conception of, and confirms Mons. de Grimau's assertion, that estates here are rather given away than sold. The chateau is large and very well built, containing two good rooms, either of which would hold a company of thirty people, with three smaller ones on the ground floor; on the second ten bed-chambers, and over them good garrets, some of which are well fitted up; all sorts of offices substantially erected, and on a plan proportioned to a large family, including barns new built, for holding half the corn of the estate in the straw, and granaries to contain it when threshed. Also a wine press and ample cellaring for keeping the produce of the vineyards in the most plentiful years. The situation is on the side of an agreeable rising, with views not extensive, but pleasing, and all the country round of the same features I have described, being one of the finest provinces in France. Adjoining the chateau is a field of five or six arpents, well walled in, about half of which is in culture as a garden, and thoroughly planted with all sorts of fruits. There are twelve ponds, through which a small stream runs, sufficient to turn two mills, that let at 1000 livres (43l. 15s.) a-year. The ponds supply the proprietor's table amply with fine carp, tench, perch, and eels; and yield besides a regular revenue of 1000 livres. There are twenty arpents of vines that yield excellent white and red wine, with houses for the vignerons; woods more than sufficient to supply the chateau with fuel; and lastly, nine domains or farms let to metayers, tenants at will, at half produce, producing, in cash, 10,500 livres (459l. 7s. 6d.) consequently the gross produce, farms, mills, and fish, is 12,500 livres. The quantity of land, I conjecture from viewing it, as well as from notes taken, may be above 3000 arpents or acres, lying all contiguous and near the chateau. The out-

goings for those taxes paid by the landlord; repairs, garde de chasse, game-keeper (for here are all the seignoural rights, haute justice, &c.) steward, expences on wine, &c. amount to about 4400 livres (192l. 10s.) It yields therefore net something more than 8000 livres (350l.) a year. The price asked is 300,000 livres (13,125l.) but for this price is given the furniture complete of the chateau, all the timber, amounting, by valuation of oak only, to 40,000 livres (1750l.) and all the cattle on the estate, viz. one thousand sheep, sixty cows, seventy-two oxen, nine mares, and many hogs. Knowing, as I did, that I could, on the security of this estate, borrow the whole of the purchase-money, I withstood no trifling temptation when I resisted it. The finest climate in France, perhaps in Europe; a beautiful and healthy country; excellent roads; a navigation to Paris; wine, game, fish, and every thing that ever appears on a table, except the produce of the tropics; a good house, a fine garden, ready markets for every sort of produce; and, above all the rest, three thousand acres of inclosed land, capable in a very little time of being, without expence, quadrupled in its produce, altogether formed a picture sufficient to tempt a man who had been five-and-twenty years in the constant practice of the husbandry adapted to this soil. But the state of government; the possibility that the leaders of the Paris democracy might in their wisdom abolish property as well as rank; and that in buying an estate I might be purchasing my share in a civil war; deterred me from engaging at present, and induced me to request only that the marquis would give me the refusal of it, before he sold it to any body else. When I have to treat with a person for a purchase, I shall wish to deal with such an one as the marquis de Goutte. He has a physiognomy that pleases me; the ease and politeness of his nation is mixed with great probity and honour; and is not rendered less amiable by an appearance of dignity that flows from an ancient and respectable family. To me he seems a man in whom one might, in any transaction, place implicit confidence. I could have spent a month in the Bourbonnois, looking at estates to be sold; adjoining to that of M. de Goutte's is another of 270,000 livres purchase, Ballain; Mons. l'abbé Barut having made an appointment with the proprietor, carried me in the afternoon to see the chateau and a part of the lands; all the country is the same soil, and in the same management. It consists of eight farms, stocked with cattle and sheep by the landlord; and here too the ponds yield a regular revenue. Income at present 10,000 livres (437l. 10s.) a year; price 260,000 livres (11,375l.) and 10,000 livres for wood; twenty-five years purchase. Also near St. Poncin another of 400,000 livres (17,500l.) the woods of which, four hundred and fifty acres produce 5000 livres a year; eighty acres of vines, the wines so good as to be sent to Paris; good land for wheat, and much sown; a modern chateau, avec toutes les aisances, &c. And I heard of many others. I conjecture that one of the finest contiguous estates in Europe might at present be laid together in the Bourbonnois. And I am further informed, that there are at present six thousand estates to be sold in France; if things go on as they do at present, it will not be a question of buying estates, but kingdoms, and France itself will be under the hammer. I love a system of policy that inspires such confidence as to give a value to land, and that renders men so comfortable on their estates as to make the sale of them the last of their ideas. Return to Moulins. 30 miles.

The 10th. Took my leave of Moulins, where estates and farming have driven even Maria and the poplar from my head, and left me no room for the tombeau de Montmorenci; having paid extravagantly for the mud walls, cobweb tapestry, and unsavory scents of the Lyon d'Or, I turned my mare towards Chateauneuf, on the road to Auvergne. The accompaniment of the river makes the country pleasant. I found the

inn full, busy, and bustling; Monseigneur the bishop, coming to the fete of St. Laurence, patron of the parish here. Asking for the commodite, I was desired to walk into the garden. This has happened twice or thrice to me in France; I did not before find out that they were such good cultivators in this country; I am not well made for dispensing this sort of fertility; but my lord the bishop and thirty fat priests will, after a dinner that has employed all the cooks of the vicinity, doubtless contribute amply to the amelioration of the lettuces and onions of Mons. le Maitre de la Poste. To St. Poncin. 50 miles.

The 11th. Early to Riom, in Auvergne. Near that town the country is interesting; a fine wooded vale to the left, every where bounded by mountains; and those nearer to the right of an interesting outline. Riom, part of which is pretty enough, is all volcanic; it is built of lava from the quarries of Volvic, which are highly curious to a naturalist. The level plain, which I passed in going to Clermont, is the commencement of the famous Limagne of Auvergne, asserted to be the most fertile of all France; but that is an error, I have seen richer land in both Flanders and Normandy. This plain is as level as a still lake; the mountains are all volcanic, and consequently interesting. Pass a scene of very fine irrigation, that will strike a farming eye, to Mont Ferrand, and after that to Clermont. Riom, Ferrand, and Clermont, are all built, or rather perched, on the tops of rocks. Clermont is in the midst of a most curious country, all volcanic; and is built and paved with lava; much of it forms one of the worst built, dirtiest, and most stinking places I have met with. There are many streets that can, for blackness, dirt, and ill scents, only be represented by narrow channels cut in a night dunghill. The contention of nauseous savours, with which the air is impregnated, when brisk mountain gales do not ventilate these excrementitious lanes, made me envy the nerves of the good people, who, for what I know, may be happy in them. It is the fair, the town full, and the tables d'hotels crowded. 25 miles.

The 12th. Clermont is partly free from the reproach I threw on Moulins and Besancon, for there is a salle a lecture at a Mons. Bovares, a bookseller, where I found several newspapers and journals; but at the coffee-house I inquired for them in vain: they tell me also, that the people here are great politicians, and attend the arrival of the courier with impatience. The consequence is, there have been no riots; the most ignorant will always be the readiest for mischief. The great news just arrived from Paris, of the utter abolition of tythes, feudal rights, game, warrens, pigeons, &c. have been received with the greatest joy by the mass of the people, and by all not immediately interested; and some even of the latter approve highly of the declaration: but I have had much conversation with two or three very sensible persons, who complain bitterly of the gross injustice and cruelty of any such declarations of what will be done, but is not effected and regulated at the moment of declaring. Mons. Pabbe Arbre, to whom Mons. de Broussonet's letter introduced me, had the goodness not only to give me all the information relative to the curious country around Clermont, which, particularly as a naturalist, attracted his inquiries, but also introduced me to Mons. Chabrol, as a gentleman who has attended much to agriculture, and who answered my inquiries in that line with great readiness.

The 13th. At Roya, near Clermont, a village in the volcanic mountains, which are so curious, and of late years so celebrated, are some springs, reported by philosophical travellers to be the finest and most abundant in France; to view these objects, and more still, a very fine irrigation, said also to be practised there, I engaged a guide. Report, when it speaks of things of which the reporter is ignorant, is sure to magnify; the irrigation is nothing more than a mountain side converted by water to some tolerable mea-

dow, but done coarsely, and not well understood. That in the vale, between Riom and Clermont, far exceeds it. The springs are curious and powerful: they gush, or rather burst from the rock in four or five streams, each powerful enough to turn a mill, into a cave a little below the village. About half a league higher there are many others; they are indeed so numerous, that scarcely a projection of the rocks or hills is without them. At the village, I found that my guide, instead of knowing the country perfectly, was in reality ignorant; I therefore took a woman to conduct me to the springs higher up the mountain; on my return, she was arrested by a soldier of the garde bourgeoise (for even this wretched village is not without its national militia) for having, without permission, become the guide of a stranger. She was conducted to a heap of stones, they call the chateau. They told me they had nothing to do with me: but as to the woman, she should be taught more prudence for the future: as the poor devil was in jeopardy on my account, I determined at once to accompany them for the chance of getting her cleared, by attesting her innocence. We were followed by a mob of all the village, with the woman's children crying bitterly, for fear their mother should be imprisoned. At the castle, we waited some time, and were then shown into another apartment, where the town committee was assembled; the accusation was heard; and it was wisely remarked by all, that, in such dangerous times as these, when all the world knew that so great and powerful a person as the queen was conspiring against France in the most alarming manner, for a woman to become the conductor of a stranger; and of a stranger who had been making so many suspicious inquiries as I had, was a high offence. It was immediately agreed, that she ought to be imprisoned. I assured them she was perfectly innocent; for it was impossible that any guilty motive should be her inducement; finding me curious to see the springs, as I had viewed the lower ones, and wanted a guide for seeing those higher in the mountain, she offered herself; and could have no other than the industrious view of getting a few sols for her poor family. They then turned their inquiries against me, that if I wanted to see springs only, what induced me to ask a multitude of questions concerning the price, value, and product of the lands? What had such inquiries to do with springs and volcanoes? I told them, that cultivating some land in England, rendered such things interesting to me personally: and lastly, that if they would send to Clermont, they might know from several respectable persons, the truth of all I asserted; and therefore I hoped, as it was the woman's first indiscretion, for I could not call it offence, they would dismiss her. This was refused at first, but assented to at last, on my declaring, that if they imprisoned her, they should do the same by me, and answer it as they could. They consented to let her go, with a reprimand, and I departed; not marvelling, for I have done with that, at their ignorance, in imagining that the queen should conspire so dangerously against their rocks and mountains. I found my guide in the midst of the mob, who had been very busy in putting as many questions about me, as I had done about their crops. There were two opinions: one party thought I was a commissaire, come to ascertain the damage done by the hail: the other, that I was an agent of the queen's, who intended to blow the town up with a mine, and send all that escaped to the galleys. The care that must have been taken to render the character of that princess detested among the people, is incredible; and there seem every where to be no absurdities too gross, nor circumstances too impossible for their faith. In the evening to the theatre, the Optimist well acted. Before I leave Clermont, I must remark, that I dined, or supped five times at the table d'hote, with from twenty to thirty merchants and tradesmen, officers, &c. and it is not easy for me to express the insignificance; the inanity of the conversation. Scarcely any politics, at a moment when every bosom ought to beat with none but po-

litical sensations. The ignorance or the stupidity of these people must be absolutely incredible; not a week passes without their country abounding with events that are analysed and debated by the carpenters and blacksmiths of England. The abolition of tythes, the destruction of the gabelle, game made property, and feudal rights destroyed, are French topics, that are translated into English within six days after they happen, and their consequences, combinations, results, and modifications, become the disquisition and entertainment of the grocers, chandlers, drapers, and shoemakers of all the towns of England; yet the same people in France do not think them worth their conversation, except in private. Why? because conversation in private wants little knowledge; but in public it demands more; and therefore I suppose, for I confess there are a thousand difficulties attending the solution, they are silent. But how many people, and how many subjects, on which volubility is proportioned to ignorance? Account for the fact as you please, but with me it admits no doubt.

The 14th. To Izoire, the country all interesting, from the number of conic mountains that rise in every quarter; some are crowned with towns; on others are Roman castles, and the knowledge that the whole is the work of subterranean fire, though in ages far too remote for any record to announce, keeps the attention perpetually alive. Mons. de l'Arbre had given me a letter to Mons. Bres, doctor of physic, at Izoire: I found him, with all the townsmen, collected at the hotel de ville, to hear the newspaper read. He conducted me to the upper end of the room, and seated me by himself: the subject of the paper was the suppression of the religious houses, and the commutation of tythes. I observed that the auditors, among whom were some of the lower class, were very attentive; and the whole company seemed well pleased with whatever concerned the tythes and the monks. Mons. Bres, who is a sensible and intelligent gentleman, walked with me to his farm, about half a league from the town, on a soil of superior richness; like all other farms, this is in the hands of a metayer. Supped at his house afterwards, in an agreeable company, with much animated political conversation. We discussed the news of the day; they were inclined to approve of it very warmly; but I contended, that the National Assembly did not proceed on any regular well digested system; that they seemed to have a rage for pulling down, but no taste for rebuilding: that if they proceeded much farther on such a plan, destroying every thing, but establishing nothing, they would at last bring the kingdom into such confusion, that they would even themselves be without power to restore it to peace and order; and that such a situation would, in its nature, be on the brink of the precipice of bankruptcy and civil war. I ventured further, to declare it as my idea, that without an upper house, they never could have either a good or a durable constitution. We had a difference of opinion on these points; but I was glad to find, that there could be a fair discussion; and that, in a company of six or seven gentlemen, two would venture to agree with a system so unfashionable as mine. 17 miles.

The 15th. The country continues interesting to Brioud. On the tops of the mountains of Auvergne are many old castles, and towns, and villages. Pass the river by a bridge of one great arch, to the village of Lampdes. At that place, wait on Mons. Greyffier de Talairat, avocat and subdelegue, to whom I had a letter; and who was so obliging as to answer, with attention, all my inquiries into the agriculture of the neighbourhood. He inquired much after lord Bristol; and was not the worse pleased with me, when he heard that I came from the same province in England. We drank his lordship's health in the strong white wine, kept four years in the sun, which lord Bristol had much commended. 18 miles.

The 16th. Early in the morning, to avoid the heat, which has rather incommoded me, to Fix. Cross the river by a ford, near the spot where a bridge is building, and mount gradually into a country, which continues interesting to a naturalist, from its volcanic origin; for all has been either overturned, or formed by fire. Pass Chomet; and descending, remark a heap of basaltic columns by the road, to the right; they are small, but regular hexagons. Poulaget appears in the plain to the left. Stopped at St. George, where I procured mules, and a guide, to see the basaltic columns at Chiliae, which, however, are hardly striking enough to reward the trouble. At Fix, I saw a field of fine clover; a sight that I have not been regaled with, I think, since Alsace. I desired to know to whom it belonged? to Mons. Coffier, doctor of medicine. I went to his house to make inquiries, which he was obliging enough to gratify, and indulged me in a walk over the principal part of his farm. He gave me a bottle of excellent vin blanc mousseux, made in Auvergne. I inquired of him the means of going to the mine of antimony, four leagues from hence; but he said the country was so enragé in that part, and had lately been so mischievous, that he advised me by all means to give up the project. This country from climate, as well as pines, must be very high. I have been for three days past melted with heat; but to-day, though the sun is bright, the heat has been quite moderate, like an English summer's day, and I am assured that they never have it hotter; but complain of the winter's cold being very severe; and that the snow in the last was sixteen inches deep on the level. The interesting circumstance of the whole is the volcanic origin: all buildings and walls are of lava: the roads are mended with lava, pozzolana, and basaltes; and the face of the country every where exhibits the origin in subterranean fire. The fertility, however, is not apparent, without reflection. The crops are not extraordinary, and many bad; but then the height is to be considered. In no other country that I have seen are such great mountains as these, cultivated so high; here corn is seen every where even to their tops, at heights where it is usual to find rock, wood, or ling (*erica vulgaris*) 42 miles.

The 17th. The whole range of the fifteen miles to Le Puy en Velay, is wonderfully interesting. Nature, in the production of this country, such as we see it at present, must have proceeded by means not common elsewhere. It is all in its form tempestuous as the billowy ocean. Mountain rises beyond mountain, with endless variety: not dark and dreary, like those of equal height in other countries, but spread with cultivation (feeble indeed) to the very tops. Some vales sunk among them, of beautiful verdure, please the eye. Towards Le Puy the scenery is still more striking, from the addition of some of the most singular rocks any where to be seen. The castle of Polignac, from which the duke takes his title, is built on a bold and enormous one; it is almost of a cubical form, and towers perpendicularly above the town, which surrounds it at its foot. The family of Polignac claim an origin of great antiquity; they have pretensions that go back, I forget whether to Hector or Achilles; but I never found any one in conversation inclined to allow them more than being in the first class of French families, which they undoubtedly are. Perhaps there is no where to be met with a castle more formed to give a local pride of family than this of Polignac: the man hardly exists that would not feel a certain vanity, at having given his own name, from remote antiquity, to so singular and so commanding a rock; but if, with the name, it belonged to me, I would scarcely sell it for a province. The building is of such antiquity, and the situation so romantic, that all the feudal ages pass in review in one's imagination, by a sort of magic influence; you recognize it for the residence of a lordly baron, who, in an age more distant and more respectable, though perhaps equally barbarous, was the patriot defender of his country against the invasion and tyranny of Rome. In every age, since the hor-





*St. Michel au Puy.*



rible combustions of nature which produced it, such a spot would be chosen for security and defence. To have given one's name to a castle, without any lofty pre-eminence or singularity of nature, in the midst, for instance, of a rich plain, is not equally flattering to our feelings: all antiquity of family is derived from ages of great barbarism, when civil commotions and wars swept away and confounded the inhabitants of such situations. The Bretons of the plains of England were driven to Bretagne; but the same people, in the mountains of Wales, stuck secure, and remain there to this day. About a gun-shot from Polignac is another rock, not so large, but equally remarkable; and in the town of Le Puy, another commanding one rises to a vast height; with another more singular for its tower-like form, on the top of which St. Michael's church is built. Gypsum and lime-stone abound; and the whole country is volcanic; the very meadows are on lava: every thing, in a word, is either the product of fire, or has been disturbed or tossed about by it. At Le Puy, fair day, and a table d'hote, with ignorance, as usual. Many coffee-houses, and even considerable ones, but not a single newspaper to be found in any. 15 miles.

The 18th. Leaving Puy, the hill which the road mounts on the way to Costerous, for four or five miles, commands a view of the town far more picturesque than that of Clermont. The mountain, covered with its conical town, crowned by a vast rock, with those of St. Michael and of Polignac, form a most singular scene. The road is a noble one, formed of lava and pozzolana. The adjacent declivities have a strong disposition to run into basaltic pentagons and hexagons; the stones put up in the road by way of posts, are parts of basaltic columns. The inn at Pradelles, kept by three sisters, Pichots, is one of the worst I have met with in France. Contraction, poverty, dirt, and darkness. 20 miles.

The 10th. To Thuytz; pine woods abound; there are saw-mills, and with ratchet wheels to bring the tree to the saw, without the constant attention of a man, as in the Pyrenees: a great improvement. Pass by a new and beautiful road, along the side of immense mountains of granite; chesnut trees spread in every quarter, and cover with luxuriance of vegetation rocks apparently so naked, that earth seems a stranger. This beautiful tree is known to delight in volcanic soils and situations: many are very large; I measured one fifteen feet in circumference, at five from the ground; and many are nine to ten feet, and fifty to sixty high. At Maise the fine road ends, and then a rocky, almost natural one for some miles; but for half a mile before Thuytz recover the new one again, which is here equal to the finest to be seen, formed of volcanic materials; forty feet broad, without the least stone, a firm and naturally level cemented surface. They tell me that one thousand eight hundred toises of it, or about two and a half miles, cost 180,000 livres (8250l.) It conducts according to custom, to a miserable inn, but with a large stable; and in every respect Monsieur Grenadier excels the Demoiselles Pichots. Here mulberries first appear, and with them flies; for this is the first day I have been incommoded. At Thuytz I had an object which I supposed would demand a whole day: it is within four hours ride of the Montagne de la coup au Colet d'Aisa, of which M. Faujas de St. Fond has given a plate, in his *Resarches sur les volcanoes eteints*, that shews it to be a remarkable object: I began to make inquiries, and arrangements for having a mule and a guide to go thither the next morning; the man and his wife attended me at dinner, and did not seem, from the difficulties they raised at every moment, to approve my plan: having asked them some questions about the price of provisions, and other things, I suppose they regarded me with suspicious eyes, and thought that I had no good intentions. I desired however to have the mule; some difficulties were made. I must

have two mules: Very well, get me two. Then returning, a man was not to be had; with fresh expressions of surprise, that I should be eager to see mountains that did not concern me. After raising fresh difficulties to every thing I said, they at last plainly told me, that I should neither have mule nor man; and this with an air that evidently made the case hopeless. About an hour after, I received a polite message from the Marquis Deblou, seigneur of the parish, who hearing that an inquisitive Englishman was at the inn, inquiring after volcanoes, proposed the pleasure of taking a walk with me. I accepted the offer with alacrity, and going directly towards his house met him on the road. I explained to him my motives and my difficulties; he said, the people had gotten some absurd suspicions of me from my questions, and that the present time was so dangerous and critical to all travellers, that he would advise me by no means to think of any such excursions from the great road, unless I found much readiness in the people to conduct me: that at any other moment than the present he should be happy to do it himself, but that at present it was impossible for any person to be too cautious. There was no resisting this reasoning, and yet to lose the most curious volcanic remains in the country, for the crater of the mountain is as distinct in the print of Mons. de St. Fond, as if the lava were now running from it; was a mortifying circumstance. The Marquis then shewed me his garden and his chateau, amidst the mountains; behind it is that of Gravenc, which is an extinguished volcano likewise, but the crater not discernible without difficulty. In conversation with him and another gentleman, on agriculture, particularly the produce of mulberries, they mentioned a small piece of land that produced, by silk only, 120 livres (5l. 5s.) a year, and being contiguous to the road we walked to it. Appearing very small for such a produce, I stepped it to ascertain the contents, and minuted them in my pocket-book. Soon after, growing dark, I took my leave of the gentlemen, and retired to my inn. What I had done had more witnesses than I dreamt of; for at eleven o'clock at night, a full hour after I had been asleep, the commander of a file of twenty milice bourgeoise, with their musquets, or swords, or sabres, or pikes, entered my chamber, surrounded my bed, and demanded my passport. A dialogue ensued, too long to minute; I was forced first to give them my passport, and, that not satisfying them, my papers. They told me that I was undoubtedly a conspirator with the queen, the count d'Artois, and the count d'Entraques (who has property here) who had employed me as an arpenteur, to measure their fields, in order to double their taxes. My papers being in English saved me. They had taken it into their heads that I was not an Englishman—only a pretended one; for they speak such a jargon themselves, that their ears were not good enough to discover by my language that I was an undoubted foreigner. Their finding no maps, or plans, nor any thing that they could convert by supposition to a cadastre of their parish, had its effect, as I could see by their manner, for they conversed entirely in Patois. Perceiving, however, that they were not satisfied, and talked much of the count d'Entraques, I opened a bundle of letters that were sealed; these, gentlemen, are my letters of recommendation to various cities of France and Italy, open which you please, and you will find, for they are written in French, that I am an honest Englishman, and not the rogue you take me for. On this they held a fresh consultation and debate, which ended in my favour; they refused to open the letters, prepared to leave me, saying, that my numerous questions about lands, and measuring a field, while I pretended to come after volcanoes, had raised great suspicions, which they observed were natural at the time when it was known to a certainty that the queen, the count d'Artois, and the count d'Entraques were in a conspiracy against the Vivarais. And thus, to my entire satisfaction, they wished me a good night,

and left me to the bugs, which swarmed in the bed like flies in a honey-pot. I had a narrow escape; it would have been a delicate situation to have been kept prisoner probably in some common jail, or, if not, guarded at my own expence, while they sent a courier to Paris for orders. 20 miles.

The 20th. The same imposing mountainous features continue to Villeneuve de Berg. The road, for half a mile, leads under an immense mass of basaltic lava, run into configurations of various forms, and resting on regular columns; this vast range bulges in the centre into a sort of promontory. The height, form, and figures, and the decisive volcanic character the whole mass has taken, render it a most interesting spectacle to the learned and unlearned eye. Just before Aubenas, mistaking the road, which is not half finished, I had to turn; it was on the slope of the declivity, and very rare that any wall or defence is found against the precipices. My French mare has an ill talent of backing too freely when she begins: unfortunately she exercised it at a moment of imminent danger, and backed the chaise, me and herself down the precipice; by great good luck, there was at the spot a sort of shelf of rock, that made the immediate fall not more than five feet direct. I leaped out of the chaise in the moment, and fell unhurt: the chaise was overthrown and the mare on her side, entangled in the harness, which kept the carriage from tumbling down a precipice of sixty feet. Fortunately she lay quietly, for had she struggled both must have fallen. I called some lime-burners to my assistance, who were with great difficulty brought to submit to directions, and not each pursue his own idea to the certain precipitation of both mare and chaise. We extricated her unhurt, secured the chaise, and then, with still greater difficulty, regained the road with both. This was by far the narrowest escape I have had. A blessed country for a broken limb; confinement for six weeks or two months at the Cheval Blanc, at Aubenas, an inn that would have been purgatory itself to one of my hogs: alone: without relation, friend, or servant, and not one person in sixty that speaks French. Thanks to the good providence that preserved me! What a situation; I shudder at the reflection more than I did falling into the jaws of the precipice. Before I got from the place there were seven men about me, I gave them a 3 livre piece to drink, which for some time they refused to accept, thinking, with unaffected modesty, that it was too much. At Aubenas repaired the harness, and, leaving that place, viewed the silk mills, which are considerable. Reach Villeneuve de Berg. I was immediately hunted out by the milice bourgeoise. Where is your certificate? Here again the old objection that my features and person were not described. Your papers? The importance of the case, they said, was great: and they looked as big as if a marshal's baton was in hand. They tormented me with an hundred questions; and then pronounced that I was a suspicious looking person. They could not conceive why a Suffolk farmer could travel into the Vivarais. Never had they heard of any person travelling for agriculture! They would take my passport to the hotel de ville, have the permanent council assembled, and place a centinel at my door. I told them they might do what they pleased, provided they did not prohibit my dinner, as I was hungry; they then departed. In about half an hour a gentleman-like man; a Croix de St. Louis came, asked me some questions very politely, and seemed not to conclude that Maria Antonietta and Arthur Young were at this moment in any very dangerous conspiracy. He retired, saying, he hoped I should not meet with any difficulties. In another half hour a soldier came to conduct me to the hotel de ville; where I found the council assembled; a good many questions were asked; and some expressions of surprise that an English farmer should travel so far for agriculture; they had never heard of such a thing; but all was in a polite liberal manner; and though travelling for agriculture was as new to them, as if

it had been like the ancient philosopher's tour of the world on a cow's back, and living on the milk; yet they did not deem any thing in my recital improbable, signed my passport very readily, assured me of every assistance and civility I might want, and dismissed me with the politeness of gentlemen. I described my treatment at Thuytz, which they loudly condemned. I took this opportunity to beg to know where that Pradel was to be found in this country, of which Oliver de Serres was seigneur, the well known French writer on agriculture in the reign of Henry IV. They at once pointed out of the window of the room we were in to the house, which in Villencuve de Berg belonged to him, and informed me that Pradel was within a league. As this was an object I had noted before I came to France, the information gave me no slight satisfaction. The mayor, in the course of the examination, presented me to a gentleman who had translated Sterne into French, but who did not speak English: on my return to the auberge I found that this was Mons. de Boissiere, avocat general of the parliament of Grenoble. I did not care to leave the place without knowing something more of one who had distinguished himself by his attention to English literature; and I wrote to him a note, begging permission to have the pleasure of some conversation with a gentleman who had made our inimitable author speak the language of a people he loved so well. Mons. de Boissiere came to me immediately, conducted me to his house, introduced me to his lady and some friends, and as I was much interested concerning Oliver de Serres, he offered to take a walk with me to Pradel. It may easily be supposed that this was too much to my mind to be refused, and few evenings have been more agreeably spent. I regarded the residence of the great parent of French agriculture, and who was undoubtedly one of the first writers on the subject that had then appeared in the world, with that sort of veneration, which those only can feel who have addicted themselves strongly to some predominant pursuit, and find it in such moments indulged in its most exquisite feelings. Two hundred years after his exertions, let me do honour to his memory, he was an excellent farmer, and a true patriot, and would not have been fixed on by Henry IV, as his chief agent in the great project of introducing the culture of silk in France, if he had not possessed a considerable reputation; a reputation well earned, since posterity has confirmed it. The period of his practice is too remote to gain any thing more than a general outline of what may now be supposed to have been his farm. The basis of it is lime-stone; there is a great oak wood near the chateau, and many vines, with plenty of mulberries, some apparently old enough to have been planted by the hand of the venerable genius that has rendered the ground classic. The estate of Pradel, which is about 5000 livres (21*l.* 15*s.*) a year, belongs at present to the Marquis of Mirabel, who inherits it in right of his wife, as the descendant of de Serres. I hope it is exempted for ever from all taxes; he whose writings laid the foundation for the improvement of a kingdom, should leave to his posterity some marks of his countrymen's gratitude. When the present bishop of Sisteron was shewn like me, the farm of de Serres, he remarked, that the nation ought to erect a statue to his memory. The sentiment is not without merit, though no more than common snuff-box chat; but if this bishop has a well cultivated farm in his hands it does him honour. Supped with Mons. and Madame de Boissiere, &c. and had the pleasure of an agreeable and interesting conversation. 21 miles.

The 21st. Mons. de Boissiere, wishing to have my advice in the improvement of a farm, which he has taken into his hands, six or seven miles from Berg, in my road to Viviers, accompanied me thither. I advised him to form one well executed and well improved inclosure every year; to finish as he advances, and to do well what he attempts to do at all; and I cautioned him against the common abuse of that excellent

husbandry, paring and burning. I suspect, however, that his homme d'affaire will be too potent for the English traveller. I hope he has received the turnip-seed I sent him. Dine at Viviers, and pass the Rhone. After the wretched inns of the Vivarias, dirt, filth, bugs, and starving, to arrive at the hotel de Monsieur, at Montilimart, a great and excellent inn, was something like the arrival in France from Spain: the contrast is striking; and I seemed to hug myself, that I was again in a christian country, among the Milors Ninchitreas, and my Ladi Bettis, of Mons. Chabot. 23 miles.

The 22d. Having a letter to Mons. Faujas de St. Fond, the celebrated naturalist, who has favoured the world with many important works on volcanoes, acrostation, and various other branches of natural history, I had the satisfaction, on inquiring, to find, that he was at Montilimart; and, waiting on him, perceived that a man of distinguished merit was handsomely lodged, with every thing about him that indicated an easy fortune. He received me with the frank politeness inherent in his character; introduced me, on the spot, to a Mons. l'abbe Berenger, who resided near his country-seat, and was, he said, an excellent cultivator; and likewise to another gentleman, whose taste had taken the same good direction. In the evening Mons. Faujas took me to call on a female friend, who was engaged in the same inquiries, madame Cheinet, whose husband is a member of the national assembly; if he have the good luck to find at Versailles some other lady as agreeable as her he has left at Montilimart, his mission will not be a barren one; and he may perhaps be better employed than in voting regenerations. This lady accompanied us in a walk for viewing the environs of Montilimart; and it gave me no small pleasure to find, that she was an excellent farmeress, practises considerably, and had the goodness to answer many of my inquiries, particularly in the culture of silk. I was so charmed with the naivete of character, and pleasing conversation of this very agreeable lady, that a longer stay here would have been delicious; but the plough!

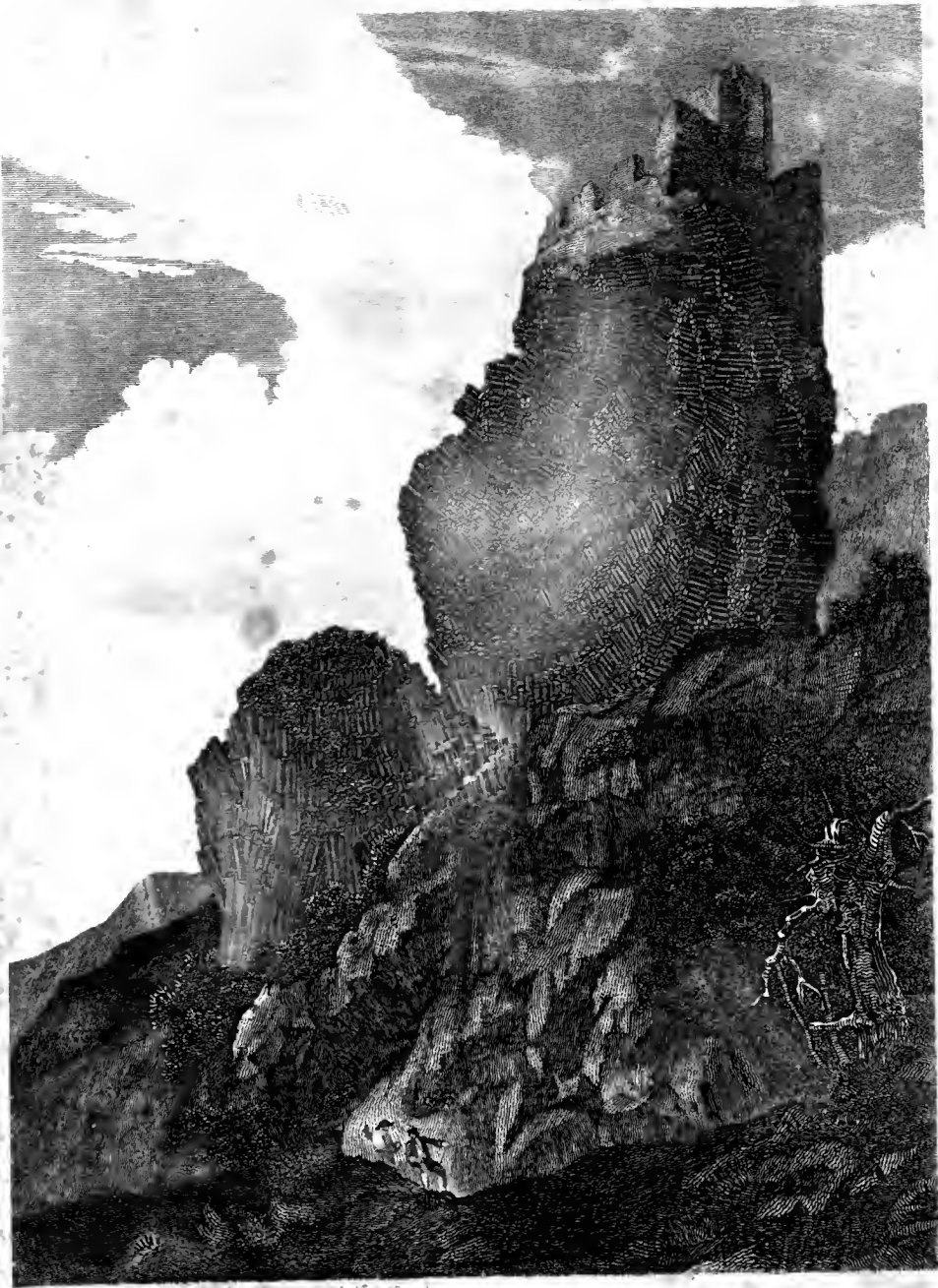
The 23d. By appointment accompanied Mons. Faujas to his country seat and farm at l'Orjol, fifteen miles north of Montilimart, where he is building a good house. I was pleased to find his farm to amount to two hundred and eighty septeres of land: I should have liked it better, had it not been in the hands of a metayer. Mons. Faujas pleases me much; the liveliness, vivacity, phlogiston of his character, do not run into pertness, foppery, or affectation; he adheres steadily to a subject; and shews, that to clear up any dubious point, by the attrition of different ideas in conversation, gives him pleasure; not through a vain fluency of colloquial powers, but for better understanding a subject. Mons. abbe Berenger, and another gentleman, passed the next day at Mons. Faujas': we walked to the abbe's farm. He is of the good order of beings, and pleases me much; cure of the parish, and president of the permanent council. He is at present warm on a project of re-uniting the protestants to the church; spoke, with great pleasure, of having persuaded them, on occasion of the general thanksgiving for the establishment of liberty, to return thanks to God, and sing the Te Deum in the catholic church, in common, as brethren, which, from confidence in his character, they did. He is firmly persuaded, that, by both parties giving way a little, and softening or retrenching reciprocally somewhat in points that are disagreeable, they may be brought together. The idea is so liberal, that I question it for the multitude, who are never governed by reason, but by trifles and ceremonies; and who are usually attached to their religion, in proportion to the absurdities it abounds with. I have not the least doubt but the mob in England would be much more scandalized at parting with the creed of St. Athanasius, than the whole bench of bishops, whose illumination would perhaps reflect correctly that of the throne. Mons. l'abbe Berenger has prepared a

memorial, which is ready to be presented to the national assembly, proposing and explaining this ideal union of the two religions; and he had the plan of adding a clause, proposing that the clergy should have permission to marry. He was convinced that it would be for the interest of morals, and much for that of the nation, that the clergy should not be an insulated body, but holding by the same interests and connections as other people. He remarked, that the life of a cure, and especially in the country, is melancholy; and, knowing my passion, observed, that a man could never be so good a farmer, on any possession he might have, excluded from being succeeded by his children. He shewed me his memoir, and I was pleased to find that there is at present great harmony between the two religions, which must be ascribed certainly to such good cures. The number of protestants is very considerable in this neighbourhood. I strenuously contended for the insertion of the clause respecting marriage; assured him, that at such a moment as this, it would do all who were concerned in this memorial the greatest credit; and that they ought to consider it as a demand of the rights of humanity, violently, injuriously, and relative to the nation, impolitically withheld. Yesterday, in going with Mons. Faujas, we passed a congregation of protestants, assembled, Druid like, under five or six spreading oaks, to offer their thanksgiving to the great Parent of their happiness and hope. In such a climate as this, is it not a worthier temple, built by the great hand they revere, than one of brick and mortar? This was one of the richest days I have enjoyed in France; we had a long and truly farming dinner; drank a l'Anglois success to the plough; and had so much agricultural conversation, that I wished for my farming friends in Suffolk to partake of my satisfaction. If Mons. Faujas de St. Fond come to England, as he gives me hopes, I shall introduce him to them with pleasure. In the evening return to Montilimart. 30 miles.

The 25th. To Chateau Rochemaur, across the Rhone. It is situated on a basaltic rock, nearly perpendicular, with every columnal proof of its volcanic origin. See Mons. Faujas's Recherches. In the afternoon to Piere Latte, through a country steril, uninteresting, and far inferior to the environs of Montilimart. 22 miles.

The 26th. To Orange, the country not much better; a range of mountains to the left: see nothing of the Rhone. At that town there are remains of a large Roman building, seventy or eighty feet high, called a circus, of a triumphal arch, which, though a good deal decayed, manifests, in its remains, no ordinary decoration, and a pavement in the house of a poor person, which is very perfect and beautiful, but much inferior to that of Nismes. The vent de bize has blown strongly for several days, with a clear sky, tempering the heats, which are sometimes sultry and oppressive; it may, for what I know, be wholesome to French constitutions, but it is dreadful to mine; I found myself very indifferent, and, as if I were going to be ill, a new and unusual sensation over my whole body: never dreaming of the wind, I knew not what to attribute it to, but my complaint coming at the same time, puts it out of doubt; besides, instinct now, much more than reason, makes me guard as much as I can against it. At four or five in the morning it is so cold that no traveller ventures out. It is more penetratingly drying than I had any conception of; other winds stop the cutaneous perspiration: but this piercing through the body seems, by its sensation, to dry up all the interior humidity. 20 miles.

The 27th. To Avignon. Whether it were because I had read much of this town in the history of the middle ages, or because it had been the residence of the popes, or more probably from the still more interesting memoirs which Petrarch has left concerning it, in poems that will last as long as Italian elegance and human feelings shall exist, I know not, but I approached the place with a sort of interest, attention, and expect-



W. Symonds del.

Castle of Roches-aux-Bois

Langres





ancy, that few towns have kindled. Laura's tomb is in the church of the Cordeliers ; it is nothing but a stone in the pavement, with a figure engraven on it partly effaced, surrounded by an inscription in Gothic letters, and another in the wall adjoining, with the armorial of the family of Sade. How incredible is the power of great talents, when employed in delineating passions common to the human race ! How many millions of women, fair as Laura, have been beloved as tenderly, but wanting a Petrarch to illustrate the passion, have lived and died in oblivion ! whilst his lines, not written to die, conduct thousands under the impulse of feelings, which genius only can excite, to mingle in idea their melancholy sighs with those of the poet who consecrated these remains to immortality ! There is a monument of the brave Crillon in the same church ; and I saw other churches and pictures, but Petrarch and Laura are predominant at Avignon. 19 miles.

The 28th. Wait upon Pere Brouillyon, provincial visitor, who, with great politeness, procured me the information I wished, by introducing me to some gentlemen conversant in agriculture. From the rock of the legate's palace, there is one of the finest views of the windings of the Rhone that is to be seen : it forms two considerable islands, which with the rest of the plain, richly watered, cultivated, and covered with mulberries, olives, and fruit-trees, hath an interesting boundary in the mountains of Provence, Dauphine and Languedoc. The circular road fine. I was struck with the resemblance between the women here and in England. It did not at once occur in what it consisted ; but it is their caps ; they dress their heads quite different from the French women. A better particularity, is there being no wooden shoes here, nor, as I have seen in Provence.\* I have often complained of the stupid ignorance I met with at tables d'hotes. Here, if possible, it has been worse than common. The politeness of the French is proverbial, but it never could arise from the manners of the classes that frequent these tables. Not one time in forty will a foreigner, as such, receive the least mark of attention. The only political idea here is, that if the English should attack France, they have a million of men in arms to receive them ; and their ignorance seems to know no distinction between men in arms in their towns and villages, or in action without the kingdom. They conceive, as Sterne observes, much better than they combine : I put some questions to them, but in vain : I asked, if the union of a rusty firelock and a Burgeois made a soldier ? I asked them in which of their wars they had wanted men ? I demanded, whether they had ever felt any other want than that of money ? and whether the conversion of a million of men into the bearers of musquets would make money more plentiful ? I asked if personal service were not a tax ? And whether paying the tax of the service of a million of men increased their faculties of paying other and more useful taxes ? I begged them to inform me, if the regeneration of the kingdom, which had put arms in the hands of a million of mob, had rendered industry more productive, internal peace more secure, confidence more enlarged, or credit more stable ? And lastly, I assured them, that should the English attack them at present, they would probably make the weakest figure they had done from the foundation of their monarchy : but, gentlemen, the English, in spite of the example you set them in the American war, will disdain such a conduct ; they regret the constitution you are forming, because they think it a bad one, but whatever you may establish, you will have no interruption, but many good wishes from your neighbour. It was all in vain ;

\* We were, like you, struck with the resemblance of the women at Avignon to those of England, but not for the reason you give ; it appeared to us to originate from their complexions being naturally so much better than that of the other French women, more than their head-dress, which differs as much from ours as it does from the French. " Note by a female friend."

they were well persuaded their government was the best in the world ; that it was a monarchy, and no republic, for which I contended : and that the English thought so too, because they would unquestionably abolish their house of lords, in the enjoyment of which accurate idea I left them. In the evening to Lille, a town which has lost its name in the world, in the more splendid fame of Vacluse. There can hardly be met with a richer, or better cultivated tract of sixteen miles ; the irrigation is superb. Lille is most agreeably situated. On coming to the verge of it I found fine plantations of elms, with delicious streams, bubbling over pebbles on either side ; well dressed people were enjoying the evening at a spot, which I had conceived to be only a mountainous village. It was a sort of fairy scene to me. Now, thought I, how detestable to leave all this fine wood and water, and enter a nasty, beggarly, walled, hot, stinking town, one of the contrasts most offensive to my feelings ? What an agreeable surprise, to find the inn without the town, in the midst of the scenery I had admired ! and more so, as it was cheap, and the accommodations good. I walked on the banks of this classic stream for an hour, with the moon gazing on the waters, that will run for ever in mellifluous poetry : retired to sup on the most exquisite trout and craw fish in the world. To-morrow to the famed origin. 16 miles.

The 29th. I am delighted with the environs of Lille ; beautiful roads, well planted, surround and pass off in different directions, as if from a capital town, umbrageous enough to form promenades against a hot sun, and the river is divided into so many streams, and conducted with so much attention, that it has a delicious effect, especially to an eye that recognises all the fertility of irrigation. To the fountain of Vacluse, which is justly said to be as celebrated almost as that of Helicon. Crossing a plain, which is not so beautiful as one's idea of Tempe ; the mountain presents an almost perpendicular rock, at the foot of which is an immense and very fine cavern, half filled with a pool of stagnant, but clear water ; this is the famous fountain ; at other seasons it fills the whole cavern, and boils over in a vast stream among rocks ; its bed now marked by vegetation. At present the water gushes out two hundred yards lower down, from beneath masses of rock, and in a very small distance forms a considerable river, which almost immediately receives deviations by art for mills and irrigation. On the summit of a rock above the village, but much below the mountain, is a ruin, called, by the poor people here, the chateau of Petrarch, who tell you it was inhabited by Mons. Petrarch and Madame Laura. The scene is sublime ; but what renders it truly interesting to our feelings, is the celebrity which great talents have given it. The power of rocks, and water, and mountains, even in their boldest features, to arrest attention, and fill the bosom with sensations that banish the insipid feelings of common life, holds not of inanimate nature. To give energy to such sensations, it must receive animation from the creative touch of a vivid fancy : described by the poet, or connected with the residence, actions, pursuits, or passions of great geniuses ; it lives, as it were, personified by talents, and commands the interest that breathes around whatever is consecrated by fame. To Orgon. Quit the Pope's territory, by crossing the Duranc ; there view the skeleton of the navigation of Boisgelin, the work of the archbishop of Aix, a noble project, and, where finished, perfectly well executed ; a hill is pierced by it for a quarter of a mile, a work that rivals the greatest similar exertions. It has, however, stood still many years for want of money. The vent de bize gone, and the heat increased, the wind now S. W. my health better to a moment, which proves how pernicious that wind is, even in August. 20 miles.

The 30th. I forgot to observe that, for a few days past, I have been pestered with all the mob of the country shooting : one would think that every rusty gun in Provence is

at work, killing all sorts of birds; the shot has fallen five or six times in my chaise and about my ears. The national assembly have declared that every man has a right to kill game on his own land; and advancing this maxim so absurd as a declaration, though so wise as a law, without any statute or provision to secure the right of the game to the possessor of the soil, according to the tenor of the vote, have, as I am every where informed, filled all the fields of France with sportsmen to a great detriment. The same effects have flowed from declarations of right relative to tythes, taxes, feudal rights, &c. In the declarations, conditions and compensations are talked of; but an unruly, un-governable multitude seize the benefit of the abolition, and laugh at the obligations or recompense. Out by day break for Salon, in order to view the Crau, one of the most singular districts in France for its soil, or rather want of soil; being apparently a region of sea flints, yet feeding great herds of sheep: view the improvement of Monsieur Pasquali, who is doing great things, but roughly: I wished to see and converse with him, but unfortunately he was absent from Salon. At night to St. Canta. 46 miles.

The 31st. To Aix. Many houses without glass windows. The women with men's hats, and no wooden shoes. At Aix waited on Mons. Gibelin, celebrated for his translations of the works of Dr. Priestley, and of the Philosophical Transactions. He received me with that easy and agreeable politeness natural to his character. He took every method in his power to procure me the information I wanted, and engaged to go with me the next day to Tour d'Aigues to wait on the baron of that name, president of the parliament of Aix, to whom also I had letters; and whose essays, in the Trimestres of the Paris Society of Agriculture, are among the most valuable on rural œconomics in that work. 12 miles.

September 1st. Tour d'Aigues is twenty miles north of Aix, on the other side of the Durance, which we crossed at a ferry. The country about the chateau is bold and hilly, and swells in four or five miles into rocky mountains. The president received me in a very friendly manner, with a simplicity of manners that gives a dignity to his character, void of affectation; he is very fond of agriculture and planting. The afternoon was passed in viewing his home-farm, and his noble woods, which are uncommon in this naked province. The chateau of Tour d'Aigues, before much of it was accidentally consumed by fire, must have been one of the most considerable in France; but at present a melancholy spectacle is left. The baron is an enormous sufferer by the revolution; a great extent of country, which belonged in absolute right to his ancestors, was formerly granted for quit-rents, cens, and other feudal payments, so that there is no comparison between the lands retained and those thus granted by his family. The loss of the droits honorifiques is much more than has been apparent, as it is an utter loss of all influence; it was natural to look for some plain and simple mode of compensation; but the declaration of the national assembly allows none; and it is feelingly known in this chateau, that the solid payments which the assembly have declared to be rachetable are every hour falling to nothing, without a shadow of recompense. The people are in arms, and at this moment very unquiet. The situation of the nobility in this country is pitiable; they are under apprehensions that nothing will be left them, but simply such houses as the mob allows to stand unburnt; that the metayers will retain their farms without paying the landlord his half of the produce; and that, in case of such a refusal, there is actually neither law nor authority in the country to prevent it. Here is, however, in this house, a large and agreeable society, and cheerful to a miracle, considering the times, and what such a great baron is losing, who has inherited from his ancestors, immense possessions, now frittering to nothing by the revolution. This chateau, splendid even in ruins, the venerable woods, park, and all the ensigns of family and

command, with the fortune, and even the lives of the owners at the mercy of an armed rabble. What a spectacle! The baron has a very fine and well filled library, and one part of it totally with books and tracts on agriculture, in all the languages of Europe. His collection of these is nearly as numerous as my own. 20 miles.

The 2d. Mons. Le President dedicated this day for an excursion to his mountain-farm, five miles off, where he has a great range, and one of the finest lakes in Provence, two thousand toises round, and forty feet deep. Directly from it rises a fine mountain, consisting of a mass of shell agglutinated into stone; it is a pity this hill is not planted, as the water wants the immediate accompaniment of wood. Carp rise to 25lb. and eels to 12lb. (Note, there are carp in the lake Bourgeat, in Savoy, of 60lb.) A neighbouring gentleman, Mons. Jouvent, well acquainted with the agriculture of this country, accompanied us, and spent the rest of the day at the castle. I had much valuable information from the Baron de Tour d'Aigues, this gentleman, and from Mons. l'abbe de —, I forget his name. In the evening I had some conversation on house-keeping with one of the ladies, and found, among other articles, that the wages of a gardener are 300 livres (13l. 12s. 6d.); a common man-servant, 150 livres (7l.); a Bourgeois cook, 75 to 90 livres (90 livres are 3l. 18s. 9d.); a house-maid, 60 to 70 livres (3l. 1s. 3d.) Rent of a good house for a Bourgeois 700 or 800 livres (35l.) 10 miles.

The 3d. Took my leave of Mons. Tour d'Aigues' hospitable chateau, and returned with Mons. Gibelin to Aix. 20 miles.

The 4th. The country to Marseilles is all mountainous, but much cultivated with vines and olives; it is, however, naked and uninteresting; and much of the road is left in a scandalous condition for one of the greatest in France, not wide enough, at places, for two carriages to pass with convenience. What a deceiving painter is the imagination! I had read I know not what lying exaggerations of the bastides about Marseilles being counted not by hundreds, but by thousands, with anecdotes of Louis XIV, adding one to the number by a citadel. I have seen other towns in France, where they are more numerous: and the environs of Montpellier, without external commerce, are as highly decorated as those of Marseilles; yet Montpellier is not singular. The view of Marseilles, in the approach, is not striking. It is well built in the new quarter, but, like all others, in the old, close, ill built, and dirty; the population, if we may judge from the throng in the streets, is very great; I have met with none that exceeds it in this respect. I went in the evening to the theatre, which is new, but not striking; and not in any respect to be named with that of Bourdeaux, or even Nantes; nor is the general magnificence of the town at all equal to Bourdeaux; the new buildings are neither so extensive, nor so good; the number of ships in the port not to be compared, and the port itself is a horse-pond, compared with the Garonne. 20 miles.

The 5th. Marseilles is absolutely exempt from the reproaches I have so often cast on others for want of newspapers. I breakfasted at the Cafe d'Acajon amidst many. Deliver my letters, and receive information concerning commerce; but I am disappointed of one I expected for Mons. l'abbe Raynal, the celebrated author. At the table d'hote, the count de Mirabeau, both here and at Aix, a topic of conversation; I expected to have found him more popular, from the extravagances committed in his favour in Provence and at Marseilles; they consider him merely as a politician of great abilities, whose principles are favourable to theirs; as to his private character, they think they have nothing to do with it; and assert, that they had much rather trust to a rogue of abilities, than put any confidence in an honest man of no talents; not, however, meaning to assert, that Mons. de Mirabeau deserved any such appellation. They say he has





*Costume of the South of France.*



*Corsicans*

*A. Boyd sc.*

an estate in Provence. I observed, that I was glad to hear he had property : for in such revolutions, it was a necessary hold on a man, that he will not drive every thing to confusion, in order to possess a consequence and importance which cannot attend him in peaceable and quiet times. But to be at Marseilles without seeing abbe Raynal, one of the undoubted precursors of the present revolution in France, would be mortifying. Having no time to wait longer for letters, I took the resolution to introduce myself. He was at the house of his friend Mons. Bertrand. I told the abbe my situation : and with that ease and politeness which flows from a man's knowledge of the world, he replied, that he was always happy to be of use to any gentleman of my nation ; and, turning to his friend, said, here also is one, Sir, who loves the English, and understands their language. In conversing on agriculture, which I had mentioned as the object of my journey, they both expressed their surprise to find, by accounts apparently authentic, that we imported great quantities of wheat, instead of exporting as we formerly did ; and desired to know, if this were really the case, to what it was to be ascribed : and recurring, at the same time, to the *Mercur de France* for a statement of the export and import of corn, they read it as a quotation from Mr. Arthur Young. This gave me the opportunity of saying, that I was the person, and it proved a lucky introduction ; for it was not possible to be received with more politeness, or with more offers of service and assistance. I explained, that the change had taken place in consequence of a vast increase of population, a cause still increasing more rapidly than ever. We had an interesting conversation on the agriculture of France, and on the present situation of affairs, which they both think going on badly ; are convinced of the necessity of an upper house in the legislature, and dread nothing more than a mere democratical government, which they deem a species of republic, ridiculous for such a kingdom as France. I said that I had often reflected with amazement, that Monsieur Necker did not assemble the states in such a form, and under such regulations, as would have naturally led to adopt the constitution of England, free from the few faults which time has discovered in it. On which Mons. Bertrand gave me a pamphlet he had published, addressed to his friend abbe Raynal, proposing several circumstances in the English constitution to be adopted in that of France. Mons. l'abbe Raynal remarked, that the American revolution had brought the French one in its train : I observed, that if the result in France should be liberty, that revolution had proved a blessing to the world, but much more so to England than to America. This they both thought such a paradox, that I explained it by remarking, that I believed the prosperity which England had enjoyed since the peace, not only much exceeded that of any other similar period, but also that of any other country, in any period since the establishment of the European monarchies : a fact that was supported by the increase of population, of consumption, of industry, of navigation, shipping, and sailors : by the augmentation and improvement of agriculture, manufactures, and commerce ; and in a peculiar mass and aggregate, flowing from the whole, the rising ease and felicity of the people. I mentioned the authentic documents and public registers which supported such a representation ; and I found, that abbe Raynal, who attended closely to what I said, had not seen or heard of these circumstances, in which he is not singular, for I have not met with a single person in France acquainted with them ; yet they unquestionably form one of the most remarkable and singular experiments in the science of politics that the world has seen ; for a people to lose an empire, thirteen provinces, and to gain, by that loss, an increase of wealth, felicity and power ! When will the obvious conclusions, to be drawn from that prodigious event, be adopted ? that all transmarine, or distant domi-

nions, are sources of weakness: and that to renounce them would be wisdom. Apply this in France to St. Domingo, in Spain to Peru, or in England to B ngal, and mark the ideas and the replies that are excited. I have no doubt, however, of the fact. I complimented him on his generous gift to the society of agriculture at Paris, of 1200 livres for a premium; he said they had thanked him, not in the usual form, by the secretary signing alone, but had every one present signed it. He said, that he should do the same by the academies of sciences and belles lettres; and he has given the same sum to the academies at Marseilles, for a premium relative to their commerce. He said also, that he had formed a plan he should execute when he has saved money enough, which is to expend, by means of the society of agriculture, 1200 livres a year in purchasing models of all the useful implements of husbandry to be found in other countries, especially in England, and to spread them over France. The idea is an excellent one, and merits great praise; yet it is to be questioned, whether the effect would answer the expence. Give the tool itself to a farmer, and he will not know how to use it, or will be too much prejudiced to like it; a model he will still less take trouble to copy. Gentlemen farming every where their own lands, with enthusiasm and passion for the art, would apply and use those models; but I fear that none such are to be found in France. The spirit and pursuits of gentlemen must be changed from their present frivolous turns, before any such thing could be effected. He approved of my recommending turnips and potatoes; but said, that good sorts were wanted; and mentioned a trial he had made himself, a comparison of the English and Provencal potatoes in making bread, and the English produced one-third more flour than the French. Among other causes of bad husbandry in France, he named the illegality of usury; at present moneyed people in the country locked it up, instead of lending it for improvement. These sentiments of a justly celebrated writer do him honour; and it was pleasing to me to find, that he gave attention to objects which have almost monopolized mine; and yet more so to find, that though not young, he is in good spirits; and likely to live many years to enlighten the world by the productions of a pen that has never been employed but for the benefit of the human species.

The 8th. To Cuges. For three or four miles the road leads through rows of basides and walls; it is made of powdered white stone, and without exception, the most dusty I ever saw; the vines, for twenty rods on each side, were like a dressed head; the country all mountains of rock, with poor pines. Uninteresting and ugly; the plains, of no great breadth, are covered with vines and olives. Meet capers first at Cuges. At Aubagne, I dined on six dishes, not bad, a desert, and a bottle of wine, for 24s. and by myself too, for there was no table d'hote. What Mons. Dutens could mean by calling the post house at Cuges a good auberge, is inexplicable; it is a miserable hole, in which I have one of the best rooms, without glass to the windows. 21 miles.

The 9th. The country to Toulon is more interesting; the mountains are bolder; the sea adds to the view; and there is one passage among the rocks, where are sublime features. Nine-tenths are waste mountain, and a wretched country of pines, box, and miserable aromatics, in spite of the climate. Near Toulon, especially at Olioules, there are pomegranates in the hedges, with fruit as large as nonpareils; they have a few oranges also. The basin of Toulon with ranges of three deckers, and other large men of war, with a quay of life and business, are fine. The town has nothing that deserves description; the great and only thing that is worth seeing, the dock-yard, I could not see, yet I had letters; but the regulation forbidding it, as at Brest, all applications were vain. 25 miles.



The 10th. Lady Craven has sent me upon a wild chase to Hyeres; one would think this country, from her's and many other descriptions, was all a garden; but it has been praised much beyond its merit. The vale is every where richly cultivated, and planted with olives and vines, with a mixture of some mulberries, figs, and other fruit trees. The hills are either rocks, or spread with a poor vegetation of evergreens, pines, lentiscus, &c. The vale, though scattered with white bastides which animate the scene, yet betrays that poverty in the robe of nature, which always offends the eye where olives and fruits form the principal clothing. Every view is meagre, on comparison with the rich foliage of our northern forests. The only singular features are the orange and lemon trees; they here thrive in the open air, are of a great size, and render every garden interesting to those who travel to the south; but last winter's frost has shorn them of their glory. They are all so nearly destroyed as to be cut almost to the root, or to the trunk, but are in general shooting again. I conjecture that these trees, even when in health and foliage, however they may be separately taken, add but little to the general effect of a view. They are all in gardens, mixed with walls and houses, and consequently lose much beauty as the part of a landscape. Lady Craven's tour sent me to the chapel of Notre Dame de consolation, and to the hills leading to Mons. Glapierre de St. Tropes; and I asked for father Laurent, who was, however, very little sensible of the honour she had done him. The views from the hills on both sides of the town are moderate. The islands Portecroix, Pourcurolle, and Levant (the nearest joined to the continent by a causeway and salt-marsh, which they call a pond) the hills, mounts, rocks, all are naked. The pines that spread on some of them have not a much better effect than gorse. The verdure of the vale is hurt by the hue of the olives. There is a fine outline to the views; but for a climate, where vegetation is the chief glory, it is poor and meagre; and does not refresh the imagination with the idea of a thick shade against the rays of an ardent sun. I can hear of no cotton in Provence, which has been reported in several books; but the date and pistachio succeed: the myrtle is indigenous every where, and the jasminum, commune, and fruticans. In l'Isle de Levant is the genista candescens, and the tauricium herba poma. Returning from my ride to the hotel de Necker, the landlord worried me with a list of English that pass the winter at Hyeres; there are many houses built for letting, from two to six louis a month, including all the furniture, linen, necessary plate, &c. Most of these houses command the prospect of the vale and the sea; and if they do not feel the vent de bize, I should suppose it must be a fine winter climate. In December, January, and February perhaps it may not incommode them, but does it not in March and April? There is a table d'hote, very well served, at the hotel de Necker in winter, at 4 livres a-head each meal. View the king's garden here, which may be ten or twelve acres, and nobly productive in all the fruits of the climate, its crop of oranges only last year was 21,000 livres (918l. 15s.) Oranges at Hyeres have produced as far as two louis each tree. Dine with Mons. de St. Cesaire, who has a pretty new built house, a noble garden walled in, and an estate around it, which he would sell or let. He was so obliging as to give me, with Dr. Battaile, much useful information concerning the agriculture and produce of this country. In the evening return to Toulon. 34 miles.

The 11th. The arrangement of my journey in Italy occupied some attention. I had been often informed, and by men that have travelled much in Italy, that I must not think of going thither with my one horse chaise. To watch my horse being fed would, they assured me, take up abundantly too much time, and if it were omitted, with respect to hay, as well as oats, both would be equally stolen. There are also

parts of Italy where travelling alone, as I did, would be very unsafe, from the number of robbers that infest the roads. Persuaded by the opinions of persons, who I suppose must know much better than myself, I had determined to sell my mare and chaise, and travel in Italy by the *veturini*, who are to be had it seems every where, and at a cheap rate. At Aix they offered me for both 20 louis; at Marseilles, eighteen: so the further I went I expected the price would sink; but to get out of the hands of the *aubergistes*, and the *garçons d'écuries*, who expected every where to make a property of me, I had it drawn into the street at Toulon, with a large label, written a *vende*, and the price 25 louis: they had cost me at Paris 32. My plan succeeded, and I sold them for 22; they had brought me above twelve hundred miles, but yet were a cheap bargain to an officer who was the purchaser. I had next to consider the method to get to Nice; and will it be believed, that from Marseilles with a hundred thousand souls, and Toulon with thirty thousand, lying in the great road to Antibes, Nice, and Italy, there is no diligence or regular *voiture*? A gentleman at the table d'hôte assured me, they asked him 3 louis for a place in a *voiture* to Antibes, and to wait till some other person would give three more for another seat. To a person accustomed to the infinity of machines that fly about England, in all directions, this must appear hardly credible. Such great cities in France have not the hundredth part of connection and communication with each other that much inferior places enjoy with us: a sure proof of their deficiency in consumption, activity, and animation. A gentleman who knew every part of Provence well, and had been from Nice to Toulon, by sea, advised me to take the common barque, for one day, from Toulon, that I might at least pass the isles of Hyeres; I told him I had been at Hyeres, and seen the coast. I had seen nothing, he said, if I had not seen them, and the coast from the sea, which was the finest object in all Provence; that it would be but one day at sea, as I might land at Cavalero, and take mules for Frejus; and that I should lose nothing, as the common rout was the same as what I had seen, mountains, vines, and olives. His opinion prevailed, and I spoke to the captain of the barque for my passage to Cavalero.

The 12th. At six in the morning, on board the barque, captain Jaffoirs, of Antibes; the weather was delicious; and the passage out of the harbour of Toulon, and its great basin, beautiful and interesting. Apparently it is impossible to imagine a harbour more completely secure and land-locked. The inner one, contiguous to the quay, is large, and seems formed by art; a range of mole, which it is built on, separating it from the great basin. Only one ship can enter at a time, but it could contain a fleet. There are now lying, moored in two ranges, one ship, the Commerce of Marseilles, of 130 guns, the finest ship in the French navy, and seventeen others of 90 guns each, with several smaller: in the great basin, which is two or three miles across, you seem absolutely inclosed by high lands, and it is only on the moment of quitting it, that you can guess where the outlet is, by which you are connected with the sea. The town, the shipping, the high mountain, which rises immediately above it, the hills, covered with plantations, and spread every where with bastides, unite to form a striking *coup d'œil*. But as to the isles of Hyeres and the fine views of the coast, which I was to enjoy, my informant could have no eyes, or was absolutely without taste: they are, as well as all the coast, miserably barren rocks and hills, with pines only to give any idea of vegetation. If it were not for a few solitary houses, with here and there a square patch of cultivation to change the colour of the mountains, I should have imagined that this coast must have borne a near resemblance to those of New Zealand, or New Holland—dark, gloomy, and silent; a savage sombre air spread

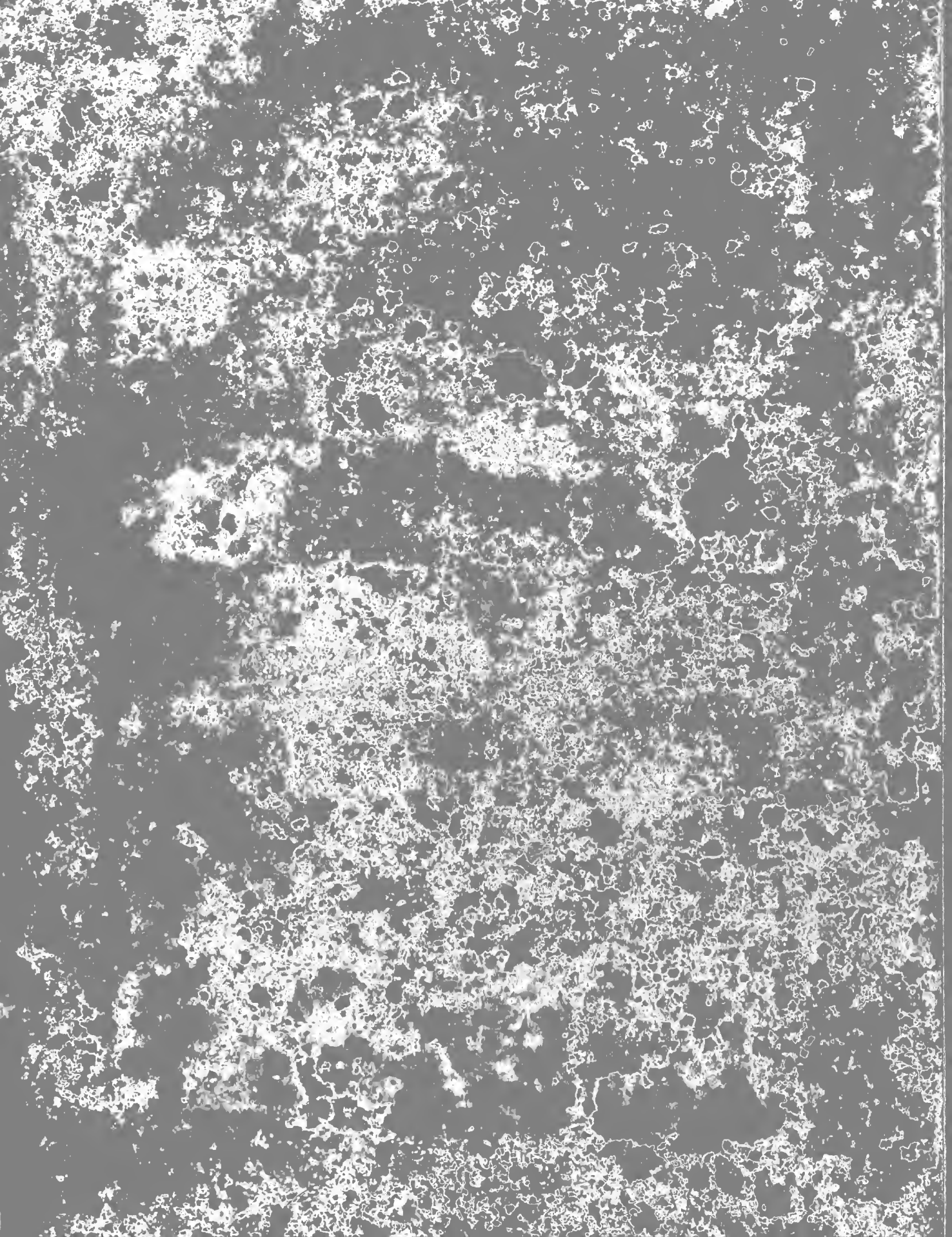
over the whole. The pines, and evergreen shrubs, that cover the greatest part, cover it with more gloom than verdure. Landed at night at Cavalero, which I expected to have found a little town; but it consists of three houses only, and a more wretched place not to be imagined. They spread a mattress on a stone floor for me, for bed they had none; after starving all day, they had nothing but stale eggs, bad bread, and worse wine; and as to the mules which were to take me to Frejus, there was neither horse, ass, nor mule in the place, and but four oxen for ploughing the ground. I was thus in a pretty situation, and must have gone on by sea to Antibes, for which also the wind gave tokens of being contrary, if the captain had not promised me two of his men to carry my baggage to a village two leagues off, where mules were certainly to be had, with which comfort I betook myself to my mattress. 24 miles.

The 13th. The captain sent three sailors; one a Corsican, another a mongrel Italian, and the third, a Provençal: among the three, there was not French enough for half an hour's conversation. We crossed the mountains, and wandered by crooked unknown paths, and beds of torrents, and then found the village of Gassang on the top of a mountain, which, however, was more than a league from that to which we intended to go. Here the sailors refreshed themselves, two with wine, but the third never drank any thing except water. I asked if he had equal strength with the others that drank wine? Yes, they replied, as strong for his size as any other man: I rather think, that I shall not soon find an English sailor who will make the experiment. No milk; I breakfasted on grapes, rye bread, and bad wine. Mules were reported to abound at this village, or rather that which we missed; but the master of the only two we could hear of being absent, I had no other resource than agreeing with a man to take my baggage on an ass, and myself to walk a league further, to St. Tropes, for which he demanded three livres. In two hours reached that town, which is prettily situated, and tolerably well built, on the banks of a noble inlet of the sea. From Cavalero hither, the country is all mountain, eighteen-twentieths of it covered with pines, or a poor wilderness of evergreen shrubs, rocky and miserable. Cross the inlet, which is more than a league wide; the ferrymen had been on board a king's ship, and complained heavily of their treatment; but said that now they were free men, they should be well treated; and in case of a war, they should pay the English by a different account; it would now be man to man; before it was free men fighting with slaves. Land at St. Maxime, and there hire two mules and a guide to Frejus. The country the same mountainous and rocky desert of pines and lentiscus; but towards Frejus, some arbutus. Very little culture before the plain near Frejus. I passed to-day thirty miles of which five are not cultivated. The whole coast of Provence is nearly the same desert; yet the climate would give, on all these mountains, productions valuable for feeding sheep and cattle; but they are incumbered with shrubs absolutely worthless. The effect of liberty had better appear in their cultivation, than on the decks of a man of war. 30 miles.

The 14th. Staid at Frejus to rest myself: to examine the neighbourhood, which, however, contains nothing; and to arrange my journey to Nice. At Frejus are remains of an amphitheatre and aqueduct. On inquiring for a voiture to go post, I found there was no such thing to be had; so I had no resource but mules. I employed the *garçon d'écurie* (for a post master thinks himself of too much consequence to take the least trouble) and he reported, that I should be well served for twelve livres to Estrelles; this price for ten miles, on a miserable mule, was a very entertaining idea; I bid him half the money; he assured me he had named the lowest price, and left me, certainly thinking me safe in his clutches. I took a walk round the town to gather some

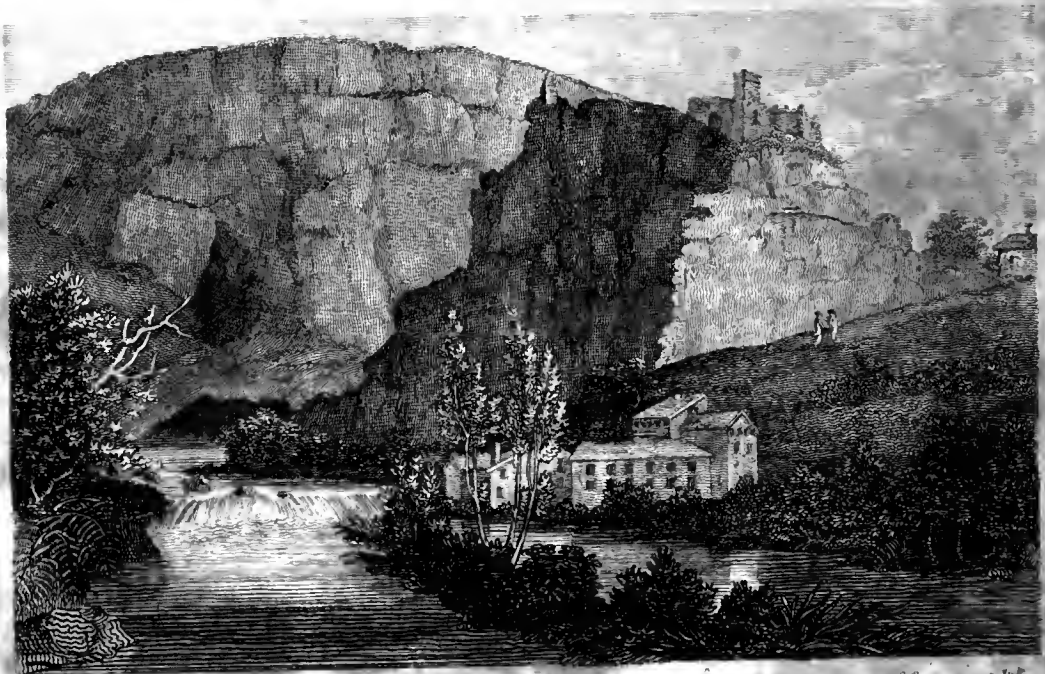
plants that were in blossom, and meeting a woman with an ass-load of grapes, I asked her employment; and found, by help of an interpreter, that she carried grapes from vineyards for hire. I proposed loading her ass to Estrelles with my baggage, and demanded her price. 40 sols. I will give it. Break of day appointed; and I returned to the inn, at least an œconomist, saving 10 livres by my walk.

The 25th. Myself, my female, and her ass jogged merrily over the mountains; the only misfortune was, we did not know one word of each other's language; I could just discover that she had a husband and three children. I tried to know if he were a good husband, and if she loved him very much; but our language failed in such explanations; it was no matter; her ass was to do my business and not her tongue. At Estrelles I took post horses; it is a single house, and no women with asses to be had, or I should have preferred them. It is not easy for me to describe, how agreeable a walk of ten or fifteen miles is to a man who walks well, after sitting a thousand in a carriage. To day's journey all through the same bad country, mountain beyond mountain, incumbered with worthless evergreens, and not one mile in twenty cultivated. The only relief is the gardens at Grasse, where singular exertions are made. Roses are a great article for the famous otter, all of which is commonly supposed to come from Bengal. They say that fifteen hundred flowers go to a single drop; twenty flowers sell for one sol, and an ounce of the otter 400 livres (17l. 10s.) Tuberoses, &c. are also cultivated for perfumes in immense quantities, for Paris and London. Rosemary, lavender, bergamot, and oranges, are here capital articles of culture. Half Europe is supplied with essences from hence. Cannes is prettily situated, close on the shore with the isles of St. Marguerite, where is a detestable state prison, about two miles off, and a distant boundary of the Estrelles mountains, with a bold broken outline. These mountains are barren to excess. At all the villages since Toulon, at Frejus, Estrelles, &c. I asked for milk, but no such thing to be had, not even of goats or sheep; the cows are all in the higher mountains; and as to butter, the landlord at Estrelles told me, it was a contraband commodity that came from Nice. Good heaven! what an idea northern people have, like myself, before I knew better, of a fine sun and a delicious climate, as it is called, that gives myrtles, oranges, lemons, pomegranates, jasmins, and aloe, in the hedges; yet are such countries, if irrigation be wanted the veriest deserts in the world! On the most miserable tracts of our heaths and moors, you will find butter, milk, and cream; give me that which will feed a cow, and let oranges remain in Provence. The fault, however, is in the people more than the climate; and as the people have never any faults (till they become the masters) all is the effect of government. The arbutus, laurustinus, cistus, and Spanish broom, are found scattered about the wastes. Nobody in the inn but a merchant of Bourdeaux returning home from Italy; we supped together, and had a good deal of conversation, not uninteresting; he was melancholy to think, he said, what a sad reputation the French revolution has wherever he has been in Italy. Unhappy France! was his frequent ejaculation. He made many inquiries of me, and said, his letters confirmed my accounts; the Italians seemed all convinced that the rivalry of France and England was at an end, and that the English would now have it in their power amply to revenge the American war, by seizing St. Domingo, and indeed all the possessions the French have out of France itself. I said the idea was a pernicious one, and so contrary to the personal interests of the men who governed England, that it was not to be thought of. He replied, that if we did not do it, we should be marvellously forbearing, and set an example of political purity sufficient to eternize that part of our national character, in which the world thought us most deficient moderation. He complained bitterly of





*Nice*



*S. Seymour sculp.*

*Fountain of Vaucluse*

the conduct of certain leaders of the national assembly, who seemed to be determined on a bankruptcy, and perhaps a civil war. 22 miles.

The 16th. At Cannes I was quite without a choice; no post-house, carriage, nor horses, nor mules to let; I was therefore forced again to take refuge in a woman and her ass. At five in the morning I walked to Antibes. This line of nine miles is chiefly cultivated, but the mountains rise so immediately, that, in a general idea, all is waste. Antibes, being a frontier town, is regularly fortified; the mole is pretty, and the view from it pleasing. Take a post-chaise to Nice; cross the Var, and bid adieu for the present to France. The approach to Nice is pleasing. The first approach to that country so long and justly celebrated, that has produced those who have conquered, and those who have decorated the world, fills the bosom with too many throbbing feelings to permit a bush, a stone, a clod to be uninteresting. Our perceptive faculties are expanded; we wish to enjoy; and then all is attention, and willingness to be pleased. The approach marks a flourishing town; new buildings, the never-failing proof of prosperity, are numerous. Pass many gardens full of oranges. Arrive in time for dinner at the table d'hôte, Hotel de Quatre Nations, and agree with the master of it for my apartment, which is exceedingly good, and dinner and supper at five Piedmontese livres a-day, that is five shillings. Here I am, then, in the midst of another people, language, sovereignty, and country; one of the moments of a man's life that will always be interesting; because all the springs of curiosity and attention are on the stretch. Several Frenchmen, but more Italians, at the table d'hôte; and the French revolution only talked of. The Frenchmen all in favour of it, and the Italians all against it, and absolute victors in the argument. 25 miles.

The 17th. I have no letters for Nice; and therefore, knowing nothing of the insides of the houses, I must be content with what meets the eye. The new part of the town is very well built; the streets straight and broad. The sea-view is fine, and for enjoying it in greater perfection, they have an admirable contrivance, which I have seen no where else. A row of low houses forming one side of a street, a quarter of a mile long, has flat roofs, which are covered with a stucco floor, forming a noble terrace, open immediately to the sea, raised above the dirt and annoyance of a street, and equally free from the sand and shingle of a beach. At one end some finely situated lodging-houses. The walk this terrace affords is, in fine weather, delicious. The square is handsome, and the works which form the port are well built, but it is small and difficult to enter, except in favourable weather; admits ships of near three hundred tons; yet, though free, has but an inconsiderable trade. The number of new streets and houses building at present is an unequivocal proof that the place is flourishing, chiefly on the account of the resort of foreigners, principally English, who pass the winter here, for the benefit and pleasure of the climate. They are dismally alarmed at present, with the news that the disturbances in France will prevent many of the English from coming this winter; but they have some consolation in expecting a great resort of French. Last winter, there were fifty-seven English, and nine French; this winter, they think it will be nine English, and fifty-seven French. At the table d'hôte informed, that I must have a passport for travelling in Italy; and that the English consul is the proper person to apply to. I went to Mr. Consul Green, who informed me that it was a mistake, there was no want of any passport; but if I wished to have one, he would very readily give it. My name occurring to him, he took the opportunity to be very polite to me, and offered any thing in his power to assist me. On my telling him the object of my travels, he remarked, that the gardens here, and mixture of half garden and half farm, were rather singular, and if I called on him in the evening, he would walk and shew me some. I

accepted his obliging invitation, and when I went again, met a colonel Ross, a gentleman from Scotland, second in command in the king of Sardinia's marine, and at present in chief: having been much in Sardinia, I made some inquiries of him concerning that island, and the circumstances he instanced were curious. The intemperata is so prevalent in summer, from the quantity of evaporating water leaving mud exposed to the sun, as to be death to a stranger: but in winter it is a good climate. The soil wonderfully rich and fertile, but vast plains that would produce any thing are uncultivated. He has past one line of fifty miles by thirty, all plain and the land good, yet without one house, and mostly a neglected desert. The people are wretched, and deplorably ignorant: there are districts, he has been informed, where there are olives, and the fruit left rotting under the trees, for want of knowing how to make oil. In general, there are no roads, and no inns. When a traveller, or other person, goes into the island, he is recommended from convent to convent, or cure to cure, some of whom are at their ease; you are sure to be well entertained, and at no other expence than a trifle to the servants. The plenty of game and wild fowl great. The horses are small, but excellent; all stallions. One has been known to be rode four-and-twenty hours without drawing bit. I demanded to what could be attributed such a neglected state of the island? To government, I suppose? By no means; government has manifested every disposition to set things on a better footing. It certainly arises from the feudal rights of the nobility, keeping the people in a state of comparative slavery. They are too wretched to have the inducement to industry. Such is the case at present in many other countries besides Sardinia. When I see and hear of the abominable depredations and enormities committed by the French peasants, I detest the democratical principles; when I see or hear of such wastes as are found in Sardinia, I abhor the aristocratical ones. Accompany Mr. Green to view some gardens, which have a luxuriance of vegetation, by means of watering, that makes them objects worth attention; but the great product, and a most valuable one it is, are oranges and lemons; chiefly the former, and a few bergamots for curiosity. We examined the garden of a nobleman, something under two acres of land, that produces thirty louis d'or a year in oranges only, besides all the crops of common vegetables. The great value of these products, such is the perversity of human life, is the exact reason why such gardens would be detestable to me, if under the œconomical management of the gentry of Nice. An acre of garden forms an object of some consequence in the income of a nobleman who, in point of fortune, is reckoned in good circumstances, if he has 150l. to 200l. a year. Thus the garden, which with us is an object of pleasure, is here one of œconomy and income, circumstances that are incompatible. It is like a well furnished room in a man's house, which he lets to a lodger. They sell their oranges so strictly, that they cannot gather one to eat. A certain momentary and careless consumption is a part of the convenience and agreeableness of a garden; a system, which thus constrains the consumption, destroys all the pleasure. Oranges may certainly be sold with as much propriety as corn or timber, but then let them grow at a distance from the house; that open apartment of a residence, which we call a garden, should be free from the shackle of a contract, and the scene of pleasure, not profit.

The 18th. Walked to Ville Franche, another little sea-port of the king of Sardinia's, on the other side of the mountain, to the east of Nice. Call on Mr. Green, the consul, who has given me letters to Genoa, Alexandria, and Padoua: he has behaved with so friendly an attention, that I cannot omit acknowledging warmly his civilities. Learn this morning from him that lord Bristol is somewhere in Italy, and that lady Erne is probably at Turin; my stars will not be propitious if I do not see them both.



The 19th. I have now waited two days merely for the means of getting away ; I can go either by a felucca to Genoa, or with a vetturino to Turin ; and there is so much for and against both schemes, that priority of departure is as good a motive for a preference as any other. If I go by Genoa to Milan, I see Genoa and a part of its territory, which is much, but I lose sixty miles of superb irrigation, from Coni to Turin, and I lose the line of country between Turin and Milan, which I am told is better than that between Genoa and Milan ; as to Turin itself, I should see it in my return. But here is Luigi Tonini, a vetturino, from Coni, who sets out on Monday morning for Turin, which decides me ; so with Mr. Green's kind assistance I have bargained with him to take me thither for seven French crowns. He has got two officers in the Sardinian service, and is not to wait longer for filling the third place. We have every day, at the table d'hote, a Florentine abbe, who has been a wonderful traveller ; no man names a country which he has not traversed ; and he is singular in never having made a note, making rather a boast that his memory retains every particular he would wish to know, even to numbers correctly. The height and measures of the pyramids of Egypt, of St. Peter's church at Rome, and St. Paul's at London, &c. with the exact length and breadth of every fine street in Europe, he has at his tongue's end. He is a great critic in the beauty of cities ; and he classes the four finest in the world thus, 1. Rome ; 2. Naples ; 3. Venice ; 4. London. Being a little inclined to the marvellous, in the idea of an old Piedmontese colonel, a knight of St. Maurice, a plain and unaffected character, and apparently a very worthy man ; is piqued at the authority of Signore Abbate, to the amusement of the company.

The 20th, Sunday. Mr. Consul Green continues his friendly attentions to the last ; I dined, by invitation, with him to-day ; and, for the honour of Piedmontese grazing, ate as fine, sweet, and fat a piece of roast beef as I would ever wish to do in England, and such as would not be seen at the table d'hote at the quatre nations in seven years, if in seven ages. An English master and mistress of the table, with roast beef, plum-pudding, and porter, made me drop for a moment the idea of the formidable distance that separated me from England. Unknown and unrecommended at Nice, I expected nothing but what could be shot flying in any town ; but I found in Mr. Green, both hospitality, and something too friendly to call politeness. In the evening we had another walk among gardens, and conversed with some of the proprietors on prices, products, &c. The description Mr. Green gives me of the climate of Nice in the winter is the most inviting that can be imagined ; a clear blue expanse is constantly over head, and a sun warm enough to be exhilarating, but not hot enough to be disagreeable. But, Sir, the vent de bize ! We are sheltered from it by the mountains ; and as a proof that this climate is by far more mild than where you have felt that wind, the oranges and lemons which we have in such profusion will not thrive either in Genoa or Provenee, except in a very few spots, singularly sheltered like this. He remarked, that Dr. Smollet, in his description, has done great injustice to the climate, and even against the feelings of his own crazy constitution ; for he never was so well after he left Nice as he had been at it, and made much interest with lord Shelburne to be appointed consul, who told him, and not without some foundation, that he would on no account be such an enemy to a man of genius ; that he had libelled the climate of Nice so severely, that if he were to go again thither the Nissards would certainly knock him on the head. Mr. Green has seen hay made, and well made, at Christmas.

The 21st. Commenced my first Italian journey ; of my two military companions, one was as stupid as a brick-bat, and the other too lively for me : there are few things more repugnant to my nerves than the vivacity of inanity ; I am not young enough for it.

Here was also a friar, who made no compensation for the deficiencies of his countrymen : low, vulgar, and ignorant ; could speak no French, and but little Italian : I looked in vain for so many of his Piedmontese words in my dictionary, that I was soon tired of following him. We dined at Scareno, and slept at Sospello, at both which places we joined the company of another vetturino, consisting of the Piedmontese colonel I had met at the table d'hote, his brother an abbe, and another abbe a friend, all well bred polite men, who were very attentive to me as a foreigner, and had great readiness to answer all my inquiries : I reaped a good deal of information from their conversation. The three first days of this journey are employed in crossing three mountains ; to-day we passed the Col de Pruss. The features in the heights are interesting, wild, and great. The descent to Sospello is picturesque. 26 miles.

The 22d. My friend, the old Piedmontese colonel, commends the English character greatly, when it is truly English ; that is, as I guessed by his explanations, when it is not a hurrying, bustling, expensive young man of great fortune, against whom he threw out some severe reflections. He desired my name, and where I lived in England, which he begged me to write down for him ; and commended very much the object of my journey, which appeared so extraordinary to him, that he could not help putting many questions. The mountain we crossed to-day is yet more savage than that of yesterday ; much of it wild and even sublime. The little town of Saorgio and its castle are situated most romantically, stuck against the side of a mountain, like a swallow's nest against the side of a house. I had no opportunity of asking how many necks are broken in a year, in going peaceably to and fro ; but the blackness of this town, and the total want of glass, make it gloomy as well as romantic ; indeed the view of all these mountain-towns, where there may be so much happiness with so little appearance of it, is forbidding. Tende, which is the capital of a district, and gives name to this great ridge of mountain (Col de Tende) is a horrid place of this sort, with a vile inn ; all black, dirty, stinking, and no glass. 30 miles.

The 23d. Out by four in the morning, in the dark, in order to cross the Col de Tende as soon after break of day as possible, a necessary precaution they say, as the wind is then most quiet ; if there be any storm, the passage is dangerous, and even impracticable ; not so much from height as from situation, in a draught of wind between Piedmont and the sea. They pass in the rocks, for some distance before mounting the hill, is sublime ; hemmed in among such enormous mountains and rocks, that they reminded me a little of the amazing pass in the Pyrenees, but are much inferior to it. In the face of one of them is a long inscription to the honour of Victor Amadeus III, for making the road ; and near it an old one, purporting that the eleventh duke of Savoy made the old road, to connect Piedmont and Nice, a proprie spese con tutta diligenza. This old road is passable by mules only, and is that by which Mr. Dutens passed the Col de Tende. I shall observe once for all, that the new one is a most useful and princely undertaking. From within a few miles of Nice where it is not finished, to Limon cost 3,500,000 livres (175,000*l.*) It winds prodigiously, in order to pass the steepest mountains, in such angles as to admit carriages without difficulty. The worst part is that which goes up to the Col de Tende ; this has not been made with equal attention as the rest, perhaps because they have begun to execute a vast design of perforating the mountain. At present, notwithstanding the goodness of the road in summer, it is absolutely impassable in winter for carriages, and with difficulty sometimes even with mules, by reason of the immense falls of snow. They have opened a cavern like a vault of rock, about thirty *trebulehi* long, and wide enough for carriages to pass, but it soon divides into two passages, one for going and another for returning, which is

found cheaper than one large enough for both; the whole will be above five hundred *trebulchi*, and will demand such an expence as leaves little hope of seeing it executed in this century. Take the new road, however, for all in all, and it is a work that does honour to the king and country. Descend into the rich and beautiful vale of Piedmont, a few miles before Coni, and between the Alps and Appenines, which here separate, one range running from hence to Calabria, I believe uninterruptedly, and the other to Constantinople. Amongst the maps never made, but much wanted, is one of the mountains in Europe, to shew at one coup d'œil which are connected, and which separate: this separation of the Alps and Appenines is so narrow, that they would, on a map on any scale, appear as one range; they connect with all the mountains of France, by Dauphine, Vivarais, and Auvergne, but not with the Pyrenees: I have myself travelled the whole range of those from sea to sea. Query, do they connect with Germany, Poland, &c. ? Perhaps they may with those of the hereditary dominions of the house of Austria. This would make but two ranges of mountains on the continent of Europe, the Alps and the Pyrenees; for all the Spanish connect with the latter, unless those of Norway and Sweden do not join the Russian, Polish, &c. Reach Coni, which is strongly fortified, and well situated; but as for inns, the *Croce Bianca*, which they speak of as being excellent, afforded me a good room enough, but without a single pane of glass in the windows, only ragged paper, and such a commodite, let me drive the recollection from my memory! Here we lost the company of the old colonel his brother, and friend; they went five miles further, to the estate of one of them at Centalle. Sup at the table d'hote. Our landlady is a tall well looking virago; the officers made love to her with one hand while they supped with the other. They then asked me a thousand questions about English duelling. Was it in a circle? At what distance? On horseback? With what pistols? &c. 37 miles.

The 24th. The friar and one of the officers proceeded no further; the other and myself for Turin. On leaving Coni, the view from the fortifications of the Alps is very fine; a range of them, capped with snow, is now seen by us to the left; Mont Viso among them very high. At Centalle we were stopped by the servant of my friend, the colonel, who had orders to conduct us to the house of the cure, to take chocolate. The brother of the colonel is, it seems, cure and archipetre of the parish. It was impossible to be received with more kindness and hospitality than I was here. The colonel started a plan for keeping us to dinner, and his brother immediately begged we would change our intention of sleeping at Carignan for Racconis, which would enable us to dine with him. To this we readily assented. I now found, that the colonel was the chevalier Brun, on a visit to his brother, who has built an excellent parsonage-house, as we should call it, at his own expence, and has two cures under him as archipetre; he has arch-hospitality also; gave us an admirable dinner, well served, and excellent wine, and wished I would make a longer stay. As this was the first Italian house I had been in, except inns, it was interesting enough to excite all my curiosity and attention. Expressing a wish to have some conversation with a practical cultivator, they had the goodness to walk with me to the count de Bonifante, who lives on his own estate here, and farms it. I soon found that this nobleman loved the subject; for he seemed to take a pleasure in answering my inquiries. We walked over his, and some of his neighbours' farms for more than two hours; and though my questions were pretty numerous, he was so kind as to meet them with the utmost willingness of explanation. If I have many such days as this in Italy, I shall be equally well pleased and informed. Centalle was the residence of the marquis de Suza. Take my leave of this agreeable and hospitable family, which I shall long remember with pleasure. Pass Savignan, a considerable and

pretty town; and what is much better to my eyes, a fine range of level plain, all rich and much watered. The scene in some places is charming: the road is like a fine alley, passing through a new mown garden; the meadows are as level as a die, without a mole-cast, or ant-hill; thanks to watering! The mowing neat; the hay now cocking; rows of trees every where, and not being in straight lines, the appearance is pleasing. It is an observation I have more than once made, and it is no where so exemplified as in this country, that there are beauties resulting from extreme fertility, that belong to a flat which would be hurt by inequalities of soil. The approach to Racconis is by a double row of trees on each side of the road, with two shady paths, very pleasing even by moon-light; but my fellow-traveller, with his drawn sword, ready to pass at the breast of a robber, should any attack us, did not people these shades with the most agreeable figures of the fancy. He says there are many robbers in Piedmont; and that travelling in the dark is always dangerous. Such things are to be laid to the account of government; and a pretty satire it is on despotism, not to be able to keep its roads clear from robbers. At Racconis, a great trade in winding silk: a beggarly inn, paper windows, &c. 27 miles.

The 25th. Pursuing our road, pass a country seat of the prince of Carignan, with a great inclosure of plantation, and many Lombardy poplars. Cross the Po by a most commodious ferry; a platform on two boats; the coach drove on and off without our moving. Why have we not such ferries in England? All a rich level country till we come near the mountain of Turin; and pass the chateau of Moncaglia, the present residence of the count d'Artois. Reach Turin; drive to the Hotel Royal; all full. To the hotel d'Angleterre; all taken for the prince of Conde. To the Bonne Femme, where a good landlady received me. I was in time for the table d'hote, at which were several French refugees, whose accounts of affairs in France are dreadful. These were driven from their chateaus, some of which were in flames; it gave me an opportunity of inquiring by whom such enormities were committed; by the peasants, or wandering brigands? they said, by peasants, undoubtedly; but that the great and indisputable origin of most of those villanies, was the settled plan and conduct of some leaders in the National Assembly, in union with, and by the money of, one other person of great rank, who would deserve the eternal execrations and reproaches of all true Frenchmen and every honest man: that when the assembly had rejected the proposal of the count de Mirabeau, to address the king to establish the malice bourgeoise, couriers were soon after sent to all quarters of the kingdom, to give an universal alarm of great troops of brigands being on the actual march, plundering and burning every where, at the instigation of aristocrats, and calling on the people to arm immediately in their own defence: that by intelligence afterwards received from different parts of the kingdom it was found, that these couriers must have been dispatched from Paris at the same time.\* Forged orders of the king in council were likewise sent, directing the people to burn the chateaus of the aristocratical party: and thus, as it were by magic, all France was armed at the same moment, and the peasants instigated to commit the enormities which have since disgraced the kingdom. 22 miles.

The 26th. This being the first Italian city of renown for beauty that I have seen, I have been all eyes to-day. Some travellers have represented it as the prettiest town in Europe, and the Strada di Po the finest street. I hurried to it with eagerness. I was in the middle of it, asking for it. Questa, questa! replied an officer, holding up his

\* Afterwards at Paris this fact was confirmed to me.

hands, as if to point out an object of great beauty which I did not see, and in truth I saw it not. It is straight and broad, and nearly regular. Two rows of brick bars might be so equally. The houses are of an ugly obfuscated brick; a few have stucco, and that old and dirty: the scaffold holes in the walls of all the rest are left unfilled; some of them are enlarged by time, and several courses of bricks between those holes, not pointed, which has as bad an effect; the windows are narrow and poor; some with iron balconies, some without; the arcades, for there is a row on each side of the street, would alone be destructive of beauty: the arches are plastered, which patches the line with white: and through them are exhibited nothing but poor shops that incumber their spans with all sorts of lumber; the lamps are fifty or sixty yards asunder. In a word, there are fifty streets at London to which this cannot be compared. If those who have travelled in Italy think this street fine, what am I to meet with in other towns? The Strada della Dora Grossa is by far a finer street than that of the Po, but the houses are greatly too high. There is a beautiful arcade entrance to the herb market, which seems to have furnished the idea of that at the new buildings of Somerset-house. The streets are almost all quite regular, and at right angles. I expected that this circumstance would have been attended with much more beauty than it is. It gives too great a sameness; the constant return of the same angles tires the eye; and I am convinced, that a city would be much more striking, and more admired, that had varied lines instead of uniform ones. Circles, semi-circles, crescents, semi-ellipses, squares, semi-squares, and compounds, composed of these, mixed with the common oblongs, would give a greater air of grandeur and magnificence. The most splendid object I have seen at Turin is the stair-case and saloon in the chateau contiguous to the royal palace. There is nothing at Versailles, except the gallery, to be compared with it. The front of this edifice is fine, and the whole does honour to Juvara. This morning I should have delivered my letters, but am unlucky. The Marchese de Palavicino, president of the Agrarian Society, and Signore Bisatti, the secretary of it, are both in the country. Signore Capriata, the president en second, I met with, but he is no practical farmer; he has been obliging enough, however, to promise me an introduction to some persons who are conversant with agriculture. Meeting with these disappointments, I began to fear I might want the intelligence that was necessary to my design; and be in that ineligible situation of seeing only the outsides of houses, and knowing nothing of the persons within. With time thus on my hands, I inquired for a bookseller, and was directed to Signore Briolo, who prints the memoirs of all the learned bodies here; among others, those of the Agrarian Society, which I bought, and afterwards turning over, found that I made a pretty conspicuous figure in one written by the Cavaliere di Capra, colonel of the regiment of Tortona, on the size of farms. He is a bitter enemy to large ones; not content with strictures on Piedmont, he presses England into his service, and finds it necessary to refute me, as I appear in the translation of Mons. Freville, from which he quotes passages which I never wrote. I wished to assure the author that it was the French translator, and not the English farmer that he had refuted. I laughed very heartily with Signore Capriata at this adventure of the memoirs. In the evening to the opera; the theatre is a fine one, though not the principal; the house nearly full, yet all the world is in the country.

The 27th. The Cavaliere Capra having seen Signore Capriata, I this morning received a visit from him: I was glad of an opportunity to remark to him that he had quoted passages erroneously from my Political Arithmetic. He said, he was sorry he should misunderstand me; and beginning at once to declaim against great farms, I begged to remark, that my opinion was exactly the same at present as it had always

been, that the size of farms should be left absolutely free. He was violent against great ones in Piedmont, which he said ruined and depopulated the country, as I should find when I came among the rice-grounds in my way to Milan. Signore Capra was polite, tendered me every service in his power, and expressed the utmost readiness to assist my inquiries. Signore Briolo, as soon as he understood who I was, shewed me every attention in his power, and that I might have the benefit of conversing with such persons as he thought most suitable to my inquiries, he made known my arrival to Signore Fontana, a practical chemist and deputy secretary to the Agrarian Society; to Signore Gio. Piet. Mariadana, professor of botany in the university; to Signore il Dottore Bùniva, his assistant, who travelled in France and England as a naturalist. From these gentlemen I had this morning a visit, and an interesting conversation on the present agricultural state of Italy. To Signore Briolo I was also indebted for an introduction to Signore Giobert, academician, and of the Agrarian Society, who has gained a prize by a memoir on the quality of earths and manures. Viewed the king's palace, not so splendid as to raise disagreeable emotions in the breast of a philosophical spectator; and no marks of provinces having been oppressed to raise it. Of the pictures which are numerous, those which pleased me best, are a virgin, child, and St. John, by Lorenzo Sabattini; Apollo slaying Marsias, by Guido; a Venus, by Carlo Cignani; a sick woman, by Gerard Dow; a virgin and child after Raphael, by Sassa Ferrata. Vandyke shines greatly in this collection; there are the children of Charles I, finely done; a man and woman sitting; but above all, Prince Tomoraso di Carignano on horseback, which for life and force of expression is admirable. In the evening to the opera, and being Sunday the house was full. The *Lasca Fiera*; there is a pretty duet, between Contini and Gaspara, in the first act.

The 28th. Walked to Moncaglia early in the morning. The palace is boldly situated on a hill, the Windsor of Piedmont: commands noble views of the Po, and a rich scene of culture. After dinner, on horseback to Superga, the burying place of the royal family; where the bodies of these princes repose more magnificently than the Bourbons at St. Denis. The view from the tower is, I suppose, the finest farmer's prospect in Europe. You look down on much the greater part of Piedmont as on a map, and the eye takes in Milan at eighty miles distance; the whole, with such an horizon of mountains, as is no where else to be found; for the enormous masses of snow, which the Alps present, are easier conceived than described.

The 29th. Signore Briolo was this morning my conductor to Gruliascho, to view the farm by appointment of Signore Bracco, to whom Signore Capriata had spoken for that purpose; we walked by the nobly planted road that leads to Suza, and I was glad to find, that my Turin bookseller was a farmer, though a *la meta*, and answered those useful inquiries, which I have long found abundantly convenient, always to have ready arranged in my head, and adapted to the people into whose hands chance may throw me. We dined together at the village, in a villainous hole, much better adapted to offend the senses than to gratify them. Our repast finished, we sallied forth to find Signore Bracco; he shewed us several watered meadows, and explained all the particulars; after which, coming to the house, lo! instead of a farmer or *metayer*, as I expected, I found a large house, in a style superior to any farm one, and that he was a bailiff to a Signore, I do not know whom, jeweller to the king and court; an awkward explanation of this came on, and then I found this person knew of my coming two days before: to mend the matter, after making us wait some time he shewed himself. I was pressed to enter: whether it were, that a hot walk, or a bad dinner had fretted me, or, in fine, that I did not like the jeweller's physiognomy, I know not, but I beg-

ged to be excused, and persisted in my refusal. A rich citizen at his country villa is to me a formidable animal. Had he said he was a farmer, and would converse on the subject, or any thing of that tendency, it had been otherwise; but I departed brusquement, with a character, I believe, molto selvaggio. In the evening some beautiful passages in the Pastorella Nobile brought me into better temper.

The 30th. The intendant Bisatti returned to Turin, and I had the pleasure of a visit from him; he carried me to the university, and some other places which I had not seen before; Signor Capra also, and Dr. Buniva favoured me with their company. The knight, I find, is as complete a croaker as could ever issue from the school of Dr. Price himself. Piedmont furnishes an instance, which if I had touched upon to Signor Capra, he would have pressed it into his service on the question of farms. But there are not many circumstances more curious in politics, than the contrast between great and small dominions. Here is a court sufficiently splendid; a palæe well kept; an army (not equally well kept) of thirty thousand men; fortifications many, and among the first in the world, and a power of receiving with hospitality and splendour the princes of the blood of France; all this is done with thirty millions of French money: if the comparison had been made in the late king's reign, the circumstances would have been stronger. The king of France had six hundred millions; that is to say, twenty times as much: he could, therefore, with equal proportions, have twenty such palaces, or more exactly an hundred, as there are five in Piedmont: twenty such courts, and an army of six hundred thousand men. But instead of this, the difference between the palaces of the two kings and their courts, their parade and their vanity, is not in the ratio of one-fourth of their revenue; and as to the army of the king of Sardinia (proportions preserved) it is six times more powerful than that of the king of France: but the contrast goes further; for, while the debts of this country are inconsiderable, those of France are so great, that the deficit alone is more than five times the whole revenue of Sardinia.

October 1st. The political state of Piedmont at present depends almost entirely on the personal character of the king, who is esteemed an easy good natured man, too much imposed on by a set of people without merit. The consequence of which is, that talents and all sorts of abilities, instead of being in the posts for which they are qualified, are found only in retirement. I am told, that he often takes bank notes in his pocket-book, and at night, if he have not given them away, expresses uneasiness; yet this is with an empty treasury, and an incomplete ill-paid army. This conduct is remarkably different from that of the princes his majesty's predecessors, who, as all the world knows, were good œconomists, and kept themselves so well prepared, that they were able to turn opportunities to their notable advantage, which must have passed barren of events under a different system of government. The king's motives, however, are excellent, and no faults are found with his government that do not flow from that sort of goodness of heart which better befits a private station than a throne. Similar errors are not expected from the prince of Piedmont, who is represented as a man of good understanding, with, however, rather too great a tincture of religion. Nothing can be more regular and decent than the conduct of all the court; no licentious pleasures are here countenanced; and very little that looks like dissipation. How the count d'Artois passes his time is not easy to conceive; for a prince who was dying with ennui in the midst of Versailles, for want of pleasures that had not lost their lustre, one would suppose that of all the courts in Europe there was scarcely one to be found less adapted than this to his feelings, whatever it might be to his convenience,

The 2d. To Verceil, by a vetturino; I find but one agreeable circumstance in this way of travelling, which is going as slow and stopping as often as you please: I walked most of the way, and generally out-walked the coach, except when there was any little descent. A gentleman, a proprietor and cultivator of rice near Verceil, supped with us who was communicative. 45 miles.

The 3d. To Novara much rice; some yet uneut; they are threshing it every where, and we meet gleaners loaded with it; a nasty country, as ill to the eye as to the health: there hang the limbs of a robber in the trees, in unison with the sombre and pestiferous aspect of a flat woody region. Cross the Tesino, deep, clear, and rapid. This river parts the dominions of the king of Sardinia from those of the emperor. At Buffalora cross the naviglio grande, the greatest canal for irrigation that ever was made. Sleep at Magenta. 30 miles.

The 4th, Sunday. Reach Milan in the forenoon. This great city stands in the midst of a dead level country, so thickly planted that you see nothing of it till you are in the streets. To the Albergo del Pozzo, in time to wait on the Abbate Amoretti, secretary of the Patriotic Society, to whom I had letters from Monsieur de Broussonet and Signore Songa of London: I found the Abbate admirably well lodged, in the palazzo of the Marquis de Cusani: this, said I to myself, looks well, to find a man of letters in a splendid apartment, and not poked, like a piece of lumber, into a garret: it is a good feature in the Italian nobility. I entered his apartment, which is a cube of about thirty feet, from a great saloon of forty or fifty. He received me with easy and agreeable politeness, which impresses one at first sight in his favour. Soon after he returned my visit. I find him an agreeable, well-informed, and interesting character. Waited also on the Abbate Oriani, astronomer royal, who expressed every wish to be of use to me. At night to the opera; a most noble theatre; the largest as well as handsomest I have seen; the scenes and decorations beautiful. Though it is Sunday, I look with amazement at the house, for it is three parts full, even while much of the world are in the country; how can such a town as Milan do this? Here are six rows of boxes, thirty-six in a row; the three best rows let at 40 louis d'or a box. This is marvellous for an inland town, without commerce or great manufactures. It is the plough alone that can do it. I am delighted with the accommodation of the pit; one sits on broad easy sophas, with a good space to stir one's legs in: young persons may bear being trussed and pinioned on a row of narrow benches, but I am old and lazy, and if I do not sit at my ease, would not care to sit there at all. 10 miles.

The 5th. In the morning, deliver letters to Signore Bignami and Vassali, and the Messieurs Zappas, gentlemen in commerce, from whom I might receive information relative to the exports, &c. of the Milanese. At noon, to the Society of Agriculture (called the Patriotic Society) which fortunately for me, who am a member, had a meeting to-day: the Marchese di Visconti in the chair, with ten or a dozen members present, to all of whom Signore Amoretti introduced me. I never expect much from societies of this sort; but this of Milan was to-day employed on a button and a pair of scissers: it seems they want at this city to make the finer sorts of hardware, in order to rival those of England, and lessen the import, which, in spite of every obstacle is very great: the idea originates with the government, and is worthy of its little ideas; a true peddling spirit at present throughout Europe. An artist in the town had made a button and half a pair of scissers, one half English, and the other half of his own manufacture, for which he claimed and had a reward. Similar are the employments of societies every where! In England, busied about rhubarb, silk, and drill-ploughs:



at Paris, about fleas and butterflies; and at Milan, about buttons and scissors! I hope I shall find the Georgofili at Florence employed on a top-knot. I looked about to see a practical farmer enter the room, but looked in vain. A goodly company of *i Marchesi, i Conti, i Cavalieri, i Abbati*, but not one close clipped wig, or a dirty pair of breeches; to give authority to their proceedings. We met, in what was the Jesuits' college, in the Brera, a noble building, containing many apartments equally splendid and convenient. The Marchese Visconti asked me to his country seat; and the Cavaliere Castiglioni, who has travelled in America with the views of a natural historian, and who intends to print the journal of his voyage, hopes to meet me soon at his brother the Count's. Milan has been represented as very dear, and may be so when no thought is taken to save expence, ordering what you want, and leaving the bill to the host; but as such methods do not agree with my purse, I pay by agreement, for my room, dinner and supper served in it, as there are few tables d'hotes in Italy, 6 livres of Milan a-day, or an ecu, equal to 4s. English. The pit at the opera, is 2 livres 5s. and coffee for breakfast 7s. in all about 5s. 8d. a-day; but seeing buildings, &c. adds something. I am very well served for this, except in soups, which are detestable, for I hate macaroni and abominate paste. I have read so much of the horrors of Italian inns, that I am very agreeably surprised to find them in the great towns, Turin and Milan for instance, as good as in France; yet I am not at the best here, for I understand the Alberghi Reale and Imperiale are the first; and I was not at the best at Turin. But village ones between the great towns are bad enough. In France, one is rarely waited on at inns by men; in Italy, hitherto never by women; I like the French custom best. Ferret among the booksellers, and find more tracts, in Italian, upon agriculture than I expected. At night to the opera; the pit is so commodious and agreeable, that it is a good lounge; the sofas and chairs are numbered; they give you a ticket, which marks your seat; but the performers are poor. It was the Impresario in Augusta, by that beautiful composer, Cimarosa; there is a quintetto in it, than which nothing could be more pleasing, or repeated with more applause.

The 6th. Signore Amoretti, whose attentions and assiduity are such as I shall not soon forget, this morning introduced me to Signore Beecken, a counsellor in the court of his imperial majesty; and then we went together into the country, six or seven miles, to a farm in the road to Pavia, belonging to the Marquis Visconti, to see the method of making the Lodesan cheese; attended the whole operation, which is so totally different from what we use in England, that skill in making may have a great effect in rendering this product of Lombardy so superior to all others. The cheese, and the inquiries, took up the whole day; so that it was five in the evening before we got back to Milan, where they dined with me at the pozzo; an itinerant band of music giving a serenade under the windows to the *illustrissimi, eccellentissimi, nobili Signori Inglesi*. This day has passed after my own heart, a long morning of activity, and then a dinner, without one word of conversation but on agriculture. Signore Beecken is a sensible well-informed German, who understands the importance of the plough; and Abbate Amoretti's conversation is that of a man who adds the powers of instruction to the graces that enliven company.

The 7th. Attended the Marquis de Visconti, and Signore Amoretti to Mozzate, the country seat of the count de Castiglione, about sixteen miles north of Milan. Stop very near the city to view the Chartreuse, which, since the emperor seized the revenues, and turned the monks out, has been converted into a powder magazine. View in passing, the fine church of Ro, and the Marquis of Litta's villa at Leinate, in which the gardens are conspicuous. The Italian taste was the undoubted origin of what

we see in France; but decoration is carried much higher. Marble basins, with fine statues, too good for the situation: jets d'eau, temples, colonades, and buildings without end, almost connected with the house; latticed, and clipped bowers and walks; miles of clipped hedges; terraces and gravel walks, never well kept, with abundance of orange-trees, are the features; and they are all in profusion. The expence enormous, both to form and to keep. There is a pinery, and not more than five or six others in the whole duchy of Milan. Near Mozzate. The countess appeared what we call a genteel good sort of woman, with nothing of that species of foppery and affectation that forms the fine lady. The moment I saw the count de Castiglione, I was prejudiced in his favour; his physiognomy is pleasing; and the instantaneous easy affability, mixed with great quickness and vivacity, tells one in a moment, that time would not be lost in his company. I was not deceived. He entered presently on the object of my travels; and I was highly pleased to find, that he was a practical farmer. After dinner, we made an excursion to a considerable plantation he has executed with great judgment and spirit. The count shewed me a part of his farm also; but this is not equally successful. In the evening, while the rest of the company were at cards, he satisfied my numerous inquiries concerning the husbandry, &c. of the neighbourhood, in a manner that left me little to wish. After breakfast, the next morning I returned to Milan. The feature which struck me most in this visit to an Italian nobleman, at his country seat, is the great similarity of living, and of manners in different countries. There are few circumstances in the table, attendance, house, and mode of living, that vary from a man of similar rank and fortune in England or France. Only French customs, however, predominate. I suppose one must go for new manners to the Turks and Tartars; for Spain itself, among people of rank, has them not to give: and this circumstance throws travellers, who register their remarks, into a situation that should meet with the candour of readers: those who record faithfully, must note things that are common, and such are not formed to gratify curiosity. Those who deal much in adventures, so contrary to our own manners as to excite surprise, must be of questionable authority; for the similarity of European manners, among people of rank or large fortune, can hardly be doubted: and the difference among their inferiors is, in many cases more apparent than real. I am much pleased with this family: the countess is a good woman, for she loves her children, her husband, and the country. Her husband has life, animation, quickness of conception, and that attention to agriculture, which made me wish him for a neighbour. In our return, stop at Desio, the villa of the Marquis of Cusino, which is in a style that pleases me. The house is not upon too great a scale and therefore finished and furnished: the rooms are more elegant than splendid; and more comfortable than showy. There is one apartment, in encaustic painting, said to be the first executed in Italy. The second floor contains thirteen bed-chambers, with each a small servant's room, and light closet: and they have all such a comfortable, clean, English air; and are so neat, without any finery, that, had the floors been deal, instead of brick, I should have thought myself in my own country. I have read travels that would make us believe, that a clean house is not to be met with in Italy; if that were once true, things are abundantly changed. I like this villa much better than the master does, for he is rarely here for a fortnight at a time, and that not often. The gardens are splendid in their kind; lattice-frames of lemons twenty feet high, with espaliers of oranges, both full hung with fruit, have, to northern eyes, an uncommon effect; but they are all covered with glass in the winter. Here is a pinery, also. Dine at the village on trout, fresh from the lake of Como, at 3 livres the pound, of twenty-eight ounces. In the evening return to Milan, after an excursion instructive in my princi-

pal object, and equally agreeable in the little circumstances that have power sufficient either to gild or shade every object. Pass the house of the Marchesa di Fagnani, who has been much in England, and celebrated here for being the lady with whom our inimitable Sterne had the recontre at Milan, which he has described so agreeably. 32 miles.

The 9th. This day was appointed for visiting a few objects at Milan, for which Signore Beecken had the goodness to desire to be my cicerone; his chariot was ready after breakfast, and we went from sight to sight till five o'clock. Buildings and pictures have been so often and so well described, that for modern travellers nothing is left, if they expatiate, but to talk of themselves as much as of the objects. I shall note, in a few words, the things that struck me most. I had read so much of the cathedral, and came to it with such expectation, that its effect was nothing. There are comparative measurements given of it with St. Paul's and St. Peter's; that seem to rank it in the same class for magnitude: to the eye it is a child's play-thing compared to St. Paul's. Of the innumerable statues, that of St. Laurence flayed is the finest. The architecture of the church of St. Fedele, by Pellegrino, is pleasing; it contains six columns of granite; and there are other fine ones also in that of St. Alesandro. But I found Pardo Pini, professor of natural history, a better object than his church; he has made a great and valuable collection of fossils, and has taken the means necessary for self-instruction, much travel, and much experiment. At St. Celso, there are two statues of Adam and Eve, by Lorenzi, that cannot be too much admired; and a Madonna, by Fontana. Here also are pictures by the two Procacinis, that will detain your steps. The great hospital is a vast building, once the palace of the Sforzas, dukes of Milan, and given by duke Francis for this use. It has a net revenue of a million of livres, and has at present above one thousand three hundred patients. At the abbey of St. Ambrose, built in the ninth century, and which has round arches, anterior to Gothic ones, they shewed us a MS. of Luitprandus, dated 721, and another of Lothaire, before Charlemagne. If they contained the register of their ploughs, they would have been interesting; but what to me are the records of gifts to convents for saving souls that wanted probably too much cleaning for all the scrubbing brushes of the monks to brighten? Unquestionably the most famous production of human genius at Milan is the last supper of Lionardo de Vinci, which should be studied by artists who understand its merit, as it is not a picture for those who, with unlearned eyes, have only their feelings to direct them. View the Ambrosian library.

The 10th. The climate of Italy, I believe, is generally in extremes; it has rained almost incessantly for three days past, and to day it pours. I have made a sad blunder, I find more and more, in selling my French equipage; for the dependence on hiring and on the vetturini, is odious. I want to go to morrow to Lodi, &c. and have lost much time in finding a horse and chaise; and after all can have only a miserable thing, at  $7\frac{1}{2}$  livres a day. In the evening, at the opera, Signore Beecken came to me in the pit, and asked me if I would be introduced to one of the prettiest ladies at Milan? Senza dubbio. He conducted me to the box of Signora Lambertì, a young, lively, and beautiful woman, who conversed with an easy and unaffected gaiety, that would make even a farmer wish to be her cicisbeo. The office, however, is in the hands of another, who was seated in his post of honour, in the front of the box, vis-a-vis the lady. Refreshments; suppers; magnificent ridotto. Having mentioned the cicisbeo, I may observe, that the custom seems to flourish at Milan; few married ladies are without this necessary appendix to the state: there were to night a great number of them, each attending his fair. I asked an Italian gentleman why he was not in his post as a

cicisbeo? He replied, he was not one. How so? If you have either business or other pursuit, it takes too much time. They are changed at pleasure, which the ladies defend, by saying, that when an extension of privileges not proper to give is expected, to part with is better than to retain them.

The 11th. To Lodi, through twenty miles of such amazing exertions in irrigation, that we can have in England no idea of it. At that town I found myself in the midst of the world; it was the night of terminating the opera season of the fair: this had drawn so much company from the neighbouring towns, that the great inn of the Columbina, formed out of a monastery, was full in an hour. At night the opera house formed a gorgeous display: we waited half an hour for the arch-duke and arch-duchess. The house was well lighted with wax; new to me, for in common their theatres have only darkness visible. It is small, but most elegant, new built this year: the decorations are neat; but the boxes, which are fitted up by the proprietors, are finished with great shew and expence; as fine as glass, varnish, and gilding can make them; and being lighted within made a blazing figure: the company crowded and well dressed; diamonds sparkled in every part of the house, while the expectation of pleasure, more animated in Italian than in French or English eyes, rendered the coup d'œil equally striking and agreeable; the profusion of dancers, dresses, scenes, &c. made me stare, for a little place of not more than ten or twelve thousand souls. No evening could pass with a more animated festivity; all the world appeared in good humour: the vibrations of pleasureable emotions seemed more responsive than common, for expression is one great feature in Italian physiognomy. I have dwelt the more on this spectacle, because I consider it in a political light, as deserving some attention. Lodi is a little insignificant place, without trade, and without manufactures. It is the part of a dominion that may be said to have neither, and cut off from all connection with the sea: yet there is not a town in France or England, of double the population, that ever exhibited a theatre so built, decorated, filled and furnished, as this of Lodi. Not all the pride and luxury of commerce and manufactures; not all the iron and steel; the woollen or linen; the silk, glasses, pots or porcelain of such a town as Lodi, ever yet equalled this exhibition of butter and cheese. Water, clover, cows, cheese, money, and music! These are the combinations, that string Italian nerves to enjoyment, and give lessons of government to northern politicians. The evening would have been delicious to me, if I had had my little girl with me; I could not help picturing her by my side, supposing the expressions of her pleasure, and giving an imaginary presence to her smiles, her inquiries, and her enjoyment. In truth it was better adapted to her age than to mine. 20 miles.

The 12th. I had brought a letter to a Signore Mayer, lieutenant of dragoons, who yesterday, when I waited on him, introduced me to the Cavaliere Don Bassiano Bona Moma, who promised to find a person this morning for conducting me to a celebrated dairy of his near Lodi; he was as good as his word, and by his means I was introduced into two dairies, one of ninety cows, and assisted in making the cheese. In the afternoon to Codogno, through fifteen miles of dead flat, of a singular aspect; it is intersected by ditches, without hedges, but a row of pollard poplars and willows on each side. The heads of these trees form a woodland, as the fields are very small, and looking through the stems, under the covert of their heads, is something like the prints I have seen of the forests of Tasso, but without the wildness or enchantment. The inhabitants here are neither witches, nymphs, nor knights, but cows and frogs: the music of the latter not so agreeable as last night's warblings of Senesino. In truth this country is better for these two animals than for man. The whole is a water sponge; the ditches innumer-

able; now water, now mud; the climate hot; and ventilation excluded by a crowd of aquatics. I figured sickness and disease in every quarter: and the want of scattered habitations renders the whole silent and solitary, in spite of a considerable population, that is concealed by the endless pollards. Willows, ditches, mud, and frogs! these are features in perfect contrast to the scenes of last night! yet they are attended by a fertility that gives warbling to the throat, and quivering to the fantastic toe of beauty. At Codogno waited on Signore Bignami, a considerable cheese-merchant. I was in luck; a numerous company spent the evening with him, from whom he selected a party well acquainted with grass and cows; and retiring into another apartment, they had the goodness, with him and his son, to dedicate some time to the satisfying of my inquiries; and I should be very backward if I did not observe that the free and agreeable manner in which they did it, proves equally their liberality and politeness. Codogno is a neat little town of about eight thousand people. And note (for the thing is extraordinary) an opera here too; another new built theatre, of this year. It is not so large, or so much decorated as that of Lodi, but the form is more pleasing and more commodious; it is more circular. There are apartments contiguous for the first singers and dancers, communicating with a noble inn, the albergo del teatro. 15 miles.

The 13th. This morning Signore Bignami had kindly appointed for examining one of the principal dairies in the country, noted for making good cheese; fortunately the farmer proved communicative and liberal; conducted us to the scene of action very readily, and directed his dairy-man to answer my inquiries. We attended the making of a cheese, and then walked over the farm: the farmers seem much at their ease. Take leave of my very friendly conductors, and reach Crema, in the Venetian state. Here also a new-built opera-house, and the Mara from London first singer; they did not appear to relish too much her altitudes of division; yet she was considerably applauded. Great powers in singing, when much exerted in difficult passages, surprise much more than they please. The airs that touch the heart, are what the poet calls "lengthened sweetness long drawn out," that breathe a continuity of melody, flowing, not broken notes. The number of theatres in this part of Italy is astonishing: two great ones at Milan; in twenty miles, another, at Lodi; in fifteen, one way, Codogno; in ten, another, Crema; in ten, another, Plaisance, &c. yet trade and manufacture are very inconsiderable. 16 miles.

The 14th. To Lodi, through ten miles more of the same country; bad road through the state of Venice; but the moment you enter the Milanese, you find an excellent one. Return to Milan. 30 miles.

The 15th. The country continues flat, much of it watered, but without such exertions as to Lodi; all a crowded scene of willows. Vaprio, where we stopped, is a poor place, with a dirty, miserable, wretched inn: here am I in a chamber, that sinks my spirits as I sit and look around me; my pen, ink, and tablets, are useless before me; I want them for two or three subjects that have passed across my mind in the journey, but I can do nothing; to arrange ten words with propriety, is an insurmountable effort. I never in my life wrote three lines to please myself, when the circumstances around were untoward or disagreeable; a clean, neat apartment, a good fire, something to eat better than paste-soup, with tolerable wine, give a lightness to the bosom, and a facility to the ideas. I have not yet read any of the Abbate Amoretti's pieces; but if he writes badly in that elegant apartment, and with all the circumstances of ease and luxury around him, I shall not have so good an opinion of his head, as I think I shall always have of his heart. This chamber of Vaprio is contrast sufficient to his in the Palazzo Cusani.

I cannot write, so must nestle in this nidus of fleas and bugs, which they call a bed. 20 miles.

The 16th. So much rain has fallen in the night, that the Adda has risen too much to permit a carriage to reach the ferry; we waited, therefore, four hours till the water sunk. This is a circumstance to which a traveller is liable every day in Italy; for the rivers are so little under command, that a night's heavy rain will stop him. An impatient traveller, waiting on the banks of a river for the water's flowing, might, by equal genius, be set off as well in poetry, as a patient one is represented expecting till all was passed. The environs of the Adda here are fine; on the side of the Vaprio, high land, that commands the wooded vale. Arrive, at last, at Bergamo. I had a letter to Dr. Maironi da Ponte, secretary of the academy of Bergamo, to whom I went directly. I mounted a steep hill into the city, which is on the top of it, and searched hard for the doctor; after examining several streets, a lady from a window, who seemed to pity my perplexity (for I had been conducted to three or four streets in vain) informed me, that he was in the country, but that if I returned in the morning, I should have a chance of seeing him. What a black, dirty, stinking, dismal place! I stared at some well dressed people I met, wondering what they had to do here; thanking my stars that I was not an inhabitant of Bergamo; foolishly enough, as if it were the brick and mortar of a place that give felicity, and not the connections formed from infancy, and matured by habit. 12 miles.

The 17th. Mount the hill again, in search for Signore Maironi; and hearing he has a brother, to find him, should I fail. I repaired to the street where the lady gave me information the night before; she was luckily at her window, but the intelligence cross to my wishes, for both the brothers were in the country; I need not go to the door, she said, for there were no servants in the house. The dusk of the evening in this dark town had last night veiled the fair incognita, but looking a second time now, I found her extremely pretty, with a pair of eyes that shone in unison with something better than a street of Bergamo. She asked me kindly after my business, *Spero che non e un gran mancamento?* words of no import, but uttered with a sweetness of voice that rendered the poorest monosyllable interesting. I told her, that the bosom must be cold, from which her presence did not banish all feeling of disappointment. It was impossible not to say something a little beyond common thanks. She bowed in return; and I thought I read in her expressive eyes, that I had not offended; I was encouraged to ask the favour of Signore Maironi's address in the country; *Con gran piacere ve lo daro.* I took a card from my pocket; but her window was rather too high to hand it. I looked at the door: *Forzi e aperta.* *Credo che si,* she replied. If the reader be an electrician, and have flown a kite in a thunder-storm, he will know, that when the atmosphere around him becomes highly electric, and his danger increases, if he do not quickly remove, there is a cobweb sensation in the air, as if he was inclosed in an invisible net of the filmiest gossamer. My atmosphere, at this moment, had some resemblance to it: I had taken two steps to the door, when a gentleman passing, opened it before me, and stood upon the threshold. It was the lady's husband; she was in the passage behind, and I was in the street before him, she said, *Ecco un Signore Inglese che ha bisogno d'una direzione a Sig. Maironi.* The husband answered politely, that he would give it, and, taking paper and pencil from his pocket, wrote and gave it me. Nothing was ever done so concisely: I looked at him askance, and thought him one of the ugliest fellows I had ever seen. An ill-natured by-stander would have said, that his presence prevented a farming from becoming a sentimental traveller. Certain it is, one now and then meets

with terrible eyes in Italy; in the north of Europe they have attractive powers; here they have every sort of power; the sphere of the activity of an eye beam is enlarged, and he who travels as I do for the plough, must take care, as I shall in future, to keep out of the reach of it. From the ramparts of the town, below the house of the count de Brembate, there is a prospect of fertile land, hardly to be equalled. In front, to the south, a range of Appenines rises above the fog, that hangs over a part of the plain. To the west, an immense curve of the Alps, that bound the Milanese and Piedmont; their heads uninterruptedly in snow, form one of the finest mountain barriers to be imagined. To the east, the view an unbroken, unlimited level. This vast plain, at one's feet, seems a level wood, with towns, churches, towers, and houses. Near Bergamo, the angle of vision permits the fields to be seen, and therefore more picturesque. Similar features must give similar prospects, this resembles that of the Superga. It is as hot to-day, and every day of sun-shine, as in England in June.

The 18th. Yesterday I agreed with a vetturino, to take me this morning, at six o'clock, to Brescia; but not being perfectly well, I insisted that he should not come for me without his vettura, nor before the time. The rascal knocked me up at five, and then without the carriage: it was only four steps, he said, and wanted to hurry away my trunk. I begin to know them, and therefore steadily refused to stir: after much vain persuasion, away they went, and in three quarters of an hour returned. The fellow drove me a full mile and half, on the road to Brescia, to an inn, where there was another vetturino, to whom he had sold me; and there I found myself, packed with three other persons, in the worst place; to the contrary of all which the scoundrel had signed an agreement. My expressions of anger only got me laughed at. The world has not such a set of villains as these vetturini. I have read guides and directories, and travels, that speak of this way of journeying as passable: if not good, very bearable; but they must be very partial, or very careless, if they mention them without indignation. Their carriages are wretched, open, crazy, jolting, dirty dung carts; and as to their horses, I thought, till I saw them, that the Irish garrans had no rivals on the globe; but the cavalli de vetturini convinced me of the error. My company were two merchant-like people, and a young man going to the university of Padua; the two first repeating prayers, and counting beads. How the country came to be well irrigated, is a question? Pater-nosters will neither dig canals, nor make cheese. 32 miles.

The 19th. I had letters for Signore Pilati, secretary to the Society of Agriculture; he was in the country at his brother's farm, whither I went with pleasure; he was to introduce me to count Corniano, the president, but he is absent, twenty miles out of my road. In the evening to the opera; the house large, but ugly: the Avara, badly acted; and the taste of the audience (the pit, not the boxes, shew a nation) still worse. Puns, conceits, distortions, and exaggerated action, gained great applause. A child, telling his name, of ten or a dozen hard syllables, and an exaggerated mimicry of attempting to repeat them, were encored more violently than the finest airs would have been. This depravity of national taste is amazing, amongst a people that have produced such proofs of genius in almost every walk of life.

The 20th. After a repetition of the old plagues, to find a vetturino for Verona, agreed at last at the extravagant price of 33 lire. Depart, after dinner, with a young woman and a boy of eight or nine years old. She had not two ideas beyond her snuff-box, and a crucifix. I have no opinion of Venetian police, from the villainous roads through all their territory; they consist every where of great stones, broken pavements, or mud. The country is not near so rich as the Milanese, but all thickly inclosed with hedges, full of mulberries; and incumbered, to use professor Symonds's just expression, with

pollards for training vines. Reach Dosenzano in the dark. What my religious companion did with herself, I know not; I supped alone, thanking God she had not the eyes of the Bergamasque fair. In the night, I thought the noise of water was different from that of a stream, and opening the windows in the morning, found it the waves of a fine lake. The Lago di Garda was out of my recollection. 15 miles.

The 21st. Coast the lake, with good views of it for several miles. From Breseia to Verona, but especially to Desenzano, I believe there are fifty crosses by the side of the road for deaths. When a person is murdered they set up a cross for the good of his soul. They had better institute a police for that of his body. What a scandal to a government are such proofs of their negligence! yet that of Venice is called a wise one. Impassable roads, towns unlighted, and a full harvest of assassinations; with men counting their beads, and women crossing themselves, are the chief signs of wisdom I have yet seen. Arrive at Verona in time to deliver a letter to Signore Cagniola, astronomer and secretary of the Agrarian Society: this must be a pretty institution, a society of farmers, with an astronomer for their secretary. He introduced me at the coffee-house of the Piazza to some lovers of agriculture; and made an appointment with the president of the society for to-morrow. 25 miles.

The 22d. Ill luck: the president is obliged to go into the country; and he thinks me, I suppose, like Italian theorists, tied to a town. Signore Cagniola directed his servant to shew me to the house of Signore Michael Angelo Locatelli, to whom he had named the object of my journey last night. I found this gentleman, who is engaged in commerce, but who has two farms in his hands, ready to converse with me on the subject of my inquiries; of Signore Cagniola, I saw or heard no more. I felt myself uncomfortable at Verona, till I had seen the amphitheatre, which is in truth a noble remain of antiquity, solid and magnificent enough yet to last perhaps some thousands of years; that of Nismes, cluttered up with houses, must not be named with this. As I stood on the verge of this noble building, I could not but contemplate in idea, the innumerable crowds of people who had been spectators of the scenes exhibited in it: the reflection was attended with what is to me a melancholy impression; the utter oblivion in which such hosts are now lost! time has swept their memories from the earth; has left them no traces in the records of mankind; yet here were wit and beauty, wealth and power; the vibrations of hope and fear; the agitations of exertion and enterprize; all buried in the silence of seventeen hundred years! I read the works of so few poets, that I know not if the idea of such oblivion have been to them as melancholy as it is to me; if so, they have doubtless given energy to the sentiment, by the force and beauty of their expressions.

The 23d. This morning I took a ciccone to attend me to view churches and palaces, an uncomfortable method, but when a traveller has one principal pursuit, such secondary objects must give way. The great fault here, as every where else, is being carried to too many things: Nothing strikes more at Verona than the works of an architect, whose name is little known in England, San. Michael Michieli; they are of distinguished merit, and must please every eye. The chapel of the Pellegrini family, in the Bernardine church, and the rotunda of St. Georgio, are beautiful edifices. There is something singular in the Palazzo Bevilacqua, an idea which might have been copied with more success, than many others that have been repeated often. The Palazzo di Consiglio is simple and elegant, and presents one of the most pleasing examples of an arcade, for a street or square. The theatre is large, but nothing after Milan. My expences at Breseia, and at Verona are, dinner 3 pauls, supper 2, chamber 2; which at 5d. English, are 2s. 11d. a-day; and as I have rooms not at all bad, good beds, and am as well served at the meals as I require, it is remarkably cheap.



The 24th. The country to Vicenza is all flat, and mostly of a singular face; rows of elm and maple pollards, with vines trained up, and from tree to tree; between the rows arable. This system is not disagreeable till it grows tedious to the eye. 32 miles.

The 25th. Wait on count Tiene, to whom I had a recommendation; he opened the letter, but found it was to another count Tiene, who lived in the country, near Vicenza; reading in it, however, some expressions of commendation, which friends are apt to use in such letters, he with great ease and politeness, as he returned me the paper, offered me any assistance in his power: "Yours, Sir, is an errand that ought to recommend you to all mankind; and if you find the least difficulties with others, I beg you will return to this house," which is one of the Palazzi di Palladio. I waited then on the Abbate Pierropan, professor of physics and mathematics. He had the direction, for some years, of the economical garden, given by the state for experiments in agriculture, now in the hands of the Agrarian Academy: he received me with great politeness: and not only expressed every wish to assist me, but entered immediately on the business, by proposing a walk to call on the count de Boning, president of that academy, in our way to the garden. I have a poor opinion of all these establishments on a small scale; in any hands they are not calculated to do much; and in hands not truly practical, they are calculated to do nothing. The count de Boning, finding that I wished to converse with some real common farmers, appointed the afternoon for going into the country, about three miles, to a farm of his, where I should find an intelligent person: he then took his leave for the present, and Signore Pierropan and myself proceeded to the villa of count de Tiene; as he was absent for an hour only, we employed that time in walking a little further, to view the celebrated rotunda of Palladio, belonging to count Capra, one of the three greatest works of that great genius they possess at Vicenza. It is of a beautiful mean, between decoration and simplicity, the distribution seems a new and original thought, much more adapted, however, to Italy than to England; for, in the space of one hundred Vicentine feet, we might, relatively to our climate and manners, have a house far exceeding it. I am concerned to see so delicious a morsel suffered to go much to decay; the plaster on the brick columns is wearing off, and other neglect visible. The beauty of the environs of Vicenza exceeds any thing I have seen in Italy, viewed from the hill on which these houses, and the church, Santa Maria del Monte, are situated; the city in the rich plain, and the hills spread with white buildings, crowned by the Alps, are fine. The count de Tiene, with the assistance of another nobleman, of more experience, who happened to be present, gave me some information, relative to the part of the Vicentine, in which their estates are situated. Quitting him, I begged the Abbate Pierropan to favour me with his company at dinner, by which means I had the benefit of his conversation so much longer on the favourite topic. The Abbate de Traico, vice-president of the academy, joined us. After dinner, according to appointment, to the count de Boning, whose coach was ready, and carried us to the farm. Fortunately the farmer, a sensible and intelligent man, was ready to answer all such inquiries as I put to him. At night, we returned to the city, after a rich day, that pays for the trouble of travelling.

The 26th. My friendly abbate, continuing his obliging offices, had the goodness to accompany me this morning to a very famous woollen fabric, at present under the direction of an Englishman; and to a magazine of earthen-ware, in imitation of Mr. Wedgwood. It is surely a triumph of the arts in England, to see in Italy Etruscan forms copied from English models. It is a better imitation than many I have seen in

France. View the Olympic theatre of Palladio, which pleases all the world; nothing can be more beautiful than the form, or more elegant than the colonnade that surrounds it. Of all his works here, I like the Palazzo Barbarana least. I am sorry to see, that most of Palladio's edifices are of bricks stuccoed, except the Palazzo Ragione, which is of durable stone; and that there is hardly one of them which is not out of repair. The roof of the Palazzo di Ragione, which must offend every eye, is not of Palladio; only the case of arcades that surround the building, which is one vast room of two hundred feet by eighty, used for the courts of justice, and also as a common jakes by the mob, and dreadfully garnished. A pretty use to which to apply an edifice of Palladio. The brick columns of this great architect are of the finest work I ever saw; and some of the stucco but now failing, after two hundred years. At Verona and Vicenza, there are very few new houses, and no signs, that I could see, of the wealth and prosperity of the present age. There are exceptions, but they are few. A silk merchant here has built a good house; and Signora Cordelina, an advocate at Venice, a large and handsome one, that cost 100,000 ducats, without being finished: he made his fortune by pleading.

The 27th. To Padua. The country, which has been called a garden by travellers, not at all better cultivated than before, but deeper and richer. The same flat, lined into rows of pollards and vines in the same manner; very little irrigation, except some rice. Waited on Signore Arduino, experimenter in agriculture, on a farm, or rather a garden of twelve acres, given by the state. I had heard much of this economical garden, and of the great number of useful experiments made in it; so much, indeed, that it weighed considerably with me in the arrangement of my journey; Venice was no object; and I could not, if I took Padua, have time for the Pontine marshes and Rome, which, by the direct road, I could have reached from Milan; but an experimental farm, the first I was assured in Europe, and which had thrown light on various important inquiries, was an object which I ought, as a farming traveller, to prefer to any city, and I determined accordingly. Signore Arduino received me politely, and appointed to-morrow for that gratification. At night to the opera, the *Due Baroni*, of Cimarosa, whose music to me has always something original and pleasing; but though the parts were not ill performed, and the orchestra powerful, yet the house being almost empty, and those in it wearing such a shabby appearance, and all the musicians so dirty and undressed, that I felt here, what I have often done before, that half the charms of a theatre depend on the audience; one must be in good humour; a certain exhilaration must be springing in the bosom; willingness to enjoy must be expanded into enjoyment by the sympathy of surrounding objects. Pleasure is caught from eyes that sparkle with the expectation of being pleased. Empty boxes, and a dirty pit, with a theatre but half lighted, made the music, with all its gaiety, sombre; I left Gulielmi's *Pastorella nobile*, for the silence of my chamber. 21 miles.

The 28th. In the morning, viewing buildings, of which some are worth the trouble: then to deliver letters, but I was not fortunate in finding Messieurs the professors at home: Signore Arduino was so by appointment, and shewed me the experimental farm, as it ought to be called, for he is professor of practical agriculture in this celebrated university. I will enter into no detail of what I saw here. I made my bow to the professor; and only thought, that his experiments were hardly worth giving up the capital of the world. If I keep my resolution, this shall be the last economical garden that I will ever go near. Among the buildings I viewed to-day, I was much struck with the church *Santa Justina*: though built in no perfect style, it has, on entering, an effect unusually imposing. It is clean, and well kept; the pavement a very fine

one, of marble, and the magnitude being considerable, forms, on the whole, a splendid coup d'œil. That of St. Anthony is little, on comparison, and made less by multiplied divisions and numerous decorations. Numbers were on their knees before the sainted shrine, to which millions have resorted. Here mingled faith, folly and enthusiasm, have sought consolation, and found more than they merited. The Palazzo di Consiglio, which we should call the town-hall, is one of the greatest, if not the greatest room in Europe. It is three hundred feet long, and one hundred broad; it does not want the excrementitious garniture of that of Vicenza.

The 29th. Waited, by appointment, on Signore Carbury, professor of chemistry; a lively pleasing man, with whom I wished to converse a little on the application of his science to agriculture; but that was not easy. Politics came across him, in which I happened to mention the extraordinary prosperity of England since the American war; and he took the clue, and conducted it through such a labyrinth of admirals, generals, red-hot balls, and floating batteries: Rodney, Elliot, Necker, and Catharine, with Lord knows what besides, that I thought he meant to make a tour as great as Mr. Wraxall's. He however gave me a note to the celebrated astronomer, Signore Toaldo, to whom I wanted an introduction, and whose observatory I viewed. He assured me, that he continues firmly of the same opinion, of which he has always been, relative to the influence of the moon on our seasons, and the importance of attending to the lunar period of eighteen years. I begged the titles of his memoirs, as I had yet procured only his *Meteorologia applicata all' Agricoltura*; he said the others were difficult to find, but he would give me them. For this generous offer, I expressed my warmest thanks, and readily accepted it. On descending into his library, he presented me with the supplement to what I had; and also his tract, *Della Vera Influenza, &c.* After some other conversation, he told me, the price was 8 lire, and the supplement, 30 soldi. I was at a loss to know what he meant, by telling me the price of his book; for, to offer him money, would, I feared, affront him. After some minutes, he again reminded me, that the price was 9½ lire: on which I took out my purse. The *Vera Influenza*, he said, was only six lire; but being scarce, he must have eight for it, which, with 30s. for the other, made 9½ livres. I paid him, and took my leave. There was not the least reason to expect Signore Toaldo to make me, an utter stranger, a present of a farthing; but his manner made me smile. I had left a letter yesterday at the house of the Abbate Fortis, well known in England by his travels in Dalmatia; to-day I received a visit from him. He has that liveliness and vivacity which distinguish his nation; was polite in his offers of service, and entered into conversation concerning the vines of his country. He travelled, many years ago, with lord Bristol and professor Symonds; and I was glad to find, that he spoke as handsomely of them both, as I have heard them both mention him.

This is the third evening I have spent by myself at Padua, with five letters to it; I do not even hint any reproach in this; they are wise, and I do truly commend their good sense: I condemn nobody but myself, who have, for fifteen or twenty years past whenever a foreigner brings me a letter, which some hundreds have done, given him an English welcome, for as many days as he would favour me with his company, and sought no other pleasure but to make my house agreeable. Why I make this minute at Padua, I know not; for it has not been peculiar to that place, but to seven-eighths of all I have been at in Italy. I have mistaken the matter through life abundantly, and find that foreigners understand this point incomparably better than we do. I am, however, afraid that I shall not learn enough of them to adopt their customs, but continue those of our own nation.

The 30th. I had been so sick of vetturini, that I was glad to find there was a covered passage boat that goes regularly to Venice; I did not expect much from it, and

therefore was not disappointed to find a jumble of all sorts of people ; except those of fortune. There were churchmen, two or three officers, and some others, better dressed than I should have looked for, for in Italy people are obliged to be æconomical. At Dolo, the half way place, I formed, for dinner a little party, of two Abbati, an officer, and a pretty Venetian girl, who was lively and sensible. We dined by ourselves, with great good humour. After leaving Fusina, there is from the banks of the canal (I walked much of the journey) at the distance of four miles, a beautiful view of the city. On entering the Adriatic, a party of us quitted the bark, and to save time, hired a large boat, which conveyed us to this equally celebrated and singular place ; it was nearly dark when we entered the grand canal. My attention was alive, all expectancy : there was light enough to shew the objects around me to be among the most interesting I had ever seen, and they struck me more than the first entrance of any other place I had been at. To Signore Petrillo's inn. My companions, before the gondola came to the steps, told me, that as soon as Petrillo found me to be a Signore Inglesi, there would be three torches lighted to receive me : it was just so : I was not too much flattered at these three torches, which struck me at once as three pick-pockets. I was conducted to an apartment that looked upon the grand canal, so neat, and every thing in it so clean and good, that I almost thought myself in England. To the opera. A Venetian audience, a Paduan, Milanese, Turinese, &c. exactly similar for dancing. What with the stupid length of the ballets, the importance given to them, and the almost exclusive applause they demand, the Italian opera is become much more a school of dancing than of music. I cannot forgive this, for of forty dances, and four hundred passages, there are not four worth a farthing. It is distorted motion, and exaggerated agility ; if a dancer places his head in the position his heels should be in, without touching the ground ; if he can light on his toes, after twirling himself in the air ; if he can extend his legs, so as to make the breadth of his figure greater than the length ; or contract them to his body, so as to seem to have no legs at all ; he is sure to receive such applause, so many bravos, and bravissimos, as the most exquisite airs that ever were composed would fail to attract. The ballarine, or female dancers, have the same fury of motion, the same energy of distortion, the same tempest of agility. Dances of such exquisite elegance, as to allure attention, by voluptuous ease, rather than strike it by painful exertion, are more difficult, and demand greater talents : in this superior walk, the Italians, where I have been, are deficient. 24 miles.

The 31st. My first business was to agree with a gondolier, who is to attend me for 6 paoli a day. This species of boat, as all the world knows, is one of the most agreeable things to be found at Venice ; at a trifling expence, it equals the convenience of a coach and a pair of horses in any other city. I rowed out to deliver letters. Venice is empty at present, almost every body being in the country ; but I met with Signore Giovanne Arduino, superintendant of agriculture throughout the Venetian dominions, who has a considerable reputation, for the attention he has given to this object, and for some publications on it. It may be supposed, from his residence in this city, that he is not himself a practical husbandman. Spent a few hours among palaces, churches, and paintings. Every where in Italy, the number of these is too great to dwell on. I shall only note, that the picture which made the greatest impression on me, was the family of Darius at the feet of Alexander, by Paul Veronese. The expression of the moment is admirably caught ; the story well told ; the grouping skilful ; the colouring mellow and brilliant ; the whole nature ; all is alive ; the figures speak ; you hear the words on their lips ; a calm dignity is admirably mixed with the emotions of the moment. Here was a subject worthy of employing a genius. It is in the Palazzo Pisani. Titian's presentation in the Temple, in the Scuola della Carita, pleased me greatly. His be-

witching pencil has given such life and lustre to some figures in this piece, that the eye is not soon satisfied with viewing it. The Doge's palace contains such a profusion of noble works by Tiziano, Tintoretto, Paolo Veronese, Bassano, and Palma, as to form a school for artists to study in. Cochin, in his *Voyage d'Italie*, has given the particulars, with criticisms that have less offended the Italians, than most other works of a similar kind. The brazen horses, given to Nero by Tiridates, carried to Constantinople by Constantine, and brought thence by the Venetians, when they took that city, are admirable: pity they are not nearer to the eye. The mouths of the lions, not less celebrated than Venice itself, are still in existence; I hope regarded with detestation by every man that views them. There is but one accusation that ought to enter them; the voice of the people against the government of the state. In the evening at the theatre (a tragedy) I was agreeably disappointed, to find that the Italians have something besides harlequin and punchinello.

November 1. The cheapness of Italy is remarkable, and puzzles me not a little to account for; yet it is a point of too much importance to be neglected. I have, at Petrillo's, a clean good room, that looks on the grand canal, and to the Rialto, which, by the way, is a fine arch, but an ugly bridge; an excellent bed, with a neat furniture, very rare in Italian inns, for the bedstead is usually four forms, like trussles, set together; fine sheets, which I have not met with before in this country; and my dinner and supper provided at the old price of 8 paoli a day, or 3s. 4d. including the chamber. I am very well served at dinner with many and good dishes, and some of them solids; two bottles of wine, neither good nor bad, but certainly cheap; for though they see I drink scarcely half of it in my negus at supper, yet a bottle is brought every night. I have been assured, by two or three persons, that the price at Venice, a la mercantile, is only 4 to 6 paoli; but I suppose they serve a foreigner better. To these 8 paoli, I add 6 more for a gondola; breakfast 10 soldi; if I go to the opera, it adds 3 paoli; thus, for 7s. 3d. a day, a man lives at Venice, keeps his servant, his coach, and goes every night to a public entertainment. To dine well at a London coffee-house, with a pint of bad port, and a very poor desert, costs as much as the whole day here. There is no question but a man may live better at Venice for 100l. a year, than at London for 500; and yet the difference of the price of the common necessaries of life, such as bread, meat, &c. is trifling. Several causes contribute to this effect at Venice; its situation on the Adriatic, at the very extremity of civilized Europe, in the vicinity of many poor countries; the use of gondolas, instead of horses, is an article perhaps of equal importance. But the manners of the inhabitants, the modes of living, and the very moderate incomes of the mass of the people, have perhaps more weight than either of those causes. Luxury here takes a turn much more towards enjoyment, than consumption; the sobriety of the people does much, the nature of their food more; pastes, macaroni, and vegetables are much easier provided than beef and mutton. Cookery, as in France, enables them to spread a table for half the expence of an English one. If cheapness of living, spectacles, and pretty women, are a man's objects in fixing his residence, let him live at Venice: for myself, I think I would not be an inhabitant to be Doge, with the power of the Grand Turk. Brick and stone, and sky and water, and not a field or a bush even for fancy to pluck a rose from! My heart cannot expand in such a place: an admirable monument of human industry, but not a theatre for the feelings of a farmer! Give me the fields, and let others take the tide of human life, at Charing-cross and Fleet-ditch.\* Called again on Signore

\* See Mr. Boswell's agreeable Life of Dr. Johnson.

Arduino; converse on the state of agriculture in Italy, in the causes which have contributed to accelerate or retard it: and from him to a conservatorio at the Ospalletto. Dr. Burney, in his pleasing and elegant tour, has given an account of them.

The 2d. A tour among Chiese, Scuole, Palazzi; but there is such an abundance of buildings and collections to which books send one, that much time is always lost. The only traveller's guide that would be worth a farthing, would be a little book that gave a catalogue of the best articles to be seen in every town, in the order of merit. So that if a man in passing have but one hour, he uses it in seeing the best object the place contains; if he have three days, he takes the best the three days will give him; and if he stay three months he may fill it with the like gradation; and what is of equal consequence, he may stop when he pleases and see no more; confident, as far as he has extended his view, that he has seen the objects that will pay him best for his attention. There is no such book, and so much the worse for travellers. In the library of St. Mark among the antiques, are Commodus, Augustus, and Adrian; and more particularly to be noted, a fallen gladiator: a singular and whimsical Leda, by Coeninus. In the Palazzo Barbarigo, the Venus and the Magdalen of Titian, are beautiful, though they have lost much of their glowing warmth by time. Two Rembrandts in the Palazzo Farsetti. A Holy Family, by Andrea del Sarto. Titian's portrait, by himself. I finished by going up St. Mark's tower, which is high enough to command a distinct view of all the islands on which Venice is built, and a great range of coast and mountains. The country seems every where a wood. Nothing rivals the view of the city and the isles. It is the most beautiful, and by far the most singular that I have seen. The breadth of the Giudecca canal, spread with ships and boats, and walled by many noble buildings, with the isles distinct from Venice, of which the eye take in four-and twenty, form, upon the whole, a coup d'œil, that exceeds probably every thing the world has to exhibit. The city, in general, has some beautiful features, but does not equal the idea I had formed of it, from the pictures of Canaletti. A poor old Gothic house makes a fine figure on canvas. The irregularity of front is greater perhaps than in any other city of equal importance; no where preserved for three houses together. You have a palace of three magnificent stories, and near it a hovel of one. Hence, there is not that species of magnificence which results from uniformity; or from an uninterrupted succession of considerable edifices. As to streets, properly so called, there is nothing similar to them in the world; twelve feet is a broad one; I measured the breadth of many that were only four and five. The greater part of the canals, which are here properly the streets, are so narrow, as to take off much from the beauty of the buildings that are upon them. St. Mark's place has been called the finest square in Europe, which is a fine exaggeration. It appears large, because every other space is small. The buildings, however, that surround it are some of them fine; but they are more interesting than beautiful. This spot is the immediate seat and heart of one of the most celebrated republics that has existed. St. Mark's church, the Doge's palace, the library, the Doge himself, the nobles, the famous casinos, the coffee-houses: thus, St. Mark's square is the seat of government, of politics, and of intrigue. What Venice offers of power and pleasure, may be sought here; and you can use your legs commodiously no where else. Venice shines in churches, palaces, and one fine square; and the beauty of the large canals is great. What she wants are good common houses, that mark the wealth and ease of the people; instead of which, the major part are Gothic, that seem almost as old as the republic. Of modern houses there are few, and of new ones fewer; a sure proof that the state is not flourishing. Take

it, however, on the whole, and it is a most noble city; certainly the most singular to be met with in the world. The canal of the Giudecca, and the grand canal, are unrivalled in beauty and magnificence. Four great architects have contributed their talents for the fine buildings to be met with here; Palladio, St. Micheli, Sansovino, and Scamozzi. The church of St. Georgio Maggiore, by the first, is of a noble simplicity; and that of St. Maria della Saluta, by St. Micheli, has parts of admirable beauty: he seems always happy in his domes; and the portal of this church is truly elegant. If a genius were to arise at present at Venice, as great as Palladio, how would he find employment? The taste of building churches is over: the rich nobles have other ways of spending their incomes. Great edifices are usually raised by newly acquired fortunes; there are now either none, or too inconsiderable to decorate the city. In England, all animated vigour of exertion is among individuals, who aim much more at comfort within, than magnificence without; and for want of public spirit and police, a new city has arisen at London, built of baked mud and ashes, rather than bricks; without symmetry, or beauty, or duration; but distinguished by its cleanness, convenience, and arrangement. At a prova, or rehearsal of a new opera, *Il Burbero benefico*, by Martini of Vienna, much to my entertainment.

The 3d. To the arsenal, in which there is very little indeed worth the trouble of viewing; travellers have given strange exaggerations of it; the number of ships, frigates, and galleys is inconsiderable; and I came out of this famous arsenal, with a much meaner opinion of the Venetian naval force, than I had entered it. Yet they say there are three thousand men constantly employed: if there are half the number, what are they about? The armoury is well arranged, clean, and in good order. The famous bucentaur is a heavy, ill built, ugly gilded monster, with none of that light airy elegance which a decorated yacht has. A thing made for pleasure only, should have at least an agreeable physiognomy. I know nothing of the ceremony so good as Shenstone's stanza, comparing the vanity of the Doge's splendour on that day, with the real enjoyment which a hermit on her shore has of his ducal *cara sposa*. The ships in this arsenal, even of eighty-eight guns, are built under cover; and this is not so great an expence as might be thought; the buildings are only two thick brick walls, with a very light roof: but the expence is probably much more than saved in the duration of the ship. I mounted by the scaffolds, and entered one of eighty-eight guns, that has been twenty-five years building, and is not above four-fifths finished at present. At the opera. The sex of Venice are undoubtedly of a distinguished beauty; their complexions are delicate, and, for want of rouge, the French think them pale; but it is not person, nor complexion, nor features, that are the characteristic; it is expression, and physiognomy; you recognize great sweetness of disposition, without that insipidity which is sometimes met with it; charms that carry a magic with them, formed for sensibility more than admiration; to make hearts feel much more than tongues speak. They must be generally beautiful here, or they would be hideous from their dress; the common one, at present, is a long cloth cloak, and a man's cocked hat. The round hat in England is rendered feminine by feathers and ribbons; but here, when the petticoats are concealed, you look again at a figure before you recognise the sex. The head dresses I saw at Milan, Lodi, &c. shew the taste and fancy of this people. It is indeed their region; their productions in all the fine and elegant arts have shewn a fertility, a facility of invention, that surpasses every other nation; and if a reason be sought, for the want of energy of character with which the modern Italians have been reproached (perhaps unjustly) we may possibly find it in this exquisite taste; perhaps inconsistent in the same characters with those rougher and more rugged feelings, that

result from tension, not laxity, of fibre. An exquisite sensibility has given them the empire of painting, sculpture, architecture, poetry, and music; whether or not to this it may be imputed that their beautiful country has been left under the dominion of Germans, Frenchmen, and Spaniards, is a question not difficult to decide.

The 4th. I am in double luck; two persons, to whom I had letters, are returned from the country. I waited upon one of them who received me in a very friendly manner, and entered into a conversation with me interesting, because on subjects of importance. I explained to him the object of my travels; and told him that I resided a few days in great cities, for the advantage of conversation on those topics of political œconomy, which concerned the general welfare of all nations. He told me very frankly that he was no farmer, and therefore for the practical part of my inquiries could not say much: that as to the other objects, which were without doubt important, he would give me any information in his power. I said, that I wished for none on points which the nature of the government made improper to ask about; and if inadvertently I should demand any thing of that complexion, he would have the goodness to pardon and pass it by. He interrupted me hastily, "foreigners are strangely apt to entertain false ideas of this republic; and to think that the same principles govern it at present as are supposed to have been its guidance some centuries past. In all probability half of what you have heard about it is erroneous; you may converse as freely at Venice as at London; and the state is wise enough (for in such cases it is really very moderate and tender) to concern itself not at all with what does not tend directly to injure or disturb the established order of things. You have heard much of spies, and executions, and drownings, &c. but, believe me, there is not one circumstance at Venice that is not changed, and greatly too, even in twenty years." Encouraged by this declaration, I ventured to put inquiries on population, revenues, taxes, liberty, &c. and on the government as influencing these; and it gave me no slight satisfaction to find that he was the man he had been represented; able, keen, and intelligent; who had seen much of the world, and understood those topics perfectly. He was so obliging as to ask me to spend what time I could with him; said, that for some days he should be constantly at home; and whenever it suited me to come, he desired me to do it without ceremony. I was not equally fortunate with the other person; who seemed so little disposed to enter into conversation on any subject but trifles, that I presently saw he was not a man for me to be much the wiser for: in all political topics it was easy to suppose motives for silence; but relatively to points of agriculture, or rather the produce of estates, &c. perhaps his ignorance was the real cause of his reserve. In regard to *cicisbeism*, he was ready enough to chat; he said that foreigners were very illiberal in supposing that the custom was a mere cloak for vice and licentiousness; on the contrary, he contended, that at Paris, a city he knew well, there is just as much freedom of manners as at Venice. He said as much for the custom as it will bear; mollifying the features of the practice; but not removing them. We may however hope, that the ladies do not merit the scandal with which foreigners have loaded them; and that the beauty of some of them is joined with what Petrarch thought it so great an enemy to:

Due gran nemiche insieme erano aggiunte  
Bellezza ed onesta.

At night to a new tragedy of *Fayel*, a translation from the French; well acted by *Signore* and *Signora Felloni*. It is a circumstance of criticism, amazing to my ears, that the Italian language should have been represented as wanting force and vigour,



and proper only for effeminate subjects. It seems, on the contrary, as powerfully expressive of lofty and vigorous sentiments, of the terrible and the sublime, as it is admirable in breathing the softest notes of love and pity; it has even powers of harsh and rugged expression. There is nothing more striking in the manners of different nations, than in the idea of shame annexed to certain necessities of nature. In England a man makes water (if I may use such an expression) with a degree of privacy, and a woman never in sight of our sex. In France and Italy there is no such feeling, so that Sterne's Madame Rambouillet was no exaggeration. In Otahite, to eat in company is shameful and indecent; but there is no immodesty in performing the rites of love before as many spectators as chance may assemble. There is between the front row of chairs in the pit and the orchestra, in the Venetian theatre, a space of five or six feet without floor; a well-dressed man, sitting almost under a row of ladies in the side-boxes, stepped into this place, and made water with as much indifference as if he had been in the street; and nobody regarded him with any degree of wonder but myself. It is, however, a beastly trick: shame may be ideal, but not cleanliness; for the want of it is a solid and undoubted evil. For a city of not more than one hundred and fifty thousand people, Venice is wonderfully provided with theatres; there are seven; and all of them are said to be full in the carnival. The cheapness of admission, except at the serious opera, undoubtedly does much to fill them.

The 5th. Another tour among palaces, and churches, and pictures; one sees too many at once to have clear ideas. Called again on — —, and had another conversation with him better than a score of fine pictures. He made an observation on the goodness of the disposition of the common people at Venice, which deserves, in candour, to be noted; that there are several circumstances, which would have considerable effect in multiplying crimes, were the people disposed to commit them: 1st, the city is absolutely open, no walls, no gates, nor any way of preventing the escape of criminals by night, as well as by day: 2d, that the manner in which it is built, the narrowness and labyrinth direction of the streets, with canals every where, offer great opportunities of concealment, as well as escape: 3d, the government never reclaims of any foreign power a criminal that flies: 4th, there is no police whatever: and it is an error to suppose that the system of espionage (much exaggerated) is so directed as to answer the purpose: 5th, for want of more commerce and manufactures, there are great numbers of idle loungers, who must find it difficult to live: 6th, and lastly, the government very seldom hangs, and it is exceedingly rare otherwise to punish. From this union of circumstances it would be natural to suppose, that rogues of all kinds would abound; yet that the contrary is the fact; and he assured me, he does not believe there is a city in Europe, of equal population, where there are fewer crimes, or attempts against the life, property, or peace of others; that he walks the streets at all hours in the night, and never with any sort of arms. The conclusion in favour of his countrymen is very fair; at the same time I must remark, that these very circumstances, which he produces to shew that crimes ought to abound, might, perhaps with as much truth, be quoted as reasons for their not being found. From the want of punishment and police may probably be drawn an important conclusion, that mankind are always best when not too much governed; that a great deal may safely be left to themselves, to their own management, and to their own feelings; that law and regulation, necessary as they may be in some cases, are apt to be carried much too far; that frequent punishments rather harden than deter offenders; and that a maze of laws, for the preservation of the peace, with a swarm of magistrates to protect it, hath much stronger tendency to break than to secure it. It is fair to connect this circumstance of compara-

tive freedom from crimes, with seven theatres for only one hundred and fifty thousand people; and the admission so cheap, that the lowest of the people frequent them; more, perhaps, in favour of theatrical representations than all that Rousseau's brilliant genius could say against them. At night to another theatre, that of the tragi-comedy, where a young actress, apparently not twenty, supported the principal serious part with such justness of action, without exaggeration, and spoke this charming language with such a clear articulation and expression, as, for her age, was amazing.

The 6th. Another visit to islands and manufactures, &c.

The 7th. My last day at Venice; I made, therefore, a gleaning of some sights I had before neglected; and called once more on my friend — —, assuring him truly, that it would give me pleasure to see him in England, or to be of any service to him there. The *Corriere di Bologna* a covered barge, the only conveyance, sets off to-night at eleven o'clock. I have taken my place, paid my money, and delivered my baggage; and as the quay from which the barge departs is conveniently near the opera-house, and *Il Burbero di buon Cuore* acted for the first night, I took my leave of *Signore Petrillo's* excellent inn, which deserves every commendation, and went to the opera. I found it equal to what the *prova* had indicated; it is an inimitable performance; not only abounding with many very pleasing airs, but the whole piece is agreeable, and does honour to the genius and taste of *Signore Martini*. Swift, in one of his letters to Stella, after dining with lords Oxford and Bolingbroke, and going in the evening to some scrub, says, he hates to be a prince and a scoundrel the same day. I had to-night all this feeling with a vengeance. From the representation of a pleasing and elegant performance, the music of which was well adapted to string one's feelings to a certain pitch, in clear unison with the pleasure that sparkled in so many eyes, and sounded from so many hands. I stepped at once, in full contrast, into the bark *Detto Corriere di Bologna*; a cabin about ten feet square, round which sat in silence, and the darkness visible of a wretched lamp, a company, whose rolling eyes examined, without one word of reception, each passenger that entered. The wind howled, and the rain beat in at the hole left for entering. My feelings, that thrilled during the evening, were dissipated in a moment, and the gloom of my bosom was soon in unison with that of the scene.

Of this voyage from Venice to Bologna, all the powers of language would fail me to give the idea I would wish to impress. The time I passed in it I rank among the most disagreeable days I ever experienced, and by a thousand degrees the worst since I left England; yet I had no choice: the roads are so infamously bad, or rather so impracticable, that there are no *vetturini*; even those whose fortune admits posting, make this passage by water; and when I found that *Monsieur de la Lande*, secretary to the French ambassador at Turin, had made the same journey, in the same conveyance, and yet in his book says not a word against the accommodation, how was I to have divined, that it could prove so execrable? A little more thought, however, would have told me that it was too cheap to be good, the price, for the whole voyage of 125 miles, is only 30 paoli (17s. 6d.) for which you are boarded. After a day's spitting of a dozen people, in ten feet square (enough to make a dog sick) mattresses are spread on the ground, and you rest on them as you can, packed almost like herrings in a barrel; they are then rolled up and tumbled under a bulk, without the least attention which side is given you the night after; add to this the odours of various sorts easy to imagine. At dinner, the cabin is the kitchen, and the *padrone* the cook, he takes snuff, wipes his nose with his fingers, and the knife with his handkerchief, while he prepares the victuals, which he handles before you, till you are sick of the idea of eating. But,

on changing the bark to one whose cabin was too small to admit any cookery, he brought his steaks and sausages, rolled up in a paper, and that in his flag of abomination (as Smollet calls a continental handkerchief) which he spread on his knees as he sat, opening the greasy treasure, for those to eat out of his lap with their fingers, whose stomachs could bear such a repast. Will an English reader believe that there were persons present who submitted, without a murmur, to such a voyage, and who were beyond the common mercantile crews one meets with in a vettura? some well dressed, with an appearance and conversation that betrayed nothing mean. I draw conclusions, operating strongly against the private and domestic comforts of life, from such public vehicles: this is the only one for those who pass to and from Venice, Bologna, Florence, Rome, and Naples, and of course must be exceedingly frequented; and there are no voitures by land to rival it. If these people were clean, decent, and comfortable at home, is it credible that they would submit to such a mode of travelling? The contrast would shock them as it would Englishmen, who would move heaven and earth to establish a better conveyance, at a higher price. The people who travel thus form the great mass of a nation, if we except the poor; it is of little consequence how the Cornari and the Morosini live; they live probably like great lords in other countries; but the public and national prosperity is intimately connected with the comforts and accommodations of the lower classes, which appear in Italy to be, on comparison with England, miserably inferior. Their excellencies, the aristocrats of Venice, do not travel thus; and as to the people, whether they go on their heads, or in the mud, is all one to the spirit of their government. For myself, I walked much of the journey, and especially on the banks of the Po, for the better view of that great river, now rendered immense by the late dreadful floods, which have deluged so much of the country. Along the banks, which are high dykes, raised many feet against its depredations, there are matted huts at every hundred or two hundred yards, with men stationed, called guardia di Po, ready to assemble with their tools at a moment's warning, in case of a breach; they have fires all night. Soldiers also make the rounds, night and day, to see that the men are at their stations, and to give assistance if wanted. There is a known and curious piece of roguery, against which much of this caution is bent; the mischief of a breach is so great, that when the danger becomes very imminent, the farmers in the night, cross the river in boats, in order to bore holes in the banks, to enable the water the easier to make a breach, that by giving it a direction contrary to that of their own lands, they may render themselves secure. For this reason, the guards permit no navigation, except by privileged barks, like the corrieri, firing at all others that are seen on the river. It is now an immense body of water, twice, and in some places perhaps even thrice as broad as the Thames at London. As to the face of the country, from the Lagunes to Ferrara, it is every where nearly the same as what I have so often described: whether grass or arable, laid out into rows of pollards, with vines trained to them, at various distances, but always near enough to give the whole the appearance of a wood, when viewed from the least distance. It does not seem to want people, towns and villages being numerous; and there are all the signs of a considerable navigation; every village being a port, with abundance of barges, barks, boats, &c. Coffee-houses remarkably abound in the Venetian dominions, at all towns, and even villages, where we passed, they are to be found, fortunately for me, as they were my resource, to make amends for the dirty fingers and beastly handkerchief of our Signore Padrone. Before I entirely finish with Venice, I shall insert a few circumstances, with which I was favoured by an Italian, who resided some time in that city, and had abilities that would not allow me to doubt of his capacity in forming a true

estimate of any political circumstance, to which he directed his attention. His account of the principal nobility of the republic is such as would explain much more than I have seen or heard in their dominions. He says, "the education of the great is the disgrace of Venice. Men of the first families are not only ignorant to a degree shameful in so enlightened an age, but they are educated in a bad ton; with ill manners, from ideas that are suffered to be instilled by dependents, which do not quit them through life; fixing, from early habit, the taste for bad company; while a pernicious indulgence exempts them from all learning; that this is so general, and is so extensive in its influence, that, had the interior organization of this government been less admirable, it would, from this very cause, have mouldered to nothing long ago: that the pride, of which they are accused, is ascribable equally to bad company and to ignorance; the first gives them vague and improper ideas of their own importance, and the second inspires them with reserve, to conceal their want of that knowledge which others, and especially foreigners, possess; that the ill effects of this bad education will be seen more and more; the governments of Europe being at present infinitely more enlightened than in times past; and improved considerably even in the last twenty years. There is of necessity, a struggle among all nations, emulous to make the greatest progress in useful knowledge, and to apply all knowledge to the most useful purposes; in such a period, therefore (he added) any people who are stationary, and more particularly any government that is so, will be outstripped in the great course by their competitors, and perhaps trampled on, like the monarchy of France, by those in whom light hath taken the place of ignorance." Pity that the richest blood in European veins should at present experience such an education!

Here are about forty families, unquestionably the most ancient in Europe. All other countries, except Venice, have been conquered, or over-run, or so destroyed, that the oldest families may be dated comparatively from only modern periods; he who looks back to a well defined ancestry, from the tenth and eleventh centuries, and who can thus trace his lineage seven or eight hundred years, is in every country respected for antiquity; of this standing are the families of Bourbon, d'Este, Montmorency, Courtenaye, &c. which are commonly esteemed the first in Europe: but they are not esteemed so at Venice. Some of the Roman families, which, from the ravages of the Huns, took shelter in the isles of Venice, and which were then considerable enough to be entrusted with the government of their country, yet remain, and are unquestionably the most ancient in Europe. De la Lande, from Fresdrotti, confines the electors of the first Doge to twelve; Badoer, Contarini, Morosini, Tiepolo, Michiel, Sanudo, Gradenigo, Memo, Falier, Dandolo, Barozzi, and Polano, which is of late extinct. In the next class he places Zustiniani, Cornaro, Bragadin, and Bembo; then come the families *il serrare del consiglio*, Querini, Dolfini, Soranzo, Zorai, Marcello, Sagredo, Zane, and Salomon. But since Mons. de la Lande wrote, they have published at Venice a *Dizionario storico di Tutte le Venete Patrizie Famiglie*, 1780; compiled from a manuscript in St. Mark's library; this work does not accord with the preceding table; I have extracted from it the following list:

Badoer; sua origine con la republica. Bollani: antichi tribuni. Bragadin; nei piu rimoti secoli della republica. Celsi; dagli antichi Marj di Roma, antichi tribuni. Cioran; negli elettori del primo Doge. Contarini; uno negli elettori del primo Doge. Cornaro; dagli antichi Corneli di Roma, d'aprimissimi tempi tenuta in Venezia. Emo; nacque colla medesima republica, Foscarini; Vennero 867; antichi tribuni. Gradenigo; delle prime venute in Venezia. Magno; dalla prima fondazion di Venezia; tribuni. Marcello; pare, che non si possa metter in dubio, che questa famiglia discenda dagli antichi Marcelli di Roma;

antichi tribuni. Michieli; antichissima di Venezia; gli elettori del primo Doge. Mocenigo; delle prime venute in Venezia. Molin; stabilita in Venezia 877; antichi tribuni. Morosini; rifugiti per le incursioni di Attila; fra gli elettori del primo Doge, e antichi tribuni. Da Mosta; Vennero 454 rifugiati per Attila. Nani; Vennero in Venezia sin dalla prima sua fondazione; antichi tribuni. Orio; rifugiati per Attila; antichi tribuni. Pisani; dagli antichi Pisoni di Roma; dell'antico consiglio. Querini; elettori del primo Doge. Sagredo; Vennero nel 485. Salomon; tra le elettrici del primo Doge. Sanudo; dei primi fondatori della città. Semitecolo; sin dal 843; antico consiglio. Soranzo, senza dubbio delle prime rifugite in Venezia; antichi tribuni. Tiepolo, gli elettori del primo Doge: antichi tribuni. Trevisan, Vennero per l'irruzione d'Attila. Valier, rifugiti per le incursione di Attila sino dal 423; tribuni antichi. Venier, Vennero per Attila; antichi tribuni. Zane, antichissima famiglia di Venezia; antico consiglio. Zen, dei 12 elettori del primo Doge. Bembo, Coco, Dandolo, Falier, Foscari, Gritti, Malipiero, Marini, Minio, Minotto, Moro, Muazzo, Nadal, Pesaro, Da Riva, Ruzini, Tron, Zusto, all these antichi tribuni.

From the details of these families it appears, that many have an origin as old as Attila the Hun, who invaded Italy in 452. If all these families be allowed to date from that period (and no reason appears against it) their origin may be traced to more than 1300 years. The election, however, of the first Doge, in 697, by the twelve heads of the republic, is one of the most authentic and the most noted acts in the establishment of any government. To this undisputed origin the preceding list assigns the families of Civran, Contarini, Michieli, Morosini, Querini, Salomon, Tiepolo, and Zen, rejecting thus several families which have been commonly esteemed the first in the republic, and which former writers have expressly ranked among the electors of the first Doge. The only families in which both lists agree are Contarini, Michieli, Morosini, and Tiepolo: whether the others were, or were not, electors of the Doge, there is no question about their great antiquity; and it is equally certain that there are now actually at Venice from forty to fifty families which, in point of antiquity well ascertained, exceed all that are to be found in the rest of Europe.

And here I take leave of the Venetian lion; I am tired of it: if the state were to build a pig-sty, I believe they would decorate it with his figure. It is a beast of no merit; for what is ferocity without humanity; or courage without honour? It wars only to destroy; and spreads its wings not to protect, but to cover, like the vulture of Mr. Sheridan, the prey that it devours. At Ferrara, the Padrone's business stopped him a whole day; but he pretended it was a want of oxen to draw the coaches, that carried us ten miles by land, from canal to canal. This was not amiss, for it enabled me to see every thing in that town, which, however, does not contain much. The new part; new in comparison with the rest, was built by Hercules II, duke of Ferrara, who has laid out and distributed the streets and a square in a manner that does honour to his memory. They are all of a fine breadth, well paved, with trottoirs of brick, every where defended by stone posts. I have seen no city so regularly laid out, except Turin. The Palazzo of the Marchese di Villa is an object to examine; and at that spot there is a very advantageous view of two noble streets. The Palazzo di Bentivoglio is another considerable building, with a vast garden, full of bad statues; and even some of footmen, with laced hats and shoulder-knots, in a style fully as ridiculous as M. du Barre's at Toulouze. In the cathedral, a fine Guercino; and a marriage of Cana, by Bonona, a Ferrarese painter, at the Chartreuse. I paid homage to the tomb of Ariosto, a genius of the first lustre; since all modern ages have produced but three distinguished epic poets, what a glory to Italy to have given birth to two of them! the wonder is greater,

however, that the third was not of the same country. From Ferrara to the canal, which leads to Bologna, the road is, without any idea of comparison, the worst in Europe, that pretends to be great and passable. It is the natural rich soil of a flat wet country, rendered deeper by the late heavy rains; seven horses drew a coach about a mile and a half an hour. Making and mending are philosophical experiments not tried here; and the country being inclosed, the hedges and ditches confine the carriages to poach through the mud of one direction, instead of many. I walked for the most part in the adjoining fields, the better to examine them. Arrived at Bologna at twelve o'clock at night. 125 miles.

The 12th. Deliver letters. I found Signore Bignami at home. He is a considerable merchant, who has attended to agriculture, sensible and intelligent. An English merchant, at the Three Moors, informing me, that Mr. Taylor, who was at Carlsruhuc for some time, was now settled at Bologna, I determined to wait on him, being the gentleman of whose husbandry, at Bifrons in Kent, I gave an account in my Eastern Tour. I accordingly went, in the evening, to Mr. Taylor's conversazione. He has handsome apartments in the Palazzo Zampieri, and lives here agreeably with his beautiful and amiable family; a finer progeny of daughters and sons is hardly to be seen, or that forms a more pleasing society. As I did not know, till I got to Bologna, that Mr. Taylor had left the court of Carlsruhuc, I was eager to hear why he had quitted a situation which was so congenial with his love of agriculture. This gentleman travelling in Germany, became known to the Margrave of Baden, where that enthusiastic love of Agriculture, which, for the good of mankind, some minds feel, induced him to take a farm of that prince. Thus was a gentleman, from the best cultivated part of Kent, fixed on a farm of five hundred acres in Germany. He carried his point, improved the farm, staid four years, and would have continued to the infinite advantage of the country, if the ministers of the Margrave had had as much understanding, and as liberal a mind as their master. I am inclined to believe that no man can succeed on the continent of Europe (unless under a prince with a character of such decided energy as the late king of Prussia) provided he be really practical. He has no chance if he be not well furnished with the rubbish which is found in academies and societies: give him a jargon of learning, the science of names and words, letting things and practice go elsewhere, and he will then make his way, and be looked up to. To the opera, where there is nothing worth hearing or seeing, except only a young singer, Signora Nava, whose voice is one of the clearest and sweetest tones I ever heard; she has great powers, and will have, for she is very young, great expression. It was the Theodoro re di Corsica of Paiesello.

The 13th. The Pellegrono and St. Marco being full, has fixed me in this brutal hole, I Tre Mauretti which is the only execrable inn I have been in (in a city) since I entered Italy. It has every circumstance that can render it detestable; dirt, negligence, filth, vermin, and impudence. You sit, walk, eat, drink, and sleep with equal inconvenience. A tour among the palaces and churches. The great collection of paintings in the Zampieri palace contains a few pieces of such exquisite merit, that they rivet the spectator by admiration. The St. Peter, of Guido; the Hagar, of Guercino; and the Dance, of Albano. Mons. Cochin says, the Guido is not only a chef d'œuvre, but the finest picture in Italy, enfin c'est un chef d'œuvre & le tableau le plus parfait, par la re-union de toutes les parties de la peinture qui soit en Italie. It is certainly a most noble piece of two figures, but wants, of necessity, the poetry of a tale told by many. To please me, the Guercino, of which he says little more than its being tres beau, has an expression delicious, that works on a fine subject to a great effect: it is more nature

than painting. Hagar's countenance speaks a language that touches the heart; and the pathetic simplicity of the child is in unison with all the mother's feelings. The mellow warmth and tender softness of the colouring of the Albano, with the sweetness of the expression, are inimitable. In the church of St. Giovanne in Monte, there is the famous St. Cecilia of Raphael, of which Sir Robert Strange has given so fine a print, and in which he has done ample justice to the original. The St. Agnes of Domenichino, in the church of that name, and Job on his throne, by Guido, at the Mendicanti, are two others that must be visited. Dine with Signore Bignami; he is a considerable merchant, and therefore I need not stare at this hospitality in Italy; with great satisfaction I find that no minute is lost in his company, as he is obliging enough to pardon the number of my inquiries. In the evening to Mr. Taylor's; this gentleman's discourse is interesting to my pursuit, for he has always had a great predilection for agriculture, and has practised it with intelligence and success. The Marchese di Mareschotti, who is married to a very pretty English lady, present also; a sensible man, who seemed pleased with the opportunity of explaining to me several circumstances, relative to tythes and taxation, that I was inquiring into. He is a singular instance at Bologna, of going into company with his wife, and consequently superseding the necessity or want of a cicisbeo. He is regarded by his countrymen for this, pretty much as he would be if he walked on his head, instead of his feet. How strangely doth it appear to them, that an Italian nobleman should prefer the company of a woman he married from affection, and think there is any pleasure when he embraces his children, in believing them his own! Here I met also the Baron de Rovrure, a French nobleman, and Madame la Marquise de Bouille, both in their way to Naples; they seem agreeable people. Mr. Taylor, and his two charming daughters, have apparently a pleasing society here. These ladies speak French and German like natives, and before they leave Italy will do the same with Italian; they paint agreeably, and have considerable musical talents; thus accomplishments will not be wanted to second the graces they owe to the beneficence of nature. I had some information from Miss Taylor, tonight, relative to the expences of housekeeping, which will give an idea of the cheapness of Italy; premising (of which more in another place) that the paoli is sixpence, and that there are 10 baiocchi in it. As to beef, mutton, bread, &c. they are all over Europe too nearly on a par to demand much attention; where meat is very fine, it is nominally dear; and where it is bad, it is called cheap: but the difference deserves little notice. Mr. Taylor contracts with a traiteur for his table, nine in the parlour and five in the kitchen, 20 paoli a day for dinner; for supper he pays extra, and is supplied to his satisfaction; a proof, if any be wanted, of the cheapness of Bologna. It is remarkable that there is not the difference between the prices of any of the articles, and the same thing in England, that there is between the contracting prices, and the ratio with us, a few per cent. in the former, but some hundred per cent. in the latter; a sure proof that dearness and cheapness of living does not depend on prices per pound, but on the modes of living. Every tavern-keeper, traiteur, or other contractor of any sort in England, will have a price that shall give him a fortune in a few years; and servants, instead of submitting to the economy which their masters may think it necessary to establish, will not live an hour with them if they are not permitted to devour them.

The 14th. With Signore Bignami and his family; to his country seat, about five miles from Bologna, on the road to Pistoia; spend an agreeable day, entirely dedicated to farming. The house is handsome, and finely situated: the entertainment truly hospitable, and the information, given in a cool considerate walk through every field of the

farm, such as is little liable to error. A circumstance at this country seat deserves noting, as it marks the abundance of thieves: the chambers had the windows all shut so close, and fastened with so much attention, that I inquired the reason; and was answered, that if the greatest care be not taken, thieves will break in, and plunder a house of every thing portable. The shutters, to both windows and doors, were inlaid with bars of iron, to prevent their being sawn through. The conclusion we must draw from such a circumstance is certainly little favourable, at first sight, to the lower classes, but that is always unjust, for they are ever what the police, law, and government of a country make them. In the evening, again at Mr. Taylor's; a house, in which no one will have the entre, and want the inclination. The Marehese Mareschotti there, who had the goodness to continue his attentions to my inquiries, and to give me some valuable information: I had also the pleasure of conversing, on the same subjects, with the Conte di Aldrovandi.

There is a room, at the Tre Mauretti, which, communicating with several apartments, the guests have it in common: among them was a young Ballatrice, waiting here for an Englishman, to attend her to Venice; she was pretty and communicative; had some expensive trinkets given her, to the amount of a considerable sum, by her lover, who proved (for secrecy was not among her qualities) to be a rider, as we should call him, to a manufacturing house in England. An Italian merchant present remarked, that the profit of the English on their manufactures, must be enormous; or they could not support commissarii at such an expence, some of whom travel in Italy post, from town to town, and, when arrived, amuse themselves, it is plain, with such comforts as the good humour of the country throws in their way.

The 15th. The reneontre at Mr. Taylor's of the French gentleman, the Baron de Rovrure, and Madame de Bouille, has been productive of an engagement to travel together to Florence, with Signore Grimaldi, and Mr. Stewart, a Scotch gentleman,\* just arrived from Geneva, and going also to Florence. We set off in three vetture this morning. The country from Bologna to Florence is all mountainous; most of it poor and barren, with shabby, ragged, ill preserved wood, spotted with a weak and straggling cultivation. Houses are scattered over most of it, but very thinly. We dined at Loiano, much in the style of hogs; they spread for us a cloth, that had lost, by the snuff and greasy fingers of vetturini, all that once was white; our repast was black rice broth, that would not have disgraced the philosophy of Lycurgus, liver fried in rancid oil, and cold cabbage, the remnant of the preceding day. We pleaded hard for sausage, eggs, or good bread and onions, but in vain. We laid, not slept in our clothes at Covigliano, hoping, not without fears, to escape the itch. Such accommodations, on such a road, are really incredible. It is certainly one of the most frequented that is to be found in Europe. Whether you go to Florence, Rome, and Naples, by Parma, Milan, or Venice; that is, from all Lombardy, as well as from France, Spain, England, Germany, and all the north, you pass by this route, consequently one would expect, at every post, a tolerably good inn, to catch the persons whom accident, business, or any other derangement of plan might induce to stop between Bologna and Florence. The only place possible to sleep at, with comfort, is Maschere, about forty miles from Bologna, but, for travellers who go any other way than post, forty miles are no division of sixty-four. If the road were in England, with a tenth of the traffic, there would be an excellent inn at every four or five miles, to receive travellers properly, at whatever distance their accidental departure made most convenient: but England and Italy have a gulf between them

\* Travelling with a young gentleman, a Mr. Kinloch.



in the comforts of life, much wider than the channel that parts Dover and Calais. 27 miles.

The 16th. On entering Tuscany, our baggage was examined, and plumed for Florence; the first moment I set foot in this country, therefore, I find one gross error of the economists, who have repeated, from one another, in at least twenty performances, that the grand duke had adopted their plan, and united all taxes in one, upon the net produce of land. Having crossed the highest ridge of the Appenines, for several miles in the clouds, and therefore seeing no prospect, descended at Maschere, for a while, in a better region; from the inn, the view is rich and fine. We noted here a wonderful improvement in the figure and beauty of the sex; the countrywomen are handsome, and their dress is very becoming; with jackets, the sleeves puckered and tied in puffs, with coloured ribbons; broad hats, something like those worn by ladies in England with riding habits; their complexions are good, and their eyes fine, large, and expressive. We reached Florence, with just light enough to admire the number of white houses spread thickly every where over the mountains that surround the city. But before we enter, I must say a word or two of my French fellow travellers: Mons. de Baron is an agreeable polite man, not deficient in the power to make observations that become a person of sense: the life of Madame de Bouille would, if well written, form an entertaining romance; she went, early in the last war, to St. Domingo with her husband, who had a considerable property there; and on her return she was taken in a French frigate, by an English one, after a very smart engagement of three hours, and carried into Kinsale, whence she went to Dublin, and to London: this is an outline which she has filled up very agreeably with many incidents, which have kept her in perpetual motion; the present troubles in France have, I suppose, added her and the Baron to the infinite number of other French travellers, who swarm, to an incredible degree, every where in Italy. She is lively, has much conversation, has seen a good deal of the world, and makes an agreeable *compagnon de voyage*. 37 miles.

The 17th. Last night, on arriving here, we found the *Aquila Nera*, and Vanini's so full, that we could not get chambers; and the great Mr. Mcggot looked into our cabbrioles to examine us, before he would give an answer, pretending, that his were bespoken; and then assured us, as we had no air that promised good plucking, that his were engaged. At the *Scudi di Francia*, where there are many excellent and well furnished apartments, we found all we wanted, but dearer than common, ten paoli a head a-day; our merchant leaves us to-morrow morning, for Leghorn, and the rest of the company divide, to find lodgings. Waited on Mons. de Streinesberg, the grand duke's private secretary, for whom I had letters: I am out of luck, for he is immersed in business and engagements, as the court goes to Pisa to-morrow, for the winter. This, I suppose, is of no consequence to me, for what court is there in the world that would give or receive information from a farmer? The objects for which I travel are of another complexion from those which smooth our paths in a court. And yet the grand duke has the reputation of being, in respect to the objects of his attention, the wisest prince in Europe. So much for the sovereign of this country; let me but find some good farmers in it, and I shall not be discontented.

The 18th. Fixed this morning in lodgings (*del Sarte Inglese via dei Fossi*) with the Marchioness, the Baron, and Mr. Stewart. My friend, professor Symonds, had given me a letter to his excellency Filippo Neri, who I found was dead; but hearing that his brother, Signore Neri, was not only living, but president of the *Georgofili Society*, I waited on him, and gave him the letter that was designed for his late brother; he received me politely, and recollecting the name of Young, being quoted by the Marquis

de Cassaux, in his "Mechanism des Societes," and being informed that I was the person, remarked, that this ingenious writer had made some use of my calculations, to found his theory of the national debt of England; a very curious subject, on which he should like much to converse with me: and asked, if I looked upon that debt as so harmless? I told him, that I thought Mons. de Cassaux's book full of original and ingenious remarks, and many important ones, particularly his condemnation of the colonizing system; but that as to the national debt of England, it originated in the knavery of those who borrowed, and in the folly of those who lent; perpetuating taxes that took money from industrious people, in order to give it to idle ones. That the liberty of England enabled it to flourish beyond that of any other society in the world, not because it had a national debt, but in spite of so great an evil. Well, Sir, he replied, I have just the idea of it that you have, and I could not conceive how a country could pay eight or nine millions of guineas a year, in interest, without being the weaker and poorer. He then inquired into my plan, commended highly the object of my journey, which, he was pleased to say, had so little resemblance to that of the great mass of my countrymen, that he hoped I met with no impediments in gaining the information I wished; and added, that he was very sorry he was going to Pisa, or he should have been happy in procuring me all in his power, though he was no practical farmer. Signore Neri appears to be well informed, sensible, and judicious; has a large collection of books, on useful subjects, particularly the various branches of political œconomy, which he shews, by his conversation, to have consulted with effect.

After all I had read and heard of the Venus of Medicis, and the numberless casts I had seen of it, which have made me often wonder at descriptions of the original, I was eager to hurry to the tribuna, for a view of the dangerous goddess. It is not easy to speak of such divine beauty, with any sobriety of language; nor without hyperbole to express one's admiration, when felt with any degree of enthusiasm; and who but must feel admiration at the talents of the artist, that thus almost animated marble? If we suppose an original, beautiful as this statue, and doubly animated, not with life only, but with a passion for some favoured lover, the marble of Cleomenes is not more inferior to such life, in the eyes of such a lover, than all the casts I have seen of this celebrated statue are to the inimitable original. You may view it till the unsteady eye doubts the truth of its own sensation: the cold marble seems to acquire the warmth of nature, and promises to yield to the impression of one's hand. Nothing in painting so miraculous as this. A sure proof of the rare merit of this wonderful production is, its exceeding, in truth of representation, every idea which is previously formed; the reality of the chissel goes beyond the expectancy of imagination; the visions of the fancy may play in fields of creation, may people them with nymphs of more than human beauty; but to imagine life thus to be fashioned from stone; that the imitation shall exceed, in perfection, all that common nature has to offer, is beyond the compass of what ordinary minds have a power of conceiving. In the same apartment there are other statues, but, in the presence of Venus, who is it that can regard them? They are, however, some of the finest in the world, and must be reserved for another day. Among the pictures, which indeed form a noble collection, my eyes were rivetted on the portrait of Julius II, by Raphael, which, if I possessed, I would not give for the St. John, the favourite idea he repeated so often. The colours have, in this piece, given more life to canvas, than northern eyes have been accustomed to acknowledge. But the Titian! enough of Venus; at the same moment to animate marble, and breathe on canvas, is too much. By husbanding the luxury of the sight, let us keep the eye from being satiated with such a parade of charms: retire to repose on the insipidity of common objects, and return another day, to gaze

with fresh admiration. In the afternoon, by appointment, to Signore Preposito Lastri, author of the *Corso d'Agricoltura*, and other much esteemed works, to whom I had letters. He was to have carried me to Signore Zucchini, director of the æconomical garden, for whom also I had recommendations; I hoped to escape seeing this garden, and the rain seconded my wishes, for it would not allow us to stir; and that gentleman coming to Signore Lastri's, I had the pleasure of a conversation on our favourite topic. Signore Zucchini seems an animated character, speaks of agriculture in a style that gives me a good opinion of his pursuits; made me very friendly offers of whatever assistance was in his power, during my stay at Florence, and appointed another day for viewing the æconomical garden. At night to the opera, the *Trame del Lusso*, of *Cimarosa*; the music as good as the singing bad, and the dancing execrable. An English gentleman, of the name of Harrington (the younger) whom I had met at Mr. Taylor's, at Bologna, entering into conversation, mentioned, among other topics, that the Margrave of Anspach, who is here with lady Craven, wished to know me personally, in order to speak to me on the subject of Spanish sheep, his highness having imported them to Anspach. I replied, that, on a farming topic, I should be happy in the conversation of any prince, who loved the subject enough to import a better breed. The father soon after joining us, and probably having been told, by his son, what had passed, observed to me, that the Margrave was very fond of agriculture, and had made great improvements; adding, "that if I wanted to be introduced to him, he would introduce me." This was another business; my expressing a desire to be represented to a sovereign prince, not at his own court, appeared to be an awkward intrusion; for no idea could be more disgusting to me, than that of pushing myself into such company. I replied, therefore, that if it were the desire of the Margrave to have any conversation with me, and he would inform me of it, in any way he thought proper, I would certainly pay my respects to him, with great readiness. The Margrave was at the opera; Mr. Harrington quitted me, as if to go to him. I suppose the conversation was misunderstood, for lady Craven does not seem, by her book, to be much of a farmer.

The 19th. Call on Signore Tartini, secretary to the royal academy *Georgofili*, and on lord Hervey, our minister here; both absent. Another turn in the gallery brought a repetition of that pleasure which is there to be reaped, in the exuberance of a plentiful harvest. The woman, lying on a bed, by Titian, is probably the finest picture, of one figure, that is to be seen in the world. A satyr and nymph, by Hannibal Caracci; a Correggio; a Carlo Dolci. Among the statues, the Apollo, the Wrestlers, the Whetter, as it is called, the Venus rising from the bath, the Ganimede. What an amazing collection! I have been many years amusing myself with looking at the statues in England! very harmlessly: my pleasure of that kind is at end. In spite of every effort to the contrary, one cannot (unless an artist, who views not for pleasure but as a critic) help forming eternal comparisons, and viewing very coldly pieces that may perhaps have merit, but are inferior to others which have made a deep impression. But the paintings and statues in this gallery are in such profusion, that, to view them with an attention adequate to their merit, one ought to walk here two hours a day for six months. In the afternoon, waited on Signore Fabbroni, author of some works on agriculture, that have rendered him very well known, particularly a little treatise in French, entitled, *Reflexions sur l'etat actuel de l'Agriculture*, printed at Paris in 1780, which is one of the best applications of the modern discoveries in natural philosophy to agriculture, that has been attempted; it is a work of considerable merit. I had two hours very agreeable and instructive conversation with him: he is lively, has great fire and vivacity, and that va-

luable talent of thinking for himself, one of the best qualities a man can possess; without which, we are little better than horses in a team, trammelled to follow one another. He is very well instructed also in the politics of Tuscany, connected with agriculture.

The 20th. Early in the morning, by appointment to Signore Tartini, to whose attentions I am obliged, not only for a conversation on my favourite subject, but for some books of his writing, which he presented me with; among others, the *Giornale d'Agricoltura di Firenze*, which was dropped for want of encouragement. He accompanied me to Signore Lastri's, and then we went together to the æconomical garden of Signore Zucchini, for which the grand duke allows three hundred crowns a-year, besides such labour as is wanted; and the professor reads lectures in summer. The establishment of such a garden does honour to a sovereign; because it marks an attention to objects of importance. But it is greatly to be regretted they do not go one step further, and, instead of a garden, have a farm of not less than three hundred English acres; most of them are possessors of farms; a well situated one might easily be chosen, and the whole conducted at an expence that would be amply repaid by the practical benefits flowing from it. Signore Zucchini's garden is much cleaner, and in neater order than any other I have seen in Italy; but it is not easy to form experiments in a few acres, that are applicable to the improvement of a national agriculture. He is an active, animated character, attached to the pursuit (no small merit in Italy) and would make a very good use of his time, if the grand duke would do with him as the king of Naples has done by his friend Signore Balsamo, send him to practise in England. I told him so, and he liked the idea very much. We had some conversation concerning Signore Balsamo, agreeing that he had considerable talents, and great vivacity of character. I regretted that he was to stay only a year in England; but admitted, that there were few men who could make so good a use of so short a period. Signore Zucchini shewed me the MS. account of my farm, which Signore Balsamo had sent him.\* A professor of agriculture in Sicily, being sent by his sovereign, and wisely sent, to England for instruction in agriculture, appears to me to be an epoch in the history of the human mind. From that island, the most celebrated of all antiquity for fruitfulness and cultivation, on whose exuberance its neighbours depended for their bread, and whose practice the greatest nations considered as the most worthy of imitation: at a period too when we were in the woods, contemned for barbarity, and hardly considered as worth the trouble of conquering. What has effected so enormous a change? Two words explain it, we are become free, and Sicily enslaved. We were joined, at the garden, by my good friend from Milan, the Abbate Amoretti, a new circumstance of good fortune for me. To-day, in my walk in the gallery, I had some conversation with Signore Adamo Fabbroni, brother of the gentleman I mentioned before, and author also of some dissertations on agriculture; particularly *Sopra il quesito indicare le vere teori delle stime dei terreni* from which I inserted an extract in the *Annals of Agriculture*, also a *Journal of Agriculture*, published at Perugia, where he resided seven years; but as it did not succeed for more than three, he dropped it. It is remarkable how many writers on this subject there are at present at Florence: the two Fabbronis, Lastri, Zucchini, Targioni, Paoletti, whom I am to visit in the country, attended by Signore Amoretti; they say he is the most practical of all, having resided constantly on his farm. I spent an hour very agreeably, contemplating one statue to-day, namely, Bandinelli's copy of the *Laocoon*, which is a pro-

\* I fixed him in my neighbourhood in Suffolk.

duction that does honour to modern ages; I did not want this copy to remind me of another most celebrated one, and of the many very agreeable and instructive hours I have spent with its noble owner the earl of Orford.

The 21st. Signore Tartini had engaged the Abbate Amoretti, and myself, to go this day to his country seat, but it rained incessantly. The climate of Italy is such as will not make many men in love with it; on my conscience, I think that of England infinitely preferable. If there were not great powers of evaporation, it would be uninhabitable. It has rained, more or less, for five weeks past; and more, I should conceive, has fallen, than in England in a year. In the evening to the conversazione of Signore Fabbroni, where I met Signore Pella, director of the gallery; Signore Gaietano Rinaldi, director of the posts; another gentleman, administrator of the grand duke's domains, I forget his name; the Abbate Amoretti, &c. It gave me pleasure to find, that the company did not assemble in order to converse on the trivial nonsense of common topics, like so many coteries in all countries. They very readily joined in the discussions I had with Signore Fabbroni; and Signora Fabbroni herself, who has an excellent understanding, did the same. By the way, this lady is young, handsome, and well made; if Titian were alive, he might form from her a Venus not inferior to those he has immortalized on his canvas; for it is evident, that his originals were real, and not ideal beauty. Signora Fabbroni is here, but where is Titian to be found?

The 22d. In the forenoon to the conversazione of the senator Marchese Ginori, where were assembled some of the letterati, &c. of Florence; the Cavaliere Fontana, so well known in England for his eudiometrical experiments, Zucchino Lastri, Amoretti, the Marchese Pacci, who has a reputation here for his knowledge of rural affairs, Signore Pella, &c. The conversazioni are commonly in an evening, but the Marchese Ginori's is regularly once a week in a morning; this nobleman received me very politely: indeed he is famous for his attention to every object that is really of importance; converses rationally on agriculture, and has himself, many years ago, established, in the neighbourhood of Florence, one of the most considerable manufactories of porcelain that is to be found in Italy. Dine with his majesty's envoy extraordinary, lord Hervey, with a great party of English; among whom were lord and lady Elcho, and Mr. and Miss Charteris, lord Hume, Mr. and Mrs. Beckford, Mr. Digby, Mr. Tempest, Dr. Cleghorn, professor of history at St. Andrew's, who travels with lord Hume, with ten or a dozen others. I had the honour of being known to lord and lady Hervey in Suffolk, so they were not new faces to me; of the others, I had never seen any thing: the company was too numerous for a conversation, from which much was to be gained. I sat by the fellow of an English college; and my heels had more conversation with his sword than I had with its owner: when a man begins every sentence with a cardinal, a prince, or a celebrated beauty, I generally find myself in too good company; but Miss Charteris, who seems a natural character, and was at her ease, consoled me on the other side. At this dinner (which, by the way, was a splendid one) I was, according to a custom that rarely fails, the worst dressed man in the company; but I was clean, and as quietly in repose on that head, as if I had been either fine or elegant. The time was, when this single circumstance would have made me out of countenance and uneasy. Thank my stars, I have buried that folly. I have but a poor opinion of Quin, for declaring that he could not afford to go plain: he was rich enough, in wit, to have worn his breeches on his head, if he had pleased; but a man like myself, without the talent of conversation, before he has well arranged his feelings, finds relief in a good coat or a diamond ring. Lord Hervey, in the most friendly manner, desired I would make his table my own, while I was at Florence, that I should always find a cover, at three o'clock, for dinners are

not the custom here, and you will very rarely find me from home. This explains the Florentine mode of living; at Milan, great dinners are perpetual, here the nobility never give them. I have no idea of a society worth a farthing, where it is not the custom to dine with one another. Their conversazioni are good ideas, when there are no cards, but much inferior to what one has at a dinner for a select party. In England, without this, there would be no conversation; and the French custom, of rising immediately after it, which is that also of Italy, destroys, relatively to this object, the best hour in the whole day.

The 23d. To the gallery, where the horrible tale of Niobe and her children is told so terribly well in stone, as to raise in the spectator's bosom all the powers of the pathetic. The action of the miserable mother shielding the last of her children against the murdering shafts of Apollo, is inimitable; and the figure of that youngest of the children, perfection. The two figures, which strike me most, are the son who has gathered his drapery on his left arm, and the companion, a daughter, in the opposite corner. The expression of his face is in the highest perfection, and the attitude, and whole figure, though much repaired, incomparable. The daughter has gathered her drapery in one hand, behind her, to accelerate her flight; she moves against the wind, and nothing can be finer than the position and motion of the body, appearing through the drapery. There are others of the group also, of the greatest force and fire of attitude; and I am happy not to be a critic instructed enough to find, as Mons. de la Lande says, that the greatest part of the figures are bad. They certainly are not equal; they are the work of Scopas, a Greek sculptor. Dine with lord Elcho, at Meggot's hotel; lord Hume, Mr. Tempest, Mr. Tyrwhit, as well as lord Elcho's family and Dr. Cleghorn, present: some agreeable conversation; the young persons have engaged in sport to walk on foot to Rome; right—I like that. If the Italians be curious in novelty of character, the passing English are well framed to give it.

The 24th. In the morning, with Abbate Amoretti, and Signore Zucchini to the porcelain manufacture of the Marchese Ginori, four miles to the north of Florence. It is said to be in a flourishing state, and the appearance of things answers the description. It is a good fabric, and many of the forms and the designs are elegant. They work casts of all the antique statues and bronzes, some of which are well executed. Their plates are a zechin each (9s.) and a complete service, for twelve covers, 107 zechins. To the Marchese Martelli's villa; a very handsome residence. This nobleman is a friend of Signore Zucchini, and, understanding our intention, of making it a farming day as well as a manufacturing one, ordered a dinner to be prepared, and his factor to attend for giving information, apologizing for his own absence, on account of a previous engagement. We found a very handsome repast; too much for the occasion: and we drank—*alla Inglese*, success to the plough! in excellent wine. The factor then conducted us over the farm: he is an intelligent man, and answered my numerous inquiries, apparently with considerable knowledge of the subject. Returned at night to Florence.

The 25th. Early in the morning, with Signore Amoretti, to Villa Magna, seven miles to the south of Florence, to Signore Paoletti; this gentleman, cure of that parish, had been mentioned to me as the most practical writer on agriculture, in this part of Italy, having resided always in the country, and with the reputation of being an excellent farmer. We found him at home, and passed a very instructive day, viewing his farm, and receiving much information. But I must note, that to this expression, farm, must not be annexed the English idea; for Signore Paoletti's consists of three *poderi*, that is, of three houses, each with a farmer and his family, *alla meta*, who cul-

tivate the ground, and have half the produce. It is unnecessary to observe, that whenever this is the case, the common husbandry, good or bad, must be pursued. It will surprise my English readers to find, that the most practical writer at Florence, of great reputation, and very deservedly so, has no other than a metayer farm. But let it not be thought the least reflection on Signore Paoletti, since he classes in this respect, with his sovereign, whose farms are in the same regimen. Signore Paoletti's maples for vines appeared to be trained with much more attention than common in Tuscany, and his olives were in good order. This day has given me a specimen of the winter climate of Italy; I never felt such a cold piercing wind in England. Some snow fell; and I could scarcely keep myself from freezing, by walking four or five miles an hour. All water not in motion from its current or the wind, was ice; and the icicles, from the dripping springs in the hills, were two feet long. In England, when a fierce N. E. wind blows in a sharp frost, we have such weather; but, for the month of November, I believe such a day has not been felt in England since its creation. The provision of the Florentines against such weather is truly ridiculous: they have not chimnies in more than half the rooms of common houses; and those they do not use; not because they are not cold, for they go shivering about, with chattering teeth, with an idea of warmth, from a few wood ashes or embers in an earthen pan; and another contrivance for their feet to rest upon. Wood is very dear, therefore this miserable succedaneum is for œconomy. Thank God for the coal fires of England, with a climate less severe by half than that of Italy! I would have all nations love their country; but there are few more worthy of such affection than our blessed isle, from which no one will ever travel, but to return with feelings fresh strung for pleasure, and a capacity renovated by a thousand comparisons for the enjoyment of it.

The 26th. To the Palazzo Pitti. I have often read about ideal grace in painting, which I never well comprehended, till I saw the Madonna della Sedia of Raphael. I do not think either of the two figures, but particularly the child, is strictly in nature; yet there is something that goes apparently beyond it in their expression; and as passion and emotion are out of the question, it is to be resolved into ideal grace. The air of the virgin's head, and the language of the infant's eye, are not easily transfused by copyists. A group of four men at table, by Rubens, which, for force and vigour of the expression of nature, is admirable. A portrait of Paul III, by Titian, and of a Medici, by Raphael. A virgin, Jesus, and St. John, by Rubens, in which the expression of the children is hardly credible. A Magdalen, and portrait of a woman in a scarlet habit, by Titian. A copy of Corregio's holy family, at Parma, by Barrocio Cataline, a copy of Salvator Rosa, by Nicolo Cassalve; and last, not least, a marine view, by Salvator. But to enumerate such a vast profusion of fine pieces, in so many splendid apartments, is impossible; for few sovereigns have a finer palace, or better furnished. Tables inlaid, and curiosities, both here and at the gallery, abound, that deserve examination, to mark the perfection to which these arts have been carried, in a country where you do not find, in common life, a door to open without wounding your knuckles, or a window that shuts well enough to exclude the Appenine snows. The gardens of this palace contain ground that Brown would have made delicious, and many fine things that itineraries, guides, and travels dwell amply on.

The 27th. To the palace Poggio Imperiale, a country-seat of the grand duke's only a mile from Florence, which is an excellent house, of good and well proportioned rooms, neatly fitted up and furnished, with an air of comfort without magnificence, except in the article beds, which are below par. There is a fine vestibule and saloon, that, in hot weather, must be very pleasant; but our party were frozen through all

the house. Lord Hervey's rooms are warm, from carpets and good fires; but those are the only ones I have seen here. We have a fine clear blue sky and a bright sun, with a sharp frost and a cutting N. E. wind, that brings all the snow of the Alps, of Hungary, Poland, Russia, and the frozen ocean to one's sensation. You have a sun that excites perspiration, if you move fast; and a wind that drives ice and snow to your vitals. And this is Italy, celebrated by so many hasty writers for its delicious climate! To-day, on returning home, we met many carts loaded with ice, which I found, upon measure, to be four inches thick; and we are here between latitude 43 and 44. The green pease in December and January, in Spain, shew plainly the superiority of that climate, which is in the same latitude. The magnitude and substantial solidity with which the Palazzo Ricardi was built, by a merchant of the Florentine republic, is astonishing; we have, in the north of Europe (now the most commercial part of the globe) no idea of merchants being able to raise such edifices as these. The Palazzo Pitti was another instance; but as it ruined its master, it deserves not to be mentioned in this view; and there are at Florence many others, with such a profusion of churches, that they mark out the same marvellous influx of wealth, arising from trade. To a mind that has the least turn after philosophical inquiry, reading modern history is generally the most tormenting employment that a man can have; one is plagued with the actions of a detestable set of men, called conquerors, heroes, and great generals; and we wade through pages loaded with military details; but when you want to know the progress of agriculture, of commerce, and industry, their effect in different ages and nations on each other; the wealth that resulted; the division of that wealth; its employment; and the manners it produced; all is a blank. Voltaire set an example, but how has it been followed? Here is a ceiling of a noble saloon, painted by Luca Giordano, representing the progress of human life. The invention and poetry of this piece are great, and the execution such as must please every one. The library is rich; I was particularly struck with one of the rooms that contains the books, having a gallery for the convenience of reaching them, without any disagreeable effect to the eye. In England we have many apartments, the beauty of which is ruined by these galleries: this is thirty-six feet by twenty-four, within the cases, well lighted by one moderate window; and is so pleasing a room, that if I were to build a library, I would imitate it exactly. After visiting the gallery, and the Palazzo Pitti, we are naturally nice and fastidious, yet in the Palazzo Ricardi are some paintings that may be viewed with pleasure. In the evening to the conversazione of Signore Fabbroni; the assembly merits the name; for some of the best instructed people at Florence meet there, and discuss topics of importance. Signore Fabbroni is not only an œconomist, but a friend to the Tuscan mode of letting farms alla meta, which he thinks is the best for the peasants; his abilities are great; but facts are too stubborn for him.

The 29th. Churches, palaces, &c. In the afternoon to St. Firenze, to hear an oratorio. At night to a concert, given by a rich Jew on his wedding: a solo on the violin, by Nardini. Crouds; candles; ice; fruits; heat; and—so forth.

The 30th. To Signore Fabbroni, who is second in command under il Cavaliere Fontana, in the whole museum of the grand duke; he shewed me, and our party, the cabinets of natural history, anatomy, machines, pneumatics, magnetism, optics, &c. which are ranked among the finest collections in the world; and, for arrangement, or rather exhibition, exceed all of them; but note, no chamber for agriculture; no collection of machines, relative to that first of arts; no mechanics, of great talents or abilities, employed in improving, easing, and simplifying the common tools used by the hus-



bandman, or inventing new ones, to add to his forces, and to lessen the expence of his efforts! Is not this an object as important as magnetism, optics, or astronomy? Or rather, is it not so infinitely superior, as to leave a comparison absurd? Where am I to travel, to find agricultural establishments, on a scale that shall not move contempt? If I find none such in the dominions of a prince reputed the wisest in Europe, where am I to go for them?

Our Annual Register gave such an account, a few years past, of the new regulations of the grand duke, in relation to burials, that I have been anxious to know the truth, by such inquiries, on all hands, as would give me not the letter of the law only, but the practice of it. The fact, in the above-mentioned publication, was exaggerated. The bodies of all who die in a day are carried in the night, on a bier, in a linen covering (and not tumbled naked into a common cart) to the church, but without any lights or singing; there they receive benediction; thence they are moved to a house, prepared on purpose, where the bodies are laid, covered, on a marble platform, and a voiture, made for that use, removes them to the cemetery, at a distance from the city, where they are buried, without distinction, very deep, not more than two in a grave, but no coffins used. All persons, of whatever rank, are bound to submit to this law, except the archbishop, and women of religious orders. This is the regulation and the practice; and I shall freely say, that I condemn it, as an outrage on the common feelings of mankind; chiefly, because it is an unnecessary outrage, from which no use whatever flows. To prohibit lights, singing, processions, and mummery of that sort, was rational; but are not individuals to dress, and incase the dead bodies, in whatever manner they please? Why are they not permitted to send them, if they choose, privately into the country, to some other burying place, where they may rest with fathers, mothers, and other connections? Prejudices, bearing on this point, may be, if you please, ridiculous: but gratifying them, though certainly of no benefit to the dead, is, however, a consolation to the living, at a moment when consolation is most wanted, in the hour of grief and misery. Why is the impassioned and still loving husband, or the tender and feeling bosom of the father, to be denied the last rites to the corpse of a wife or a daughter, especially when such rites are neither injurious nor inconvenient to society? The regulations of the grand duke are, in part, entirely rational, and that part not in the least inconsistent with the consolation to be derived from a relaxation in some other points. But, in the name of common sense, why admit exceptions? Why is the archbishop to have this favour? Why the religious? This is absolutely destructive of the principle on which the whole is founded; for it admits the force of those prejudices I have touched on, and deems exemption from their tie as a favour! It is declaring such feelings follies, too absurd to be indulged, and, in the same breath, assigning the indulgence, as the reward of rank and purity! If the exemption be a privilege so valuable, as to be a favour proper for the first ecclesiastic, and for the religious of the sex only; you confess the observance to be directly, in such proportion, a burthen, and the common feelings of mankind are sanctioned, even in the moment of their outrage. Nothing could pardon such an edict, but its being absolutely free from all exemptions, and its containing an express declaration and ordinance to be executed, with rigour, on the bodies of the prince himself, and every individual of his family.

December 1. To the shop of the brothers Pisani, sculptors, where, for half an hour I was foolish enough to wish myself rich, that I might have bought Niobe, the gladiator, Diana, Venus, and some other casts from the antique statues. I threw away a few paols, instead of three or four hundred zechins. Before I quit Florence, I must ob-

serve, that besides the buildings and various objects I have mentioned, there are numberless, which I have not seen at all; the famous bridge Ponte della Santa Trinita deserves, however, a word: it is the origin of that at Neuville and others in France, but much more beautiful; being indeed the first in the world. The circumstance that strikes one at Florence, is the antiquity of the principal buildings; every thing one sees considerable, is of three or four hundred years standing; of new buildings, there are next to none; all here remind one of the Medicis: there is hardly a street that has not some monument, some decoration, that bears the stamp of that splendid magnificent family. How commerce could enrich it sufficiently, to leave such prodigious remains, is a question not a little curious; for I may venture, without apprehension to assert, that all the collected magnificence of the house of Bourbon, governing for eight hundred years twenty millions of people, is trivial, when compared with what the Medicis family have left, for the admiration of succeeding ages; sovereigns only of the little mountainous region of Tuscany, and with not more than one million of subjects. And if we pass on to Spain, or England, or Germany, the same astonishing contrast will strike us. Would Mr. Hope, of Amsterdam, said to be the greatest merchant in the world, be able, in this age, to form establishments, to be compared with those of the Medicis? We have merchants in London, that make twenty, and even thirty thousand pounds a year profit, but you will find them in brick cottages, for our modern London houses are no better, compared with the palaces of Florence and Venice, erected in the age of their commerce; the paintings, in the possession of our merchants, a few daubed portraits; their statues, earthen-ware figures on chimney-pieces; their libraries; their cabinets; how contemptible the idea of a comparison! It is a remarkable fact, that with this prodigious commerce and manufacture, Florence was neither so large nor so populous as at present. This is inexplicable, and demands inquiries from the historical traveller: a very useful path to be trodden by a man of abilities, who should travel for the sake of comparing the things he sees with those he reads of. Trade, in that age, must from the fewness of hands, have been a sort of monopoly, yielding immense profits. From the modern state of Florence, without one new house that rivals, in any degree, those of the fourteenth or fifteenth centuries, it might be thought, that with their commerce, the Florentines lost every sort of income; yet there is no doubt, that the revenue from land is, at this moment, greater than it was in the most flourishing age of the republic. The revenue of Tuscany is now more equally spent. The government of the grand dukes I take to have been far better than the republican, for it was not a republic equally formed from all parts of the territory, but a city governing the country, and consequently impoverishing the whole, to enrich itself, which is one of the worst species of government to be found in the world. When Italy was decorated with fine buildings, the rich nobles must have spent their incomes in raising them: at present, those of Florence have other methods of applying their fortunes; not in palaces, not in the fine arts, not in dinners; the account I received was, that their incomes are, for the greatest part, consumed by keeping great crowds of domestics; many of them married, with their families, as in Spain. The Marchese Ricardi has forty, each of which hath a family of his own, some of them under-servants, but all maintained by him. His table is very magnificent, and served with all sorts of delicacies, yet never any company at it, except the family, tutors, and chaplains. The house of Ranuzzi hath a greater fortune, and also a greater number of domestics in the same style. No dinners, as in England; no suppers, as in France; no parties; no expensive equipages; little comfort; but a great train of idle lounging pensioners, taken from useful labour, and kept from productive industry; one of the worst ways of

spending their fortunes, relatively to the public good, that could have been adopted. How inferior to the encouragement of the fine or the useful arts!

The manner in which our little party has passed their time has been agreeable enough, and wonderfully cheap: we have been very well served by a *traiteur*, with plenty of good things, well dressed, at 4 paols a head for dinner, and a slight repast at night; sugar, rum, and lemons for punch, which both French and Italians like very well, added a trifle more. These articles, and the apartment, with wood, which is dear, and the weather, as I noted, very cold, made my whole expence, exclusive of amusements, 3s. 6d. a day English, which surely is marvellously cheap; for we had generally eight or ten things for dinner, and such a desert as the season would allow, with good wine, the best I have drunk in Italy. The Abbate Amoretti, who, fortunately for me, arrived at Florence the same day as myself, was lodged with a friend, a canon, who being obliged to be absent in the country most of the time, the Abbate, to save the servants the trouble of providing for him only, joined our party, and lived with us for some days, adding to our common bank no slight capital in good sense, information, and agreeableness. Madam de Bouille's easy and unaffected character, and the good humour of the Baron, united with Mr. Stewart, and his young friend, to make a mixture of nations; of ideas; of pursuits; and of tempers, which contributed to render conversation diversified, and the topics more in contrast, better treated, and more interesting; but never one idea, or one syllable, that cast even a momentary shade across that flow of ease and good humour, which gives to every society its best relish. There was not one in the party which any of us wished out of it; and we were too much pleased with one another to want any addition. Had I not been turning my face towards my family, and the old friends I left in England, I should have quitted our little society with more pain. Half a dozen people have rarely been brought together, by such mere accident, that have better turned the little nothings of life to account (if I may venture to use the expression) by their best cement—good humour.

The 2d. The day of departure must needs give some anxiety to those who cannot throw their small evils on servants. Renew my connection with that odious Italian race, the *vetturini*. I had agreed for a *compagnon de voyage*; but was alone, which I liked much better. To step at once from an agreeable society, into an Italian *voiture* is a kind of malady which does not agree with my nerves. The best people appear but blanks at such a moment: the mind having gotten a particular impulse, one cannot so soon give it another. The inn at *Maschere*, where I found no fire, but in partnership with some Germans, did not tend much to revive cheerfulness, so I closed myself in that which *Sancho* wisely says, covers a man all over like a cloak. 18 miles.

The 3d. Dine at *Pietra Mala*, and, while the dinner was preparing, I walked to the volcano, as it is called. It is a very singular spectacle, on the slope of a mountain, without any hole or apparent crevice, or any thing that tends towards a crater; the fire burns among some stones, as if they were its fuel; the flame fills the space of a cube of about two feet, besides which there are ten or twelve smaller and inconsiderable flames. These I extinguished in the manner *Mons. de la Lande* mentions, by rubbing hard with a stick among the small stones: the flame catches again in a few moments, but in a manner that convinces me the whole is merely a vent to a current of inflammable air, which *Signore Amoretti* informed me has been lately asserted by some person who has tried experiments on it. The flame revives with small explosions, exactly like those of inflammable air fired from a small phial; and when I returned to the inn, the landlord had a bottle of it, which he burns at pleasure, to shew his guests.

The cause of this phenomenon has been sought in almost every thing but the real fact. I am surprised the fire is not applied to some use. It would boil a considerable copper constantly, without the expence of a farthing. If I had it at Bradfield, I would burn brick or lime, and boil or bake potatoes for bullocks and hogs at the same time. Why not build a house on the spot? and let the kitchen-chimney surround the flame? there would be no danger in living in such a house, certainly as long as the flame continued to burn. It is true the idea of a mine of inflammable air, just under a house, would sometimes, perhaps, alarm one's female visitors: they would be afraid of a magazine of vital air uniting with it, and at one explosion blowing up the œconomical edifice. On the whole, the idea is rather too volcanic for Bradfield: Italy has things better worth importing than burning mountains. The king of Poland's brother, the primate, stopping at Pietra Mala a day for illness (the 25th or 26th November) the weather was so severe that it froze his Cyprus wine; milk was as hard as stone, and burst all the vessels that contained it. On whatever account Englishmen may travel to Tuscany, let not a warm winter be among their inducements. Sleep at that hideous hole Loiano, which would be too bad for hogs accustomed to a clean sty. 26 miles.

The 4th. The passage of the Appenines has been a cold and comfortless journey to me, and would have been much worse, if I had not taken refuge in walking. The hills are almost covered with snow: and the road, in many descents, a sheet of ice. At the St. Marco, at Bologna, they brought me, according to custom, the book to write my name for the commandant, and there I see lady Erne and sua figlia, and Mr. Hervey, October 14. Had my stars been lucky enough to have given me more of the society of that cultivated family, during my stay in Italy, it would have smoothed some of my difficulties. I missed lord Bristol at Nice, and again at Padua. He has travelled, and lived in Italy, till he knows it as well as Derry; and, unfortunately for the society of Suffolk, ten times better than Iekworth. Call on Mr. Taylor, and find, to my great concern, two of his children very ill. Abbate Amoretti, who left Florence a few days ago, is here to my comfort; and we shall continue together till we come to Parma. This is indeed fortunate, for one can hardly wish for a better fellow-traveller. 20 miles.

The 5th. Visit the Institute, which has acquired a greater reputation than it merits: Whoever has read any thing about modern Italy, knows what it contains. I never view museums of natural history, and cabinets of machines for experimental philosophy, but with a species of disgust. I hate expence, and time thrown away for vanity and shew more than utility. A well arranged laboratory, clean, and every thing in order, in a holy-day dress, is detestable; but I found a combination of many pleasures in the disorderly dirty laboratories of Messrs. de Morveau and la Vosier. There is a face of business; there is evidently work going forwards; and if so, there is use. Why move here, and at Florence, through rooms well garnished with pneumatical instruments that are never used? Why are not experiments going forward? If the professors have not time or inclination for those experiments, which it is their duty to make, let others, who are willing, convert such machines to use. Half these implements grow good for nothing from rest; and, before they are used, demand to be new arranged. You shew me abundance of tools, but say not a word of the discoveries that have been made by them. A prince, who is at the expence of making such great collections of machines, should always order a series of experiments to be carrying on by their means. If I were grand duke of Tuscany, I should say, "You, Mr. Fontana, have invented an eudiometer; I desire that you will carry on a series of trials to ascertain every circumstance

which changes the result, in the qualities of airs, that can be ascertained by the nitrous test ; and if you have other inquiries, which you think more important, employ some person upon whom you can depend." And to Mr. John Fabbroni, "You have made five trials on the weight of geoponic soils, taken hydrostatically ; make five hundred more, and let the specimens be chosen in conjunction with the professor of agriculture. You have explained how to analyze soils, analyze the same specimens." When men have opened to themselves careers which they do not pursue, it is usually for want of the means of prosecuting them ; but in the museum of a prince ; in such cabinets as at Florence or Bologna, there are no difficulties of this sort, and they would be better employed than in their present state, painted and patched, like an opera girl, for the idle to stare at. What would a Watson, a Milner, or a Priestley say, upon a proposal to have their laboratories brushed out clean and spruce ? I believe they would kick out the operator who came on such an errand. In like manner, I hate a library well gilt, exactly arranged, and not a book out of its place ; I am apt to think the owner better pleased with the reputation of his books, than with reading them. Here is a chamber for machines applicable to mechanics ; and the country is full of carts, with wheels two feet high, with large axles ; what experiments have been made in this chamber to inform the people on a point of such consequence to the conduct of almost every art ? I have, however, a greater quarrel than this with the Institute. There is an apartment of the art of war and fortification. Is there one of the machines of agriculture, and of such of its processes as can be represented in miniature ? No : nor here, nor any where else have I seen such an exhibition ; yet in the king's library at Paris, the art of English gardening is represented in wax-work ; and makes a play thing pretty enough for a child to cry for. The attention paid to war, and the neglect of agriculture in this Institute, gives me a poor opinion of it. Bologna may produce great men, but she will not be indebted for them to this establishment. View some churches and palaces, which I did not see when here before. In the church of St. Dominico, a slaughter of the Innocents, by Guido, which will command attention, how little inclined soever you may be to give it. The mother and the dead child, in the fore-ground, are truly pathetic, and the whole piece finely executed. The number of highly decorated churches at Bologna is surprising. They count, I think, above an hundred ; and all the towns, and many villages in Italy, offer the same spectacle ; the sums of money invested in this manner in the fifteenth and sixteenth centuries, and some even in the seventeenth, are truly amazing ; the palaces were built at the same time, and at this period all the rest of Europe was in a state of barbarism : national wealth must have been immense, to have spared such an enormous superfluity. This idea recurs every where in Italy, and wants explanation from modern historians. The Italian republics had all the trade of Europe ; but what was Europe in that age ? England and Holland have had it this age without any such effects ; with us architecture takes quite a different turn ; it is the diffusion of comfort in the houses of private people ; not concentrated magnificence in public works. But there does not appear, from the size and number of the towns in Italy, built in the same ages, to have been any want of this ; private houses were numerous and well erected. A difference in manners, introducing new and unheard of luxuries, has probably been the cause of the change. In such a diary as this, one can only touch on a subject ; but the historians should dwell on them, rather than on battles and sieges.

The 6th. Left Bologna, with Abbate Amoretti, in a vettura, but the day so fine and frosty, that we walked three-fourths of the way to Modena. Pass Ansolazeti, the seat of the Marchese Abbergatti, who, after having passed his grand climacteric, has just

married a ballarina, of seventeen. The country to Modena is the same as the flat part of the Bolognese; it is all a dead level plain, inclosed by neatly wrought hedges against the road, with a view of distinguishing properties. I thought, on entering the Modenese dominions, across the river that I observed rather a decline in neatness and good management. View the city; the streets are of a good breadth, and most of the houses with good fronts, with a clean painted or well washed face, the effect pleasing. In the evening to the theatre, which is of the oddest form I have seen. We had a hodge-podge of a comedy, in which the following passage excited such an immoderate laugh, that it is worth inserting, if only to shew the taste of the audience, and the reputation of the ballarin; "Era un cavallo si bello, si svelto, si agile, di bel petto, gambe ben fatte, groppa grossa, che se fosse stato una cavalla, converebbe dire che l'anima della prima ballerina del teatro transmigrata in quella." Another piece of miserable wit was received with as much applause as the most sterling: Arlech. "Chi e quel re che ha la piu gran corona del mondo?" Brighel. "Quello che ha la testa piu piccola." 24 miles.

The 7th. To the ducal palacc, which is a magnificent building, and contains a considerable collection of pictures, yet a melancholy remnant of what were once here. The library, celebrated for its contents, is splendid; we were shewn the curious MS. of which there is an account in De la Lande. The bible made for the D'Este family is beautifully executed, begun in 1457, and finished in 1463, and cost 1875 zechins. In the afternoon, accompanied the abbate Amoretto to Signore Belentani; and in the evening to Signore Venturi, professor of physics in the university, with whom we spent a very agreeable and instructive evening. We debated on the propriety of applying some political principles to the present state of Italy: and I found, that the professor had not only considered the subjects of political importance, but seemed pleased to converse upon them.

The 8th. Early in the morning to Reggio. This line of country appears to be one of the best in Lombardy; there is a neatness in the houses, which are every where scattered thickly, that extends even to the homesteads and hedges, to a degree that one does not always find, even in the best parts of England; but the trees that support the vines being large, the whole has now, without leaves, the air of a forest. In summer it must be an absolute wood. The road is a noble one. Six miles from Modena, we passed the Secchia, or rather the vale ruined by that river, near an unfinished bridge, with a long and noble causeway leading to it on each side, which does honour to the duke and states of Modena. It being a festa (the immaculate conception) we met the country people going to mass; the married women had all muffs, which are here wedding presents. Another thing I observed, for the first time, were children standing ready in the road, or running out of the houses, to offer, as we were walking, asses to ride: they have them always saddled and bridled, and the fixed price is 1 sol per mile. This shews attention and industry, and is therefore commendable. A countryman, who had walked with us for some distance, replied to them, that we were not Signora d'asini. In the afternoon to Parma. The country the same, but not with that air of neatness that is between Reggio and Modena: not so well inclosed, nor so well planted; and though very populous, not so well built, nor the houses so clean and neat. Pass the Eusa, a poor miserable brook, now three yards wide, but a bridge for it a quarter of a mile long, and a fine vale, all destroyed by its ravages; this is the boundary of the two duchies. 30 miles.

The 9th. At the academy is the famous picture of the holy family and St. Jerome, by Correggio, a master more inimitable perhaps than Raphael himself. To my unlearned eyes, there is in this painting such a suffusion of grace, and such a blaze of beauty,

as strike me blind (to use another's expression) to all defects which learned eyes have found in it. I have admired this piece often in Italy in good copies, by no ordinary masters, but none come near the original. The head of the Magdalen is reckoned the chef d'œuvre of Correggio. The celebrated cupola of the Duomo is so high, so much damaged, and my eyes so indifferent, that I leave it for those who have better. At St. Sepolcro, St. Joseph gathering palms, &c. by the same great hand. There are works by him also in the church of St. John, but not equally beautiful, and a copy of his famous *Notte*. At the academy is a fine adoration, by Mazzola. The great theatre here is the largest in the world. In the afternoon to the citadel; but its governor, count Rezzonico, to whom I had a letter, is absent from Parma. Then to the celebrated reale tipografia of Signore Bodoni, who shewed me many works of singular beauty. The types, I think, exceed those of Didot at Paris, who often crowds the letters close, as if to save paper. The *Daphne* and *Chloe*, and the *Amynta*, are beautifully executed; I bought the latter as a specimen of this celebrated press, which really does honour to Italy. Signore Bodoni had the title of the printer to the king of Spain, but never received any salary or even gratification, as I learned in Parma from another quarter; where I was also informed, that the salary he has from the duke is only 150 zechins. His merit is great and distinguished, and his exertions are uncommon. He has thirty thousand matrices of type. I was not a little pleased to find, that he has met with the best sort of patron in Mr. Edwards, the bookseller, at London, who has made a contract with him for an impression of two hundred and fifty of four Greek poets, four Latin, and four Italian ones; Pindar, Sophocles, Homer, and Theocritus; Horace, Virgil, Lucretius, and Plautus; Dante, Petrarca, Ariosto, and Tasso. In searching booksellers' shops for printed agriculture, I became possessed of a book which I consider as a real curiosity; "*Diario di Colorno per l'anno 1789*," preceded by a sermon on this text, *Ut seductores et veraces: Corinth. cap. vi. ver. 8.* The diary is a catalogue of saints, with the chief circumstances of their lives, their merits, &c. This book, which is put together in the spirit of the tenth century, is (marvellously be it spoken!) the production of the duke of Parma's pen. The sovereign, for whose education a constellation of French talents was collected; with what effect let this production witness. Instead of profanely turning friars out of their convents, this prince has peopled his palace with monks; and the holy office of inquisition is found at Parma, instead of an academy of agriculture. The duchess has her amusements, as well as her husband: doubtless they are more agreeable, and more in unison with the character and practice of this age. The memoirs of the court of Parma, both during the reigns of Don Philip and the present duke, whenever they are published, for written I should suppose they must be, will make a romance as interesting as any that fiction has produced. If I lived under a government that had the power of fleecing me to support the extravagances of a prince, in the name of common feelings, let it be to fill a palace with mistresses, rather than with monks. For half a million of French livres, the river Parma might be made navigable from the Po: it has been more than once mentioned; but the present duke has other and more holy employments for money; Don Philip's were not so directly aimed at the gates of Paradise.

The 10th. In the morning, walked with Signore Amoretti to Vicomero, seven miles north of Parma towards the Po, the seat of the count de Schaffienatti. For half the way, we had a fine clear frosty sun-shine, which shewed us the constant fog that hangs over the Po; but a slight breeze from the north rising, it drove this fog over us, and changed the day at once. It rarely quits the Po, except in the heat of the day in fine weather in summer, so that when you are to the south of it, with a clear view of the

Appenines, you see nothing of the Alps; and when to the north of it, with a fine view of the latter, you see nothing of the Appenines. Commonly it does not spread more than half a mile on each side wider than the river, but varies by wind, as it did to-day. The country, for four miles, is mostly meadow, and much of it watered; but then becomes arable. Entered the house of a metayer, to see the method of living, but found nobody; the whole family, with six or eight women and children, their neighbours, were in the stable, sitting on forms fronting each other in two lines, on a space paved and clean, in the middle of the room, between two rows of oxen and cows: it was most disagreeably hot on entering. They stay there till they go to bed, sometimes till midnight. This practice is universal in Lombardy. Dine with the count de Schaffienatti, who lives entirely in the country with his wife. He shewed me his farm, and I examined his dairy, where cheeses are made nearly in the same way, and with the same implements as in the Lodesan; these cheeses may therefore, with as much propriety, be called Parmesan, as those that come from Lodi. My friend, the Abbate Amoretti, having other engagements in this country, I here took leave of him with regret. 14 miles.

The 11th. Having agreed with a vetturino to take me to Turin, and he not being able to procure another passenger, I went alone to Firenzola. It is fine sun-shine weather, decisively warmer than ever felt in England at this season: a sharp frost, without affecting the extremities as with us, where cold fingers and toes may be classed among the nuisances of our climate. I walked most of the way. The face of the country is the same as before, but vines decrease after Borgo St. Donnino. An inequality in the surface of the country begins also to appear, and every where a scattering of oak timber, which is a new feature. 20 miles.

The 12th. Early in the morning to Piacenza, that I might have time to view that city, which, however contains little worthy of attention. The country changed a good deal to-day. It is like the flat rich parts of Essex and Suffolk. Houses are thinner, and the general face inferior. The inequalities which began yesterday increase. The two equestrian statues of Alexander and Rannutio Farnese, are finely expressive of life; the motion of the horses, particularly that of Alexander's, is admirable; and the whole performance spirited and alive. They are by John of Bologna, or Moca his eleve. Sleep at Castel St. Giovanne. 26 miles.

The 13th. Cross a brook two miles distant, and enter the king of Sardinia's territory, where the skulls of two robbers, who, about two months ago, robbed the courier of Rome, are immediately seen: this is an agreeable object, that strikes us at our entrance into any part of the Piedmontese dominions; the inhabitants having in this respect an ill reputation throughout all Italy, much to the disgrace of the government. The country, to Tortona, is all hill and dale; and being cultivated, with an intermixture of vines, and much inclosed, with many buildings on the hills, the features are so agreeable, that it may be ranked among the most pleasing I have seen in Italy. Within three miles of Voghera, all is white with snow, the first I have seen in the plain; but as we approach the mountains, shall quit it no more till the Alps are crossed. Dine at Voghera, in a room in which the chimney does not smoke; which ought to be noted, as it is the only one free from it since I left Bologna. At this freezing season, to have a door constantly open to aid the chimney in its office; one side burnt by the blaze of a faggot, and the other frozen by a door that opens into the yard, are among the agrements of a winter journey in lat. 45. After Voghera the hills tend more to the south. The sun setting here is a singular object to an eye used only to plains. The Alps not being visible, it seems to set long before it reaches the plane of the horizon. Pass the citadel of



Tortona on a hill, one of the strongest places in the possession of the king of Sardinia. 33 miles.

The 14th. Ford the Scrivia; it is as ravaging a stream as the Trebbia, subject to dreadful floods, after even two days rain; especially if a Scirocco wind melts the snow on the Appenines: such accidents have often kept travellers four, five, and even six days at miserable inns. I felt myself lighter for the having passed it; for there were not fewer than six or seven rivers, which could have thus stopped me. This is the last. The weather continues sharp and frosty, very cold, the ice five inches thick, and the snow deep. Dine at Alexandria, joined there by a gentleman who has taken the other seat in the vettura to Turin. Just on the outside of that town, there is an uncommon covered bridge. The citadel seems surrounded with many works. Sleep at Fellisham, a vile dirty hole, with paper windows, common in this country, and not uncommon even in Alexandria itself. 18 miles.

The 15th. The country, to Asti and Villanova, all hilly, and some of it pleasing. Coming out of Asti, where we dined, the country for some miles is beautiful. My vetturino has been travelling in company with another, without my knowing any thing of the master till to-day; but we joined at dinner, and I found him a very sensible agreeable Frenchman, apparently a man of fashion, who knows every body. His conversation, both at dinner, and in the evening, was no inconsiderable relief to the dullness of such a frozen journey. His name Nicolay. 22 miles.

The 16th. To Turin, by Moncallier; much of the country dull and disagreeable; hills without landscape; and vales without the fertility of Lombardy. My companion, who is in office as an architect to the king, as well as I could gather from the hints he dropped, lived nine years in Sardinia. The account he gives of that island, contains some circumstances worth noting. What keeps it in its present unimproved situation, is chiefly the extent of estates, the absence of some very great proprietors, and the inattention of all. The duke of Assinara has 300,000 livres a year, or 15,000*l.* sterling. The duke of St. Piera 160,000. The Marchese di Pascha, very great. Many of them live in Spain. The Conte de Girah, a grandee of Spain has an estate of two days journey, reaching from Poula to Oliustre. The peasants are a miserable set, that live in poor cabins, without other chimnies than a hole in the roof to let the smoke out. The intemperia is frequent and pernicious every where in summer; yet there are very great mountains. Cattle have nothing to eat in winter, but brouzing on shrubs, &c. There are no wolves. The oil so bad as not to be eatable. Some wine almost as good as Malaga, and not unlike it. No silk. The great export is wheat, which has been known to yield forty for one; but seven or eight for one is the common produce. Bread, 1*s.* the pound; beef, 2*s.*; mutton, 2½*s.* There are millions of wild ducks; such numbers, that persons fond of shooting have gone thither merely for the incredible sport they afford.

The 17th. Waited on our ambassador, the honourable Mr. Trevor, who was not at home; but I had an invitation to dinner soon after, which I accepted readily, and passed a very pleasant day. Mr. Trevor's situation is not compatible with his being a practical farmer; but he is a man of deep sense, and much observation; all such are political farmers, from conviction of the importance of the subject. He converses well on it; Mr. Trevor mentioned some Piedmontese nobles, to whom he would have introduced me, if my stay had been long enough; but he would not admit an excuse respecting the Portuguese ambassador, of whom he speaks as a person remarkably well informed; and who loves agriculture greatly. In the evening accompanied Mrs. Trevor to the great

opera house; a rehearsal of *l'Olympiade*, new-set by a young composer, Frederici; Marchese sung.

The 18th. I am not a little obliged to Mr. Trevor for introducing me to one of the best informed men I have any where met with, Don Roderigo de Souza Continho, the Portuguese minister at the court of Turin, with whom I dined to-day; he had invited to meet me the Medico Bonvicino, *l'Abbate Vasco*, author of several political pieces of merit, and Signore Bellardi, a botanist of considerable reputation, whom I had known before at Turin. What the young and beautiful Madame de Souza thinks of an English farmer, may be easily guessed; for not one word was spoken in an incessant conversation, but on agriculture, or those political principles which tend to cherish or restrain it. To a woman of fashion in England this would not appear extraordinary, for she now and then meets with it; but to a young Piedmontese, unaccustomed to such conversations, it must have appeared odd, uninviting, and unpolite. M. de Souza sent to the late prince of Brazil, one of the best and most judicious offerings that any ambassador ever made to his sovereign; Portugal he represents as a country capable of vast improvements by irrigation, but almost an entire stranger to the practice; therefore, with a view of introducing a knowledge of its importance, he ordered a model, in different woods, to be constructed of a river; the method of taking water from it; and the conducting of it by various channels over the adjoining or distant lands, with all the machinery used for regulating and measuring the water. It was made on such a scale, that the model was an exhibition of the art, so far as it could be represented in the distribution of water. It was an admirable thought, and might have proved of the greatest importance to his country. This machine is at Lisbon; and, I take it for granted, is there considered (if Lisbon be like other courts) as a toy for children to look at, instead of a school for the instruction of a people. I was pleased to find the Portuguese minister among the most intimate acquaintances of Mr. Trevor; the friendship of men of parts and knowledge, does them reciprocal honour: I am sorry to quit Turin, just as I am known to two men who would be sufficient to render any town agreeable; nor should I be sorry if Don Roderigo was a farmer near me in Suffolk, instead of being an ambassador at Turin, for which he is doubtless much obliged to me.

The 19th. The king has sent a message to the Academy of Sciences, recommending them to pay attention to whatever concerns dying. The minister is said to be a man of abilities, from which expression, in this age, we are to understand, a person who is, or seems to be active for the encouragement of manufactures and commerce, but never one who has just ideas on the importance of agriculture in preference to all other objects. To multiply mulberries in Piedmont, and cattle and sheep in Savoy; to do something with the fertile wastes and pestiferous marshes of Sardinia, would give a minister reputation among the few real politicians only in any country: but dying, and buttons,\* and scissors, and commerce, are calculated to please the many, and consequently to give reputation to those who build on such foundations. Dine with Mr. Trevor, and continue to find in him an equal ability and inclination to answer such of my inquiries as I took the liberty of troubling him with. In the evening he introduced me to count Granari, the secretary of state for home affairs, that is the prime minister, under an idea that he had an intention of introducing Spanish sheep: he was ambassador in Spain, and seems, from his conversation, well informed concerning the Spanish flocks. This minister was called home to fill his present important situation, to the satisfaction of the people, who have

\* See Milan.

very generally a good opinion of his ability and prudence. To-morrow I leave Turin : I have agreed with a vetturino for carrying me to Lyons across Mont Cenis, in a chariot, and allowed him to take another person: this person he has found; and it is Mr. Grundy, a considerable merchant of Birmingham, who is on his return from Naples.

The 20th. Leave Turin; dine at St. Anthony, like hogs; and smoked all the dinner like hams. Sleep at Suza, a better inn. 32 miles.

The 21st. The shortest day in the year, for one of the expeditions that demand the longest, the passage of Mont Cenis, about which so much has been written. To those who, from reading, are full of expectation of something very sublime, it is almost as great a delusion as is to be met with in the regions of romance: if travellers are to be believed, the descent, rammassant on the snow, is made with the velocity of a flash of lightning; I was not fortunate enough to meet with any thing so wonderful. At the grande croix we seated ourselves in machines of four sticks, dignified with the name of traineau: a mule draws it, and a conductor, who walks between the machine and the animal, serves chiefly to kick the snow into the face of the rider. When arrived at the precipice, which leads down to Lanebourg, the mule is dismissed, and the rammassing begins. The weight of two persons, the guide seating himself in the front, and directing it with heels in the snow, is sufficient to give it motion. For most of the way he is content to follow very humbly the path of the mules, but now and then crosses to escape a double, and in such spots the motion is rapid enough, for a few seconds, to be agreeable; they might very easily shorten the line one half, and by that method gratify the English with the velocity they admire so much. As it is at present, a good English horse would trot as fast as we rammassed. The exaggerations we have read of this business have arisen, perhaps, from travellers passing in summer, and relying on the descriptions of the muleteers. A journey on snow is commonly productive of laughable incidents; the road of the traineau is not wider than the machine, and we were always meeting mules, &c. It was sometimes, and with reason, a question who should turn out; for the snow being ten feet deep, the mules had sagacity to consider a moment before they buried themselves. A young Savoyard female, riding her mule, experienced a complete reversal; for attempting to pass my traineau, her beast was a little restive, and tumbling, dismounted his rider: the girl's head pitched in the snow, and sunk deep enough to fix her beauties in the position of a forked post; and the wicked muleteers, instead of assisting her, laughed too heartily to move: if it had been one of the ballerine, the attitude would not have been distressing to her. These laughable adventures, with the gilding of a bright sun, made the day pass pleasantly; and we were in good humour enough to swallow with cheerfulness, a dinner at Lanebourg, that, had we been in England, we should have consigned very readily to the dog-kennel. 20 miles.

The 22d. The whole day we were among the high Alps. The villages are apparently poor, the houses ill built, and the people with few comforts about them, except plenty of pine wood, the forests of which harbour wolves and bears. Dine at Modane, and sleep at St. Michel. 25 miles.

The 23d. Pass St. Jean Maurienne, where there is a bishop, and near that place we saw what is much better than a bishop, the prettiest, and indeed the only pretty woman we saw in Savoy; on inquiry, found it was Madame de la Coste, wife of a farmer of tobacco; I should have been better pleased if she had belonged to the plough. The mountains now relax their terrific features: they recede enough, to offer to the willing industry of the poor inhabitants something like a valley; but the jealous torrent seizes it with the hand of despotism, and like his brother tyrants, reigns but to destroy. On

some slopes vines : mulberries begin to appear ; villages increase ; but still continue rather shapless heaps of inhabited stones than ranges of houses ; yet in these homely cots, beneath the snow-clad hills, where natural light comes with tardy beams, and art seems more sedulous to exclude than admit it, peace and content, the companions of honesty, may reside ; and certainly would, were the penury of nature the only evil felt ; but the hand of despotism may be more heavy. In several places the view is picturesque and pleasing : inclosures seem hung against the mountain sides, as a picture suspended to the wall of a room. The people are in general exceedingly ugly and dwarfish. Dine at La Chambre ; sad fare. Sleep at Augebelle. 30 miles.

The 24th. The country to-day, that is to Chambéry, improves greatly ; the mountains, though high, recede ; the vallies are wide, and the slopes more cultivated ; and towards the capital of Savoy, are many country houses which enliven the scene. Above Mal Taverner is Chateauneuf, the house of the countess of that name. I was sorry to see, at the village, a carcan, or seigneurial standard, erected, to which a chain and heavy iron collar are fastened, as a mark of the lordly arrogance of the nobility, and the slavery of the people. I asked why it was not burned, with the horror it merited ? The question did not excite the surprise I expected, and which it would have done before the French revolution. This led to a conversation, by which I learned, that in the haut Savoy, there are no seigneurs, and the people are generally at their ease ; possessing little properties, and the land in spite of nature, almost as valuable as in the lower country, where the people are poor, and ill at their ease. I demanded why ? Because there are seigneurs every where. What a vice is it, and even a curse, that the gentry, instead of being the cherishers and benefactors of their poor neighbours, should thus, by the abomination of feudal rights, prove mere tyrants ? Will nothing but revolutions, which cause their chateaux to be burnt, induce them to give to reason and humanity, what will be extorted by violence and commotion ? We had arranged our journey to arrive early at Chambéry, for an opportunity to see what is most interesting in a place that has but little. It is the winter residence of almost all the nobility of Savoy. The best estate in the duchy is not more than 60,000 Piedmontese livres a year (3000*l.*) but for 20,000 livres they live en grand seigneur here. If a country gentleman have 150 louis d'or a year, he will be sure to spend three months in a town ; the consequence of which must be, nine uncomfortable ones in the country, in order to make a beggarly figure the other three in town. These idle people are this Christmas disappointed, by the court having refused admittance to the usual company of French comedians ; the government fears importing among the rough mountaineers the present spirit of French liberty. Is this weakness or policy ? But Chambéry had objects to me more interesting. I was eager to view Charmettes, the road, the house of Madame Warens, the vineyard, the garden, every thing, in a word, that had been described by the inimitable pencil of Rousseau. There was something so deliciously amiable in her character, in spite of her frailties ; her constant gaiety and good humour ; her tenderness and humanity ; her farming speculations ; but, above all other circumstances, the love of Rousseau, have written her name amongst the few whose memoirs are connected with us, by ties more easily felt than described. The house is situated about a mile from Chambéry, fronting the rocky road which leads to that city, and the wood of chesnuts in the valley. It is small, and much of the same size as we should suppose, in England, would be found on a farm of one hundred acres, without the least luxury or pretension ; and the garden, for shrubs and flowers, is confined, as well as unassuming. The scenery is pleasing, being so near a city, and yet, as he observes, quite sequestered. It could not but interest me, and I

viewed it with a degree of emotion; even in the leafless melancholy of December it pleased. I wandered about some hills, which were assuredly the walks he has so agreeably described. I returned to Chambery, with my heart full of Madame de Warens. We had with us a young physician, a Monsieur Bernard, of Modanne en Maurienne, an agreeable man, connected with people at Chambery; I was sorry to find, that he knew nothing more of the matter, than that Madame de Warens was certainly dead. With some trouble I procured the following certificate:

*Extract from the Mortuary Register of the Parish Church of St. Peter de Lemens.*

“The 30th of July was buried, in the burying ground of Lemens, Dame Louisa Frances Eleonor de la Tour, widow of the Seigneur Baron de Warens, native of Vevay, in the canton of Berne, in Switzerland, who died yesterday, at ten in the evening, like a good Christian, and fortified with her last sacraments, aged about sixty-three years. She abjured the Protestant religion about thirty-six years past; since which time she lived in our religion. She finished her days in the suburb of Nesin, where she had lived for about eight years, in the house of M. Crepine. She lived heretofore at the Rectus, about four years in the house of the Marquis d’Alinge. She passed the rest of her life, since her abjuration, in this city. (Signed) GAIME, rector of Lemens.”

“I, the underwritten, present rector of the said Lemens, certify, that I have extracted this from the mortuary register of the parish church of the said place, without any addition or diminution whatsoever; and, having collated it, have found it conformable to the original. In witness of all which, I have signed the present at Chambery, the 24th of December, 1789. (Signed) A. SACHOD, rector of Lemens.”

23 miles.

The 25th. Left Chambery much dissatisfied, for want of knowing more of it. Rousseau gives a good character\* of the people, and I wished to know them better. It was the worst day I have known, for months past, a cold thaw, of snow and rain; and yet in this dreary season, when nature so rarely has a smile on her countenance, the environs were charming. All hill and dale, tossed about with so much wildness, that the features are bold enough for the irregularity of a forest scene; and yet withal, softened and melted down by culture and habitation, to be eminently beautiful. The country inclosed to the first town in France, Pont Beauvoisin, where we dined and slept. The passage of Echelles, cut in the rock by the sovereign of the country, is a noble and stupendous work. Arrive at Pont Beauvoisin, once more entering this noble kingdom, and meeting with the cockades of liberty, and those arms in the hands of the people, which, it is to be wished, may be used only for their own and Europe’s peace. 24 miles.

The 26th. Dine at Tour du Pin, and sleep at Verpilliere. This is the most advantageous entrance into France, in respect of beauty of country. From Spain, England, Flanders, Germany, or Italy by way of Antibes, all are inferior to this. It is really beautiful, and well planted, has many inclosures and mulberries, with some vines. There is hardly a bad feature, except the houses; which, instead of being well built, and white as in Italy, are ugly thatched mud cabins, without chimnies, the smoke issuing at a hole in the roof, or at the windows. Glass seems unknown; and there is an air of poverty and misery about them quite dissonant to the general aspect of the country.

\* S’il est une petite ville au monde ou l’on goute la douceur de la vie dans un commerce agreable & sur, c’est Chambery.

a mode of travelling which I detest, but the season urged me to it; and a still stronger motive, was the having of more time to pass in that city, for the sake of observing the extraordinary state of things—of a king, queen, and dauphine of France, actual prisoners; I therefore accepted his proposal, and we set off after dinner to-day. In about ten miles come to the mountains. The country dreary; no inclosures, no mulberries, no vines, much waste, and nothing that indicates the vicinity of such a city. At Arnas, sleep at a comfortable inn. 17 miles.

The 30. Continue early in the morning to Tarar; the mountain of which name is more formidable in reputation than in reality. To St. Syphorien the same features. The buildings increase, both in number and goodness, on approaching the Seine, which we crossed at Roanc; it is here a good river, and is navigable many miles higher, and consequently at a vast distance from the sea. There are many flat bottomed barges on it, of a considerable size. 50 miles.

The 31st. Another clear, fine, sun-shine day; rarely do we see any thing like it at this season in England. After Droiturier, the woods of the Bourbonnois commence. At St. Gerund le Puy the country improves, enlivened by white houses and chateaux and all continues fine to Moulins. Sought here my old friend, Mons. L'Abbe Barut, and had another interview with Mons. le Marquis Degouttes, concerning the sale of his chateau and estate of Riaux; I desired still to have the refusal of it, which he promised me, and will, I have no doubt, keep his word. Never have I been so tempted on any occasion, as with the wish of possessing this agreeable situation, in one of the finest parts of France, and in the finest climate of Europe. God grant, that, should he be pleased to protract my life, I may not, in a sad old age, repent of not closing at once with an offer to which prudence calls, and prejudice only forbids! Heaven send me ease and tranquillity, for the close of life, be it passed either in Suffolk, or the Bourbonnois! 38 miles.

January 1, 1790. Nevers makes a fine appearance, rising proudly from the Loire; but, on the first entrance, it is like a thousand other places. Towns, thus seen, resemble a group of women, huddled close together: you see their nodding plumes and sparkling gems, till you fancy that ornament is the herald of beauty; but, on a nearer inspection, the faces are too often but common clay. From the hill that descends to Pouges, is an extensive view to the north; and after Pouilly a fine scenery, with the Loire doubling through it. 75 miles.

The 2d. At Briare, the canal is an object that announces the happy effects of industry. There we quit the Loire. The country all the way diversified; much of it dry, and very pleasant, with rivers, hills, and woods, but almost every where a poor soil. Pass many chateaux, some of which are very good. Sleep at Nemours, where we meet with an inn-keeper, who exceeded, in knavery, all we had met with, either in France or Italy: for supper, we had a soupe maigre, a partridge and a chicken roasted, a plate of celery, a small cauliflower, two bottles of poor vin du Pays, and a desert of two biseuits and four apples: here is the bill: Potage, 1 liv. 10s. Perdrix, 2 liv. 10s. Poulet, 2 liv. Celeri, 1 liv. 4s. Chouffeur, 2 liv. Pain et desert, 2 liv. Feu & apartment; 6 liv. Total, 19 liv. 8s. Against so impudent an extortion we remonstrated severely, but in vain. We then insisted on his signing the bill, which after many evasions, he did, a l'etoile; Foulliare. But having been carried to the inn, not as the star, but the ceu de France, we suspected some deceit; and going out to examine the premises, we found the sign to be really the ecu, and learned, on inquiry, that his own name was Roux, instead of Foulliare: he was not prepared for this detection, or for the execration we poured on such an infamous conduct: but he ran away in an instant, and hid

himself till we were gone. In justice to the world, however, such a fellow ought to be marked out. 60 miles.

The 3d. Through the forest of Fontainebleau, to Melun and Paris. The 60 postes from Lyons to Paris, making three hundred English miles, cost us, including 3 louis for the hire of the post-chaise (an old French cabriolet of two wheels) and the charges at the inns, &c. 5l. English; that is to say, 1s. per English mile, or 6d. per head. At Paris, I went to my old quarter, the hotel de la Rouchefoucauld; for at Lyons I had received a letter from the duke de Liancourt, who desired me to make his house my home, just as in the time of his mother, my much lamented friend, the duchess d'Estissac, who died while I was in Italy. I found my friend Lazowski well, and we were a gorge deployee, to converse on the amazing scenes that have taken place in France since I left Paris. 46 miles.

The 4th. After breakfast, walk in the gardens of the Thuilleries, where there is the most extraordinary sight that either French or English eyes could ever behold at Paris. The king, walking with six grenadiers of the milice bourgeoise, with an officer or two of his household, and a page. The doors of the gardens are kept shut in respect to him, in order to exclude every body but deputies, or those who have admission-tickets. When he entered the palace, the doors of the gardens were thrown open for all without distinction, though the queen was still walking with a lady of her court. She also was attended so closely by the gardes bourgeoises, that she could not speak but in a low voice, without being heard by them. A mob followed her, talking very loud, and paying no other apparent respect than that of taking off their hats wherever she passed, which was indeed more than I expected. Her majesty does not appear to be in health; she seems to be much affected, and shews it in her face; but the king is as plump as ease can render him. By his orders, there is a little garden railed off, for the dauphin to amuse himself in, and a small room is built in it to retire to in case of rain; here he was at work with his little hoe and rake, but not without a guard of two grenadiers. He is a very pretty good-natured looking boy, of five or six years old, with an agreeable countenance; wherever he goes, all hats are taken off to him, which I was glad to observe. All the family being kept thus close prisoners (for such they are in effect) afford, at first view a shocking spectacle; and is really so, if the act were not effectually necessary to effect the revolution; this I conceive to be impossible; but if it were necessary, no one can blame the people for taking every measure possible to secure that liberty they had seized in the violence of a revolution. At such a moment, nothing is to be condemned but what endangers the national freedom. I must, however, freely own, that I have my doubts whether this treatment of the royal family can be justly esteemed any security to liberty; or, on the contrary, whether it were not a very dangerous step, that exposes to hazard whatever had been gained. I have spoken with several persons to-day, and have stated objections to the present system, stronger even than they appear to me, in order to learn their sentiments; and it is evident, they are at the present moment under an apprehension of an attempt towards a counter-revolution. The danger of it very much, if not absolutely, results from the violence which has been used towards the royal family. The national assembly was, before that period, answerable only for the permanent constitutional laws passed for the future: since that moment, it is equally answerable for the whole conduct of the government of the state, executive as well as legislative. This critical situation has made a constant spirit of exertion necessary amongst the Paris militia. The great object of M. La Fayette, and the other military leaders, is to improve their discipline, and to bring them into such a form as to allow a rational dependence on them, in case of their being wanted in the field; but such is the spirit of

freedom, that, even in the military, there is so little subordination, that a man is an officer to day, and in the ranks to-morrow; a mode of proceeding, that makes it the more difficult to bring them to the point their leaders see necessary. Eight thousand men in Paris may be called the standing army, paid every day 15s. a man; in which number is included the corps of the French guards from Versailles, that deserted to the people; they have also eight hundred horse, at an expence each of 1500 livres (62l. 15s. 6d.) a-year, and the officers have double the pay of those in the army.

The 5th. Yesterday's address of the national assembly to the king has done them credit with every body. I have heard it mentioned by people of very different opinions, but all concur in commending it. It was upon the question of naming the annual sum which should be granted for the civil list. They determined to send a deputation to his majesty, requesting him to name the sum himself, and praying him to consult less his spirit of œconomy, than a sense of that dignity which ought to environ the throne with a becoming splendour. Dine with the duke de Liancourt, at his apartments in the Thuilleries, which, on the removal from Versailles, were assigned to him as grand master of the wardrobe; he gives a great dinner, twice a week, to the deputies, at which from twenty to forty are usually present. Half an hour after three was the hour appointed, but we waited, with some of the deputies that had left the assembly, till seven, before the duke and the rest of the company came.

There is in the assembly at present a writer of character, the author of a very able book, which led me to expect something much above mediocrity in him; but he is made of so many pretty littlenesses, that I stared at him with amazement. His voice is that of a feminine whisper, as if his nerves would not permit such a boisterous exertion as that of speaking loud enough to be heard; when he breathes out his ideas, he does it with eyes half closed; waves his head in circles, as if his sentiments were to be received as oracles: and has so much relaxation and pretension to ease and delicacy of manner, with no personal appearance to second these prettinesses, that I wondered by what artificial means such a mass of heterogeneous parts became compounded. How strange that we should read an author's book with great pleasure; that we should say, this man has no stuff in him; all is of consequence; here is a character uncontaminated with that rubbish which we see in so many other men; and after this, to meet the garb of so much littleness!

The 6th, 7th, and 8th. The duke of Liancourt having an intention of taking a farm in his own hands, to be conducted on improved principles after the English manner, he desired me to accompany him and my friend Lazowski, to Liancourt, to give my opinion of the lands, and of the best means towards executing the project, which I very readily complied with. I was here witness to a scene which made me smile: at no great distance from the chateau of Liancourt, is a piece of waste land, close to the road, and belonging to the duke. I saw some men very busy at work upon it, hedging it in, in small divisions; levelling, and digging, and bestowing much labour for so poor a spot. I asked the steward if he thought that land worth such an expence? He replied, that the poor people in the town, upon the revolution taking place, declared that the poor were the nation; that the waste belonged to the nation; and, proceeding from theory to practice, took possession, without any further authority, and began to cultivate; the duke not viewing their industry with any displeasure, would offer no opposition to it. This circumstance shews the universal spirit that is gone forth; and proves, that were it pushed a little farther, it might prove a serious matter for all the property in the kingdom. In this case, however, I cannot but commend it; for if there be one public nuisance greater than another, it is a man preserving the possession of



waste land, which he will neither cultivate himself, nor let others cultivate. The miserable people die for want of bread, in the sight of wastes that would feed thousands. I think them wise, and rational, and philosophical, in seizing such tracks: and I heartily wish there was a law in England for making this action of the French peasants a legal one with us. 72 miles.

The 9th. At breakfast this morning in the Thuilleries. Monsieur Desmarests, of the Academy of Sciences, brought a Memoire, presentee par la Societe Royale, d'Agriculture, a l'Assemblée Nationale, on the means of improving the agriculture of France; in which, among other things, they recommend great attention to bees, to panification, and to the obstetrick art. On the establishment of a free and patriotic government, to which the national agriculture might look for new and halcyon days, these were objects doubtless of the first importanc. There are some parts of the memoir that really merit attention. Called on my fellow traveller, Mons. Nicolay, and find him a considerable person; a great hotel; many servants; his father a marechal of France, and himself first president of a chamber in the parliament of Paris, having been elected a deputy, by the nobility of that city, for the states general, but declined accepting it; he has desired I would dine with him on Sunday, when he promises to have Mons. Deeretot, the celebrated manufacturer and deputy of Louviers. At the national assembly, the count de Mirabeau, speaking upon the question of the members of the chamber of vacation, in the parliament of Rennes, was truly eloquent; ardent, lively, energetic, and impetuous. At night to the assembly of the duchess d'Anville; the marquis and madame Condorcet there, &c. not a word but politics.

The 10th. The chief leaders in the national assembly, are, Target, Chapellier, Mirabeau, Bernave, Volney the traveller, and, till the attack upon the property of the clergy, l'Abbe Syeyes; but he has been so much disgusted by that step, that he is not near so forward as before. The violent democrats, who have the reputation of being so much republican in principle, that they do not admit any political necessity for having even the name of a king, are called the enrages. They have a meeting at the Jacobins, called the revolution club, which assembles every night, in the very room in which the famous league was formed, in the reign of Henry III, and they are so numerous, that all material business is there decided, before it is discussed by the National Assembly. I called this morning on several persons, all of whom are great democrats; and mentioning this circumstance to them, as one which savoured too much of a Paris junto governing the kingdom, an idea, which must, in the long run, be unpopular and hazardous; I was answered, that the predominaney which Paris assumed, at present, was absolutely necessary for the safety of the whole nation; for if nothing were done, but by procuring a previous common consent, all great opportunities would be lost, and the national assembly left constantly exposed to the danger of a counter-revolution. They, however, admitted, that it did create great jealousies, and no where more than at Versailles, where some plots (they added) are, without doubt, hatching at this moment, which have the king's person for their object: riots are frequent there, under pretence of the price of bread: and such movements are certainly very dangerous, for they cannot exist so near Paris, without the aristocratical party of the old government endeavouring to take advantage of them, and to turn them to a very different end, from what was, perhaps, originally intended. I remarked, in all these conversations, that the belief of plots, among the disgusted party; for setting the king at liberty, is general; they seem almost persuaded, that the revolution will not be absolutely finished before some such attempts are made; and it is curious to observe, that the general voice is, that if an attempt were to be made, in such a manner as to have the least appearance of success, it would undoubt-

edly cost the king his life: and so changed is the national character, not only in point of affection for the person of their prince, but also in that softness and humanity, for which it has been so much admired, that the supposition is made without horror or compunction. In a word, the present devotion to liberty is a sort of rage; it absorbs every other passion, and permits no other object to remain in view than what promises to confirm it. Dine with a large party of the duke de la Rouchefaucald's; ladies and gentlemen, and all equally politicians; but I may remark another effect of this revolution, by no means unnatural, which is, that of lessening, or rather reducing to nothing, the enormous influence of the sex; they mixed themselves before in every thing, in order to govern every thing: I think I see an end to it very clearly. The men in this kingdom were puppets, moved by their wires, who, instead of giving the ton, in questions of national debate, must now receive it, and must be content to move in the political sphere of some celebrated leader; that is to say, they are, in fact, sinking into what nature intended them for; they will become more amiable, and the nation better governed.

The 11th. The riots at Versailles are said to be serious; a plot is talked of, for eight hundred men to march, armed, to Paris, at the instigation of somebody, to join somebody; the intention, to murder la Fayette, Bailly, and Necker; and very wild and improbable reports are propagated every moment. They have been sufficient to induce Mons. la Fayette to issue, yesterday, an order concerning the mode of assembling the militia, in case of any sudden alarm. Two pieces of cannon, and eight hundred men, mount guard at the Thuilleries every day. See some royalists this morning, who assert, that the public opinion in the kingdom is changing apace; that pity for the king, and disgust at some proceedings of the assembly, have lately done much: they say, that any attempt at present to rescue the king would be absurd, for his present situation is doing more for him than force could effect, at this moment, as the general feelings of the nation are in his favour. They have no scruple in declaring, that a well concerted vigorous effort would place him at the head of a powerful army, which could not fail of being joined by a great, disgusted, and injured body. I remarked, that every honest man must hope no such event would take place; for if a counter-revolution should be effected, it would establish a despotism, much heavier than ever France experienced. This they would not allow; on the contrary, they believed, that no government could, in future, be secure, that did not grant to the people more extensive rights and privileges than they possessed under the old one. Dine with my brother traveller, the count de Nicolay; among the company, as the count promised me, was Mons. Decretot, the celebrated manufacturer of Louviers; from whom I learned the magnitude of the distresses at present in Normandy. The cotton mills which he had shewn me, last year, at Louviers, have stood still nine months; and so many spinning jennies have been destroyed by the people, under the idea that such machines were contrary to their interests, that the trade is in a deplorable situation. In the evening, accompanied Mons. Lazowski to the Italian opera, *La Berbiera di Seviglia*, by Paisello, which is one of the most agreeable compositions of that truly great master. Mandini and Raffanelli excellent, and Balletti a sweet voice. There is no such comic opera to be seen in Italy, as this of Paris, and the house is always full: this will work as great a revolution in French music, as ever can be wrought in French government. What will they think, by and by, of Lully and Rameau? And what a triumph for the manes of Jean Jaques!

The 12th. To the national assembly; a debate on the conduct of the chamber of vacation in the parliament of Rennes, continued. Mons. l'abbé Maury, a zealous royalist, made a long and eloquent speech, which he delivered with great fluency and precision, and without any notes, in defence of the parliament: he replied to what had

been urged by the count de Mirabeau, on a former day, and spoke strongly on his unjustifiable call on the people of Bretagne, to a redoubtable denombrement. He said that it would better become the members of such an assembly, to count their own principles and duties, and the fruits of their attention, to the privileges of the subject, than to call for a denombrement, that would fill a province with fire and bloodshed. He was interrupted by the noise and confusion of the assembly, and of the audience, six several times; but it had no effect on him; he waited calmly till it subsided, and then proceeded, as if no interruption had been given. The speech was a very able one, and much relished by the royalists; but the enrages condemned it, as good for nothing. No other person spoke without notes; the count de Clermont read a speech that had some brilliant passages, but by no means an answer to l'Abbe Maury, as indeed it would have been wonderful if it were, being prepared before he heard the Abbe's oration. It can hardly be conceived how flat this mode of debate renders the transactions of the assembly. Who would be in the gallery of the English House of Commons, if Mr. Pitt were to bring a written speech, to be delivered on a subject on which Mr. Fox was to speak before him? And in proportion to its being uninteresting to the hearer is another evil, that of lengthening their sittings, since there are ten persons who will read their opinions, to one that is able to deliver an impromptu. The want of order, and every kind of confusion, prevails now almost as much as when the assembly sat at Versailles. The interruptions given are frequent and long; and speakers who have no right, by the rules to speak, will attempt it. The count de Mirabeau pressed to deliver his opinion after the Abbe Maury; the president put it to the vote, whether he should be allowed to speak a second time, and the whole house rose to negative it; so that the first orator of the assembly has not the influence even to be heard to explain, we have no conception of such rules; and yet their great number must make this necessary. I forgot to observe, that there is a gallery at each end of the saloon, which is open to all the world; and side ones for admission of the friends of the members by tickets: the audience in these galleries are very noisy: they clap, when any thing pleases them, and they have been known to hiss; an indecorum which is utterly destructive of freedom of debate. I left the house before the whole was finished, and repaired to the duke of Liancourt's apartments in the Thuilleries, to dine with his customary party of deputies; Mess. Chapellier and Demeusniers were there, who had both been presidents, and are still members of considerable distinction; M. Volney, the celebrated traveller, also was present; the prince de Poix, the count de Montmorenci, &c. On our waiting for the duke of Liancourt, who did not arrive till half after seven, with the greatest part of the company, the conversation almost entirely turned upon a strong suspicion entertained of the English having made a remittance for the purpose of embroiling matters in the kingdom. The count de Thiard, cordon blue, who commands in Bretagne, simply stated the fact, that some regiments at Brest had been regular in their conduct, and as much to be depended on as any in the service; but that, of a sudden, money had found its way among the men in considerable sums, and from that time their behaviour was changed. One of the deputies demanding at what period, he was answered; \* on which he immediately observed, that it followed the remittance of 1,100,000 livres (48,125l.) from England, that had occasioned so much conjecture in conversation. This remittance which had been particularly inquired into, was so mysterious and obscure, that the naked fact only could be discovered; but every person present asserted the truth of it. Other gentlemen united the two facts, and were ready to suppose them connected. I remarked,

\* It was a late transaction.

that if England had really interfered, which appeared to me incredible, it was to be presumed, that it would have been either in the line of her supposed interest or in that of the king's supposed inclination; that these happened to be exactly the same, and if money were remitted from that kingdom, most assuredly it would be to support the falling interest of the crown, and by no means to detach from it any force whatever; in such a case remittance from England might go to Metz, for keeping troops to their duty, but would never be sent to Brest to corrupt them, the idea of which was grossly absurd. All seemed inclined to admit the justness of this remark, but they adhered to the two facts, in whatever manner they might, or might not, be connected. At this dinner, according to custom, most of the deputies, especially the younger ones, were dressed au polisson, many of them without powder in their hair, and some in boots; not above four or five were neatly dressed. How times are changed! When they had nothing better to attend to, the fashionable Parisians were correctness itself, in all that pertained to the toilette, and were, therefore, thought a frivolous people; but now they have something of more importance than dress to occupy them: and the light airy character that was usually given them, will have no foundation in truth. Every thing in this world depends on government.

The 13th. A great commotion among the populace late last night, which is said to have arisen on two accounts; one to get at the baron de Besneval, who is in prison, in order to hang him; the other to demand bread at 2s. the pound. They eat it at present at the rate of twenty-two millions a year cheaper than the rest of the kingdom, and yet they demand a farther reduction. However, the current discourse is, that Favras, an adventurer also in prison, must be hanged to satisfy the people; for as to Besneval, the Swiss cantons have remonstrated so firmly, that they will not dare to execute him. Early in the morning, the guards were doubled, and eight thousand horse and foot are now patrolling the streets. The report of plots to carry off the king, is in the mouth of every one; and it is said, these movements of the people as well as those at Versailles, are not what they appear to be, mere mobs, but instigated by the aristocrats; and if permitted to rise to such a height as to entangle the Paris militia, will prove the part only of a conspiracy against the new government. That they have reason to be alert is undoubted; for though there should actually be no plots in existence, yet there is so great a temptation to them, and such a probability of their being formed, that supineness would probably create them. I have met with the lieutenant-colonel of a regiment of horse, who is come from his quarters, and who asserts that his whole regiment, officers and men, are now at the king's devotion, and would march wherever he called, and would execute whatever he ordered, not contrary to their ancient feelings; but that they would not have been inclined to be so obedient before he was brought to Paris; and from the conversation he has had with the officers of other regiments, he believes that the same spirit pervades their corps also. If any serious plans have been laid for a counter-revolution, or for carrying off the king, and their execution has been, or shall be prevented, posterity will be much more likely to have information of it than this age. Certainly the eyes of all the sovereigns, and of all the great nobility in Europe, are on the French revolution; they look with amazement, and even with terror, upon a situation which may possibly be hereafter their own case; and they must expect, with anxiety, that some attempts will be made to reverse an example, that will not want copies, whenever the period is favourable to make them. Dine at the Palais Royal, with a select party; politicians they must be, if they are Frenchmen. The question was discussed, Are the plots and conspiracies of which we hear so much at present, real, or are they invented by the leaders of the revolution, to keep up the

spirits of the militia, in order to enable themselves to secure the government on its new foundation irreversibly?

The 14th. Plots! plots! the Marquis la Fayette, last night, took two hundred prisoners in the Champs Elysees, out of eleven hundred that were collected. They had powder and ball but no musquets. Who? and what are they? is the question; but an answer is not so easily to be had. Brigands, according to some accounts, that have collected in Paris for no good purpose; people from Versailles by others; Germans by a third: but every one would make you believe, they are an appendix to a plot laid for a counter-revolution. Reports are so various and contradictory, that no dependence is to be placed on them; nor credit given to one-tenth of what is asserted. It is singular, and has been much commented on, that la Fayette would not trust his standing troops, as they may be called, that is the eight thousand regularly paid, and of whom the French guards form a considerable portion, but he took, for the expedition, the bourgeoisie only; which has elated the latter as much as it has disgusted the former. The moment seems big with events; there is an anxiety, an expectation, an uncertainty, and suspense that is visible in every eye one meets; and even the best informed people, and the least liable to be led away by popular reports, are not a little alarmed at the apprehension of some unknown attempt that may be made to rescue the king, and overturn the national assembly. Many persons are of opinion, that it would not be difficult to take the king, queen, and dauphin away, without endangering them, for which attempt the Thuilleries is particularly well situated, provided a body of troops, of sufficient force, were in readiness to receive them. In such a case, there would be a civil war, which, perhaps, would end in despotism, whatever party came off victorious; consequently such an attempt, or plan, could not originate in any bosom from true patriotism. If I have a fair opportunity to pass much of my time in good company at Paris, I have also no small trouble in turning over books, MSS. and papers, which I cannot see in England: this employs many hours a day, with what I borrow from the night, in making notes. I have procured also some public records, the copying of which demands time. He who wishes to give a good account of such a kingdom as France, must be indefatigable in the search of materials; for let him collect with all the care possible, yet when he comes to sit down coolly to the examination and arrangement, will find, that much has been put into his hands, of no real consequence, and more, possibly, that is absolutely useless.

The 15th. To the palais royal, to view the pictures of the duke of Orleans, which I had tried once or twice before to do in vain. The collection is known to be very rich in pieces of the Dutch and Flemish masters; some finished with all the exquisite attention which that school gave to minute expression. But it is a genre little interesting, when the works of the great Italian artists are at hand: of these the collection is one of the first in the world: Raphael, Hannibal Carraeci, Titian, Dominichino, Correggio, and Paul Veronese. The first picture in the collection, and one of the finest that ever came from the easel, is that of the three Maries, and the dead Christ, by H. Carraeci; the powers of expression cannot go further. There is the St. John of Raphael, the same picture as those of Florence and Bologna; and an inimitable Virgin and child, by the same great master. A Venus bathing, and a Magdalen, by Titian. Loretia, by Andrea del Sarto. Leda, by Paul Veronese, and also by Tintoretto. Mars and Venus, and several others, by Paul Veronese. The naked figure of a woman, by Boniet, a French painter, now living, a pleasing piece. Some noble pictures, by Pousin and Le Seur. The apartments must disappoint every one: I did not see one good room, and all inferior to the rank and immense fortune of the possessor, certainly the

first subject in Europe. Dine at the duke of Liancourt's: among the company was Mons. de Bouganville, the celebrated circumnavigator, agreeable as well as sensible; the count de Castellane, and the count de Montmorenci, two young legislators, as enraged as if their names were only Bernave or Rabeau. In some allusions to the constitution of England, I found they hold it very cheap, in regard to political liberty. The ideas of the moment, relative to plots and conspiracies, were discussed, but they seemed very generally to agree, that, however the constitution might, by such means, be delayed, it was now absolutely impossible to prevent its taking place. At night to the national circus, as it is called, at the palais royal, a building in the gardens, or area of that palace, the most whimsical and expensive folly that is easily to be imagined: it is a large ball room, sunk half its height under ground; and, as if this circumstance were not sufficiently adapted to make it damp enough, a garden is planted on the roof, and a river is made to flow around it, which, with the addition of some spirting jets d'eau, have undoubtedly made it a delicious place, for a winter's entertainment. The expence of this gew-gaw building, the project of some of the duke of Orleans' friends, I suppose, and executed at his expence, would have established an English farm, with all its principles, buildings, live stock, tools, and crops, on a scale that would have done honour to the first sovereign of Europe; for it would have converted five thousand arpents of desert into a garden. As to the result of the mode that has been pursued, of investing such a capital, I know no epithet equal to its merits. It is meant to be a concert, ball, coffee, and billiard room, with shops, &c. designed to be something in the style of the amusements of our Pantheon. There were music and singing to-night, but the room being almost empty, it was, on the whole, equally cold and sombre.

The 16th. The idea of plots and conspiracies has come to such a height as greatly to alarm the leaders of the revolution. The disgust that spreads every day at their transactions, arises more from the king's situation than from any other circumstance. They cannot, after the scenes that have passed, venture to set him at liberty before the constitution is finished: and they dread, at the same time, a change working in his favour in the minds of the people: in this dilemma, a plan is laid for persuading his majesty to go suddenly to the national assembly, and, in a speech, to declare himself perfectly satisfied with their proceedings, and to consider himself as at the head of the revolution, in terms so couched as to take away all idea or pretence of his being in a state of confinement or coercion. This is at present a favourite plan; the only difficulty will be, to persuade the king to take a step that will apparently preclude him from whatever turn or advantage the general feeling of the provinces may work in his favour; for, after such a measure, he will have reason to expect that his friends will second the views of the democratical party, from an absolute despair of any other principles becoming efficient. It is thought probable, that this scheme will be brought about; and should it be accomplished, it will do more to ease their apprehensions of any attempts than any other plan. I have been among the booksellers, with a catalogue in hand to collect publications, which, unfortunately for my purse, I find I must have on various topics, that concern the present state of France. These are now every day so numerous, especially on the subjects of commerce, colonies, finances, taxation, deficit, &c. not to speak of the subject immediately, of the revolution itself, that it demands many hours every day to lessen the number to be bought, by reading pen in hand. The collection the duke of Liancourt has made from the very commencement of the revolution, at the first meeting of the notables, is prodigious, and has cost many hundred louis d'or. It is uncommonly complete, and will hereafter be of the greatest value to consult on abundance of curious questions.

The 17th. The plan I mentioned yesterday, that was proposed to the king, was urged in vain: his majesty received the proposition in such a manner as does not leave any great hope of the scheme being executed; but the Marquis la Fayette is so strenuous for its being brought about, that it will not yet be abandoned; but proposed again at a more favourable moment. The royalists, who know of this plan (for the public have it not) are delighted at the chance of its failing. The refusal is attributed to the queen. Another circumstance, which gives great disquiet at present to the leaders of the revolution, is the account daily received from all parts of the kingdom, of the distress, and even starving condition of manufacturers, artists, and sailors, which grows more and more serious, and must make the idea of an attempt to overturn the revolution so much the more alarming and dangerous. The only branch of industry in the kingdom, that remains flourishing, is the trade to the sugar-colonies; and the scheme of emancipating the negroes, or at least of putting an end to importing them, which they borrowed from England, has thrown Nantes, Havre, Marseilles, Bourdeaux, and all other places connected secondarily with that commerce, into the utmost agitation. The count de Mirabeau says publicly, that he is sure of carrying the vote to put an end to negro slavery; it is very much the conversation at present, and principally amongst the leaders, who say, that as the revolution was founded on philosophy, and supported by metaphysics, such a plan cannot but be congenial. But surely trade depends on practice much more than on theory; and the planters and merchants, who come to Paris to oppose the scheme, are better prepared to shew the importance of their commerce, than to reason philosophically on the demerits of slavery. Many publications have appeared on the subject, some deserving attention.

The 18th. At the duke of Liancourt's dinner to-day, meet the Marquis de Casaux, the author of the mechanism of societies; notwithstanding all the warmth, and even fire of argument, and vivacity of manner and composition for which his writings are remarkable, he is perfectly mild and placid in conversation, with little of that effervescence one would look for from his books. There was a remarkable assertion made to-day, at table, by the count de Marguerite, before near thirty deputies; speaking of the determination on the Toulon business, he said, it was openly supported by deputies, under the avowal that more insurrections were necessary. I looked round the table, expecting some decisive answer to be given to this, and was amazed to find that no one replied a word. Mons. Volney, the traveller, after a pause of some minutes, declared that he thought the people of Toulon had acted right, and were justifiable in what they had done. The history of this Toulon business is known to all the world. This count de Marguerite has a *tete dure* and a steady conduct; it may be believed that he is not an enrage. At dinner, M. Blin, deputy from Nantes, mentioning the conduct of the revolution club at the Jacobins, said, we have given you a good president; and then asked the count why he did not come among them? He answered, *Je me trouve heureux en verite de n'avoir jamais ete d'aucune societe politique particuliere; je pense que mes fonctions sont publiques, et qu'elles peuvent aisement se remplir sans associations particulieres.* He got no reply here. At night, Mons. Deeretot, and Mons. Blin, carried me to the revolution club at the Jacobins; the room where they assemble, is that in which the famous league was signed, as it has been observed above. There were above one hundred deputies present, with a president in the chair; I was handed to him, and announced as the author of the *Arithmetique Politique*; the president standing up, repeated my name to the company, and demanded if there were any objections—None; and this is all the ceremony, not merely of an introduction, but an election: for I was told, that now I was empowered to be present when I pleased, being a foreigner. Ten

or a dozen other elections were made. In this club, the business that is to be brought into the national assembly is regularly debated; the motions are read, that are intended to be made there, and rejected or corrected and approved. When these have been fully agreed to, the whole party are engaged to support them. Plans of conduct are there determined; proper persons nominated for being of committees, and presidents of the assembly named. And I may add, that such is the majority of numbers, that whatever passes in this club, is almost sure to pass in the assembly. In the evening at the duchess d'Anville's, in whose house I never failed of spending my time agreeably.

One of the most amusing circumstances of travelling into other countries, is the opportunity of remarking the difference of customs amongst different nations in the common occurrences of life. In the art of living, the French have generally been esteemed by the rest of Europe to have made the greatest proficiency, and their manners have been accordingly more imitated, and their customs more adopted than those of any other nation. Of their cookery, there is but one opinion; for every man in Europe, that can afford a great table, either keeps a French cook, or one instructed in the same manner. That it is far beyond our own, I have no doubt in asserting. We have about half a dozen real English dishes, that exceed any thing, in my opinion, to be met with in France; by English dishes I mean, a turbot and lobster sauce; ham and chicken; turtle; a haunch of venison; a turkey and oysters; and after these there is an end of an English table. It is an idle prejudice to class roast beef among them; for there is not better beef in the world than at Paris. Large handsome pieces were almost constantly on the considerable tables I have dined at. The variety given by their cooks, to the same thing, is astonishing; they dress an hundred dishes in an hundred different ways, and most of them excellent; and all sorts of vegetables have a savouriness and flavour, from rich sauces, that are absolutely wanted to our greens boiled in water. This variety is not striking, in the comparison of a great table in France with another in England; but it is manifest, in an instant, between the tables of a French and English family of small fortune. The English dinner, of a joint of meat and a pudding, as it is called, or pot luck, with a neighbour, is bad luck in England; the same fortune in France, gives, by means of cookery only, at least four dishes to one among us, and spreads a small table incomparably better. A regular desert with us is expected at a considerable table only, or at a moderate one, when a formal entertainment is given; in France it is as essential to the smallest dinner as to the largest; if it consist of a bunch of dried grapes only, or an apple, it will be as regularly served as the soup. I have met with persons in England, who imagine the sobriety of a French table carried to such a length, that one or two glasses of wine are all that a man can get at dinner; this is an error: your servant mixes the wine and water in what proportion you please; and large bowls of clean glasses are set before the master of the house, and some friends of the family, at different parts of the table, for serving the richer and rarer sorts of wines, which are drunk in this manner freely enough. The whole nation are scrupulously neat in refusing to drink out of glasses used by other people. At the house of a carpenter or blacksmith, a tumbler is set to every cover. This results from the common beverage being wine and water; but if at a large table, as in England, there were porter, beer, cyder, and perry, it would be impossible for three or four tumblers or goblets to stand by every plate; and equally so for the servants to keep such a number separate and distinct. In table-linen, they are, I think, cleaner and wiser than the English; that the change may be incessant, it is every where coarse. The idea of dining without a napkin seems ridiculous to a Frenchman, but in England we dine at the tables



of people of tolerable fortune, without them. A journeyman carpenter in France has his napkin as regularly as his fork; and at an inn, the fille always lays a clean one to every cover that is spread in the kitchen, for the lowest order of pedestrian travellers. The expence of linen in England is enormous, from its fineness; surely a great change of that which is coarse, would be much more rational. In point of cleanliness, I think the merit of the two nations is divided; the French are cleaner in their persons, and the English in their houses; I speak of the mass of the people, and not of individuals of considerable fortune. A bidet in France is as universally in every apartment, as a basin to wash your hands, which is a trait of personal cleanliness I wish more common in England; on the other hand their necessary houses are temples of abomination; and the practice of spitting about a room, which is amongst the highest as well as the lowest ranks, is detestable; I have seen a gentleman spit so near the clothes of a duchess, that I have stared at his unconcern. In every thing that concerns the stables, the English far exceed the French; horses; grooms, harness, and change of equipage; in the provinces you see cabriolets of the last century; an Englishman, however small his fortune may be, will not be seen in a carriage of the fashion of forty years past; if he cannot have another, he will walk on foot. It is not true that there are no complete equipages at Paris, I have seen many; the carriage, horses, harness, and attendance, without fault or blemish; but the number is certainly very much inferior to what are seen at London. English horses, grooms, and carriages, have been of late years largely imported. In all the articles of fitting up and furnishing houses, including those of all ranks in the estimate, the English have made advances far beyond their neighbours. Mahogany is scarce in France, but the use of it is profuse in England. Some of the hotels in Paris are immense in size, from a circumstance which would give me a good opinion of the people, if nothing else did, which is the great mixture of families. When the eldest son marries, he brings his wife home to the house of his father, where there is an apartment provided for them; and if a daughter do not wed an eldest son, her husband is also received into the family, in the same way, which makes a joyous number at every table. This cannot altogether be attributed to æconomical motives, though they certainly influence in many cases, because it is found in families possessing the first properties in the kingdom. It does with French manners and customs, but in England it is sure to fail, and equally so amongst all ranks of people: may we not conjecture, with a great probability of truth, that the nation in which it succeeds is therefore better tempered? Nothing but good humour can render such a jumble of families agreeable, or even tolerable. In dress they have given the ton to all Europe for more than a century; but this is not among any but the highest rank an object of such expence as in England, where the mass of mankind wear much better things (to use the language of common conversation) than in France: this struck me more amongst ladies who, on an average of all ranks, do not dress at one half of the expence of English women. Volatility and changeableness are attributed to the French as national characteristics, but in the case of dress with the grossest exaggeration. Fashions change with ten times more rapidity in England, in form, colour, and assemblage; the vicissitudes of every part of dress are fantastic with us: I see little of this in France; and to instance the mode of dressing the gentlemen's hair, while it has been varied five times at London, it has remained the same at Paris. Nothing contributes more to make them a happy people, than the cheerful pliancy of disposition with which they adapt themselves to the circumstances of life: this they possess much more than the high and volatile spirits which have been attributed to them; one excellent consequence is, a greater exemption from the extravagance of living beyond their fortunes, than is met with in England. In the highest ranks of life, there

are instances in all countries; but where one gentleman of small property, in the provinces of France runs out his fortune, there are ten such in England that do it. In the blended idea I had formed of the French character from reading, I am disappointed as to three circumstances, which I expected to find predominant. On comparison with the English, I looked for great talkativeness, volatile spirits, and universal politeness. I think, on the contrary, that they are not so talkative as the English; have not equally good spirits, and are not a jot more polite: nor do I speak of certain classes of people, but of the general mass. I think them, however, incomparably better tempered; and I propose it as a question, whether good temper be not more reasonably expected under an arbitrary, than under a free government.

The 19th. My last day in Paris, and, therefore employed in waiting on my friends, to take leave; amongst whom, the duke de Liancourt holds the first place; a nobleman, to whose uninterrupted, polite, and friendly offices I owe the agreeable and happy hours which I have passed at Paris, and whose kindness continued so much, to the last, as to require a promise, that if I should return to France, his house, either in town or country, should be my home. I shall not omit observing, that his conduct in the revolution has been direct and manly from the very beginning; his rank, family, fortune, and situation at court, all united to make him one of the first subjects in the kingdom; and upon public affairs being sufficiently embroiled, to make assemblies of the nobility necessary, his determined resolution to render himself master of the great questions which were then in debate, was seconded by that attention and application which were requisite in a period, when none but men of business could be of importance in the state. From the first assembling of the states general, he resolved to take the party of freedom; and would have joined the tiers at first, if the orders of his constituents had not prevented it; he desired them, however, either to consent to that step or to elect another representative; and, at the same time, with equal liberality, he declared, that if ever the duty he owed his country became incompatible with his office at court, he would resign it; an act that was not only unnecessary, but would have been absurd, after the king himself had become a party in the revolution. By espousing the popular cause, he acted conformably to the principles of all his ancestors, who in the civil wars and confusions of the preceding centuries, uniformly opposed the arbitrary proceedings of the court. The decisive steps which this nobleman took at Versailles, in advising the king, &c. &c. are known to all the world. He is, undoubtedly to be esteemed one of those who have had a principal share in the revolution, but he has been invariably guided by constitutional motives; for it is certain, that he has been as much averse from unnecessary violence and sanguinary measures, as those who were the most attached to the ancient government. With my excellent friend Lazowski, I spent my last evening; he endeavoured to persuade me to reside upon a farm in France, and I enticing him to quit French bustle for English tranquillity.

The 20th, 25th. By the diligence to London, where I arrived the 25th; though in the most commodious seat, yet languishing for a horse, which, after all, affords the best means of travelling. Passing from the first company of Paris to the rabble which one sometimes meets in diligences, is contrast sufficient, but the idea of returning to England, to my family and friends, made all things appear smooth. 272 miles.

The 30th. To Bradfield; and here terminate, I hope, my travels. After having surveyed the agriculture and political resources of England and Ireland, to do the same with France, was certainly a great object, the importance of which animated me to the attempt: and however pleasing it may be to hope for the ability of giving a better account of the agriculture of France than has ever been laid before the public, yet the

greatest satisfaction I feel, at present, is the prospect of remaining, for the future, on a farm, in that calm and undisturbed retirement, which is suitable to my fortune, and which, I trust, will be agreeable to my disposition. 72 miles.

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## PART THE SECOND.

### CHAP. I.....OF THE EXTENT OF FRANCE.

THE circumstances which are most apt to command the attention of mankind, for giving importance to a country, are really valuable no farther than as they contribute to the ease and prosperity of the inhabitants. Thus the extent of a kingdom is of no other consequence than affording nourishment for a people too numerous to be reasonably apprehensive of foreign conquest. When a territory is much more considerable than for this purpose, it tends to inspire ambitious projects in the minds of the men that govern, which have proved, perhaps, more disastrous than the deficiency of power that endangers the national defence. France, under Lewis XIV, was a remarkable instance of this fact. The situation to which the ambition of that prince had reduced her immense territory, was hardly preferable to that of Holland, in 1672, whose misfortunes, flowed from the same origin. Of the two extremes, France has undoubtedly more to apprehend from the ambition of her own rulers, than from that of any neighbour. Authorities vary considerably in describing the extent of this fine kingdom. The Marechal de Vauban makes it 30,000 leagues, or 140,940,000 arpents; Voltaire 130,000,000 arpents. The accuracy of round numbers is always to be doubted. Templeman gives it an extent of 138,837 square geographical miles, of sixty to a degree; a measurement, which renders his tables absolutely useless for any purpose, but that of comparing one country with another, a degree being sixty-nine miles and a half, which makes it 119,220,874 $\frac{1}{3}$  $\frac{2}{3}$  acres. Pauton reduces his measure to French arpents, and makes the number 107,690,000. The Encyclopædia, article France, assigns 100,000,000 of arpents as the contents; and observes that by Cassini's maps, the amount is 125,000,000. A late author\* calculates it at 105,000,000: and another† at 135,600,000. None of these accounts seem sufficiently accurate for the purpose of giving a correct idea. The authority on which I am inclined most to rely is that of M. Necker,‡ who calculates it (without Corsica) at 26,951 leagues square, of 2282 $\frac{2}{3}$  toises; this, I find, amounts to 156,024,213 arpents of Paris, or 131,722,295 English acres. Pauton, by covering his map with shot to every indenture of outline, with the greatest care, found the kingdom to contain 103,021,840 arpents, each of 100 perch, at 22 feet the perch, or 1344 $\frac{1}{3}$  toises square to the arpent; instead of which the arpent of Paris contains but 900 toises: this measurement makes 81,687,016 English acres.§ Notwithstanding the credit usually given to this writer for his accuracy, I must here reject his authority in favour of that of M. Necker. Pauton's calculation, which gives 81,687,016 English acres to France, assigns by the same rule to England 24,476,315;|| yet Templeman's survey, at 60 miles to a degree, and therefore confessedly below the truth, makes it 31,648,000, which at 69 $\frac{1}{2}$  to a degree, are

\* L'Impot Abonne, quarto, 1789. † Apologie sur l'Edict de Nantes. ‡ Oeuvres, quarto, p. 326.

§ I have made this reduction, by valuing, with Pauton, the French arpent at 1.0000, and the English 0.7929.

|| That is 30,869,360 arpents royale of 22 feet to the perch.

42,463,264 $\frac{1}{3}$ ; a greater difference than is found between them in estimating the surface of France, which, by Paucton, is made 81,587,016 English acres, with a general admission of about a million more; and by Templeman, 88,855,680; or at 69 $\frac{1}{2}$ , is 119,220,874 $\frac{1}{3}$ .

It is vain to attempt reconciling these contrary accounts. I shall therefore adopt, with the author of the *Credit National*,\* the estimation of M. Necker, which supposes 156,024,113 arpents of Paris, or 131,722,295 English acres.

For a comparison of the French and English dominions, I must for the latter adopt Templeman's measurement, who gives to

England,	49,450 square miles.	France,	138,837 square miles.
Scotland,	27,794		
Ireland,	27,457		
	<hr/>		
	104,701		
Calculated at 60 to a degree; but at 69 $\frac{1}{2}$ these numbers become,			
England,	Sq. Miles. 66,348 - Acres. 42,463,264	France,	Sq. Miles. 186,282 - Acres. 119,220,874
Scotland,	37,292 - 23,867,016		
Ireland,	36,840 - 23,577,630		
	<hr/>		
	140,480      89,907,910		

Hence it appears, that France, according to these proportions, contains 29,312,964 acres more than the three British kingdoms; and it is to be noted, that as the extent of France is taken from the more modern and correct authorities, whence M. Necker deduced his measurement at 131,722,295 English acres, which is consequently much more exact than that of Templeman; so it is equally fair to suppose, that the latter is as much below the fact in the contents of our islands, as he was in those of France.

Corrected by this rule, the areas will be

England,†	46,915,933 $\frac{1}{2}$ acres.	France,	131,722,295 acres.
Scotland,	26,369,695		
Ireland,	26,049,961		
	<hr/>		
	99,335,589		

These numbers, I am upon the whole inclined to believe, are as near to the truth as may reasonably be expected from calculations, when the data are not absolutely correct.

#### CHAP. II...OF THE SOIL, AND FACE OF THE COUNTRY.

THE modern French geographers, in a branch of that science, to which they have properly given the epithet physical, have divided the kingdom into what they call bassins; that is to say, into several great plains, through which flow the principal rivers, and which are formed of several ridges of mountains, either original, or as they term it, of granite, or secondary of calcareous and other materials. Of these bassins the chief

\* Mons. Jorre, octavo, 1789. He calculates on 27,000 leagues, at 2282 toises, 5786 arpents of Paris in a league; or in France 156,225,720 arpents. P. 95.

† It may be remarked, that Dr. Grew calculated the real contents of England and Wales at 46,080,000 acres. *Philosophical Transactions*, No. 330, p. 266. Which seems a confirmation that we are not far from the truth.

‡ Equal to 73,306 square miles.

are, 1. Of the Loire and all the rivers that fall into it. 2. Of the Seine and its branches. 3. Of the Garonne. 4. Of the Rhone and Soane. There are likewise some smaller ones, but of much less account. The reader who wishes to consult the detail of these, may turn to the *Journal Physique*, tom. 30. for a memoir by M. la Metheric.

In respect to the geoponic division of the soils of the kingdom, the rich calcareous plain of the north-eastern quarter first calls for our attention. I crossed this in several directions, and from the observations I made, the following are the limits I would assign to it. On the coast it may be said to extend from Dunkirk to Carentan in Normandy, for the northern promontory of that province, which projects into the sea at Cherbourg, &c. is of a different soil. In M. la Metheric's map is marked a ridge of granite mountains in this promontory; I should remark, that I saw nothing in that country which deserves the name of a mountain, any more than at Alencon; merely hills, and those not considerable ones. I may terminate the rich tract at Carentan, as thence to Coutances the land is chiefly poor and stony, and holds, with many variations, quite to Brest. In the line a little to the S. of the coast, before Caen, is seen the first considerable change of soil from Calais; it there becomes a red stone brash; this rich tract is here, therefore, narrow. On re-entering Normandy on the side of Alencon, from Anjou and Maine, I first met with the rich loams on a calcareous bottom at Beaumont; at Alencon there is a noble soil, which I then lost no more in advancing northwards. In another line I entered this rich district about ten miles to the south of Tours. The hills on the Loire, though all calcareous that I noticed, are not all rich, though on some the soil is deep and good. Directly to the south of Orleans begins the miserable Sologne, which, though on a calcareous bottom of marl, is too poor to be included in the present district. From Orleans to Paris, and also Fontainebleau, no exceptions are to be made, but in the small space of poor sand stone in the royal forest of the latter town. In a fourth direction this district is entered, but not so decisively as in the preceding cases, a few miles to the south of Nemours. At Croisicre the first chalk is visible to the traveller. Advancing to the N. E. very good land is found near Nangis, and then bearing N. I entered the fertile plain of Brie. Some of the vales through which the Marne flows are rich and what I saw calcareous; but the hills are poor. The plain of Rheims may be classed in the present district, but at Soissons and thence due N. all is excellent. These limits inclose one of the finest territories that I suppose is to be found in Europe. From Dunkirk to Nemours is not less than one hundred and eighty miles in a right line. From Soissons to Carentan is another right line of about two hundred miles. From Eu, on the Norman coast, to Chartres is one hundred miles; and though the breadth of this rich district at Caen, Bayeux, &c. is not considerable, yet the whole will be found to contain not a trifling proportion of the whole kingdom. This noble territory includes the deep, level, and fertile plain of Flanders, and part of Artois, than which a richer soil can hardly be desired to repay the industry of mankind; two, three, and even four feet deep of moist and putrid, but friable and mellow loam, more inclining to clay than sand, on a calcareous bottom, and from its marine origin (for there can be little doubt but that the whole plain of Flanders and Holland has been covered by the sea, long since our globe has taken its present appearance) abounding with particles that add to the common fertility, resulting from such compounds found in other situations. The putridity of the humus in Flanders and its position, being a dead level, are the principal circumstances that distinguish it from the better soils of the rest of this fertile part of Europe. Every step of the way from the very gate of Paris to near Soissons, and thence to Cambrai, with but little variation of some inferior hills of small extent, is a sandy loam of an admirable texture, and commonly of considerable depth. About Meaux it

is to be ranked among the finest in the world; they call it *bleaunemeau*; it tends much towards an impalpable powder, which betrays few signs of sand, even when, to the eye, it has the appearance of a sandy loam. It is of an admirable texture and friability. Mons. Gibert informed me, that it is of the depth of eighteen feet where his well is digged, and under it a stratum of white marl, found under the whole country, at different depths. This marl has the appearance of a consolidated paste. The line through Picardy is inferior, yet, for the most part, excellent. But all the arable part of Normandy, which is within these limits, is of the same rich friable sandy loam, to a great depth; that from Bernay to Elbœuf can scarcely be exceeded; four to five feet deep of a reddish brown loam on a chalk bottom, and without a stone. As to the pastures of the same province, we have, I believe, nothing either in England or Ireland equal to them; I hold the vale of Limerick to be inferior. The famous Pays de Beauce, which I crossed between Arpajon and Orcans, resembles the vales of Meaux and Senlis; it is not, however, in general, so deep as the former. The limits I have traced are those of great fertility; but the calcareous district, and even of chalk, is much more extensive. To the E. it reaches across Champagne; a strong change, not having occurred to me till about St. Menchould. From Metz to Nancy all is calcareous, but not chalk. Lime-stone land I found plentifully in the southern parts of Alsace; and from Befort across Franche Comte to Dole, all the stones I tried, and many from quarries were calcareous. Immense districts in Dauphine and Provence, &c. &c. are the same; I shall therefore only observe, that I remarked the chalk country to extend E. to about St. Menchould, and S. to Nemours and Montargis\* in one line. In another, that all of the Angoumois which I saw is the same; much in Poitou, and through Tourain to the Loire. Had I penetrated more to the W. I should probably have found the chalk of Angoumois, and that of the Loire to be connected uninterruptedly. Most of the course of the Loire is I believe, chalk, and the whole of it calcareous. Hence it appears, that the chalk country of France is of very considerable extent; not less than two hundred miles E. and W. and about as much, but more irregularly, N. and S. and comprises, by far, the richest and most fertile provinces of the kingdom.

The next considerable district, for fertility, is that which I may call, without impropriety, the plain of the Garonne. Passing to the S. from Limosin, it is entered about Creissensac, with the province of Quercy, and improves all the way to Montauban and Toulouse, where it is one of the finest levels of fertile soil that can any where be seen. It continues, but not equally fruitful, to the foot of the Pyrenees, by St. Gaudents, &c. very even to the eye, when viewed from the promenade at Montauban, which commands one of the richest, as well as magnificent prospects, to be met with in France. This plain I found, however, to be much indented and irregular; for to the W. of Auch, and all beyond it to Bayonne, is too inferior to be admitted; and to the E. Mirepoix, Pamiers, and Carcassonne are among the hills, and all the way from Agen to Bourdeaux, though the river flows through one of the richest vallies that is to be seen in the world, yet the breadth appeared to be every where inconsiderable. Through all this plain, wherever the soil is found excellent, it consists usually of a deep mellow friable sandy loam, with moisture sufficient for the production of any thing; much of it is calcareous. White lime-stone and white chalky loams are found about Cahors, &c. and white loams more tenacious near Montauban. At Tonnance, on the Garonne, they are red, and apparently as good at ten feet deep as on the surface.

\* I believe much further; and there is the more reason to think so, because Mr. Townshend found that in another road it reached to Auxere, where he lost it. JOURNEY THROUGH SPAIN, vol. i. p. 46.

In travelling from Narbonne to Beziers, Pezenas, Montpellier, and Nismes, every one I conversed with represented that vale as the most fruitful in France. Olives and mulberries, as well as vines, render it very productive; but in point of soil (the only circumstance I consider at present) much the greater part of it is inferior to all I have named. The Bas Poitou, as I was informed by a person who resides in it, is of a fertility that deserves to be classed with the richest soils of France, extending eighteen leagues by 12, or 216 square leagues, which, at 5786 arpents per league, are 249,776 arpents. One hundred thousand arpents of rich marshes have been drained there.\* Being also informed at Nantes, that there was a very rich track to the S. of the Loire, in the quarter of Bourgneuf and Macheoul, I have extended the region of good land to that river, as seen in the annexed map.

The narrow plain of Alsace, the whole fertile part of which hardly exceeds the surface of one thousand square miles, must be classed among the richest soils of France. It resembles Flanders a good deal, though inferior to that province. It consists of a deep rich sandy loam, both moist and friable, equal to the large production of all sorts of crops. A more celebrated district is the Limagne of Auvergne, a flat and chiefly a calcareous vale, surrounded by great ranges of volcanic mountains. It is certainly one of the finest soils in the world. It commences at Riom; the plain there is of a beautiful dead level of white calcareous loam, the whole surface of which is a real marl, but so mixed with humus as to be of prime fertility. The French naturalists, that have examined it, assert the depth to be twenty feet of beds of earth, formed of the ruins of what they style the primitive (granite) and volcanized mountains. At Issoire, Dr. Brés shewing me his farm, in an inferior part of the Limagne (for the best of it reaches no farther than from Riom to Vaires, which is scarcely more than twenty miles) made me observe, that the river had, in all probability, formed the whole plain, as it was adding rapidly to his land, and had given him a depth very perceptible in a few years, having buried the gravelly shingle of its bed, by depositing a rich surface of sandy mud. The vale here, on the banks, is seven or eight feet deep of rich brown sandy loam. On the contrary, there are philosophers who contend for the whole having been a lake. The mountains that surround this vale are various. The white argillaceous stone, in the hills between Riom and Clermont, is calcareous. The volcanic mountains are found to be better than the others, except in the case of tufa or cinders, which are so burnt as to be good for nothing. The calcareous and clayey ones good, and the basaltes decomposed and become clay excellent. Their base is commonly granite. The calcareous sandy stones, and the argillaceous calcareous carths are heaped on them by the action of volcanoes, according to the theory of the French philosophers. The fertility that results from the volcanic origin of mountains, has been often remarked, and especially in the case of *Ætna*; the same fact appeared in many tracts of country as I passed from Le Puy to Montelimart, where many considerable mountains are covered with beautiful chesnuts, and various articles of cultivation, which in districts not volcanic are waste, or in a great measure useless.

I have now noticed all the districts of France, which, to my knowledge, are of any remarkable fertility: they amount, as it will be shewn more particularly in another place, to above twenty-eight millions of English acres.

Of the other provinces, Bretagne is generally gravel, or gravelly sand, commonly deep, and on a gravelly bottom, of an inferior and barren nature, but in many places on sand stone rock. I tried various specimens, but found none calcareous; and having

\* Des Canaux de Navig. par M. de la Lande, p. 391.

seen a ship at Morlaix unloading lime-stone from Normandy, I may conclude, that the fact does not contradict the conclusion which I drew from the eye. All that I saw in the two provinces of Anjou and Maine are gravel, sand, or stone; generally a loamy sand or gravel; some imperfect schistus on a bottom of rock; and much that would in the west of England be called a stone brash, and that would do excellently well for turnips: they have the friability, but want the putrid moisture and fertile particles of the better loams. Immense tracts, in both these provinces, are waste, under ling, fern, furze, &c. but the soil of these does not vary from the cultivated parts, and, with cultivation, would be equally good. Touraine is better; it contains some considerable districts, especially to the south of the Loire, where you find good mixed sandy and gravelly loams on a calcareous bottom; considerable tracts in the northern part of the province are no better than Anjou and Maine; and, like them, it is not without its heaths and wastes. Sologne is one of the poorest and most unimproved provinces of the kingdom, and one of the most singular countries I have seen. It is flat, consisting of a poor sand or gravel, every where on a clay or marl bottom, retentive of water to such a degree, that every ditch and hold was full of it: the improvement of such a country is so obviously effected on the easiest principles, that it is a satire on the French government, and on the individuals who are owners or occupiers of estates in this province, to see it remain in such a miserable condition. Berry is much better, though both sandy and gravelly; but good loams, and some deep, are not wanted in some districts, as that of Chateauroux, on quarries, and near Vatan on calcareous ones. La Marche and Limosin consist of friable sandy loams; some on granite, and others on a calcareous bottom. There are tracts in these provinces that are very fertile; and I saw none that should be esteemed steril. Of the granite they distinguish two sorts; one hard, and full of mica-ceous particles; the grain rather coarse, with but little quartz, hardening in the air in masses, but becoming a powder when reduced to small pieces; this is used for building. The other sort is in horizontal strata, mixed with great quantities of spar, used chiefly for mending roads, which it does in the most incomparable manner. I was assured at Limoges, that, on the hard granite, there grow neither wheat, vines, nor chesnuts; but upon the other kind, those plants thrive well: I remarked, that this granite and chesnuts appeared together on entering Limosin; and that, in the road to Toulouse, there is about a league of hard granite without that tree. The rule, however, is not general; for so near as to the S. of Souillac, chesnuts are on a calcareous soil. Poitou consists of two divisions, the upper and the lower; the last of which has the reputation of being a much richer country, especially the grass lands on the coast. The soil of the upper division is generally a thin loam, on an imperfect quarry bottom, a sort of stone brash; in some tracts calcareous: it must be esteemed a poor soil, though admirably adapted to various articles of cultivation. I have already observed, that all I saw of Angoumois is chalk, and much of it thin and poor. Those parts of Guienne and Gascoign, not included in the rich vale of the Garonne, of which I have already spoken, must be considered in respect of soil as poor. The lands (heaths of Bourdeaux) though neither unproductive, nor unimprovable, are in their present state to be classed amongst the worst soils of France. I have been assured, that they contain two hundred leagues square; and the roots of the Pyrenes are covered with immense wastes, which demand much industry to render profitable. Roussillon is in general calcareous; much of it flat and very stony, as well as dry and barren: but the irrigated vales are of a most exuberant fertility. The vast province of Languedoc, in productions one of the richest of the kingdom, does not rank high in the scale of soil: it is by far too stony: I take seven-eighths of it to be mountainous. I travelled near four hundred miles in it, without see-



ing any thing that deserved the name of an extensive plain, that of the Garonne, already mentioned (part of which extends within the limits of Languedoc) alone excepted. The productive vale, from Narbonne to Nismes, is generally but a few miles in breadth; and considerable wastes are seen in most parts of it. Many of the mountains are productive, from irrigation, as I have observed too in the volcanic territory of the Vivarais. Some parts of the vale are however very rich; and indeed there are few finer soils in France than what I saw near the canal, in going from Beziers to Carcassonne. A rich mellow loam, tenacious, and yet friable; in some states the particles adhere into clods; in others they recede and melt with friability. Provence and Dauphine are mountainous countries, with the variation of some lovely plains and vallies, which bear a very inconsiderable proportion to the whole. Of these two provinces, the former is certainly the driest, in point of soil, in the kingdom. Rock and quarry-land, with sandy gravels, abound there; and the course of the Durance, which in some countries would be a fine vale, is so ruined by sand and shingle, that, in a moderate calculation, above 130,000 acres have been destroyed, which would have been the finest soil in the country, if it had not been for that river. All I saw in both the provinces is calcareous; and I was informed, that the greater part of the mountains of Provence are so. These, towards Barcelonette, and in all the higher parts of the province, are covered with good grass, that feeds a million of emigrating sheep, besides vast herds of cattle. With such a soil, and in such a climate, a country must not be thought unproductive because mountainous. The vales which I saw are in general fine: that of the Rhone at Loriol, in Dauphine, is rich: an admirable sandy clay, five or six feet deep, on a bed of blue marl with many stones in it. But more to the S. from Montelimart to Orange, this great river passes through soils much inferior. The north plain of this province, as we go from Savoy to Lyons, consists much of a good deep red loam, on a gravel bottom. The county of Venaisin, or district of Avignon, is one of the richest in the kingdom. Its admirable irrigation, is, of itself, sufficient to make it appear so; but I found the soil to consist of rich deep loam, with white and calcareous clays. The whole coast of Provence is a poor stony soil, with exceptions of very small spaces under happier circumstances. About Aix, the land is all calcareous, even the clays that are red and ferruginous. This province, however, contains one of the most singular districts in the kingdom, namely, that of the Crau, which is a stony plain to the S. E. of Arles, not containing less than 350 square miles, or 224,000 acres. It is absolutely covered with round stones of all sizes, some of which are as large as a man's head. The soil under them is not a sand, but appears to be a kind of cemented rubble of fragments of stone, with a small mixture of loam. The naturalist who has described this province, says, they are of a calcareous nature, with neither the grain nor texture of flint; in some quartzose molecules predominate, and others are metallic.\* Vegetation is extremely thin, as I shall mention more particularly when I treat of the pasturage of sheep in France.

The Lyonois is mountainous, and what I saw of it is poor, stony, and rough, with much waste land. In passing from Lyons to Moulins, it is, near Roanne, on the limits of the province, before the gravelly plain of the Loire commences, the same which M. La Metherie calls the calcareous plain of Montbrisson.

Auvergne, though chiefly mountainous, is not a poor province; the soil, for a hilly country, is in general above mediocrity, and the highest mountains feed vast herds of cattle, which are exported to a considerable amount. Beside a variety of volcanic soils, Auvergne is covered with granite and gravelly and sandy loams.

\* Hist. Nat. de la Provence, octavo, 3 tom. 1782, tom. 1. p. 290.

The Bourbonnois and Nivernois, form one vast plain, through which the Loire and Allier pass; the predominant soil, in much the greater part, is gravel; I believe commonly on a calcareous bottom, but at considerable depths. Some tracks are sandy, which are better than the gravels; and others are very good friable sandy loams. The whole, in its present cultivation, must be reckoned amongst the most unproductive provinces of the kingdom, but capable of as great improvement, by a different management as any district in France.

Burgundy is exceedingly diversified, as I found in crossing it from Franche Compté to the Bourbonnois by Dijon, I saw the best of it; that line is through sandy and gravelly loams; some good vales, some mountains, and some poor granite soils. The subdivision of the province called Bresse, is a miserable country, where the ponds alone, mostly on a white clay or a marl, amount, as it is asserted by an inhabitant,\* to sixty-six square leagues of two thousand toises, not much less than two hundred and fifty-thousand acres. This is credible from the appearance of them in the map of Cassini.

Franche Compté abounds with red ferruginous loams, schistus, gravel, with limestone in the mountains very common; and I should remark, that all the stones I tried, some of which were from quarries between Befort to Dole, effervesced with acids. From Besancon to Orechamps the country is rocky, quite to the surface much limestone; a reddish brown loam on rock; with iron forges all over the country. The whole province is very improveable.

Lorraine is poor in soil; from St. Menehould to the borders of Alsace I saw scarcely any other than stony soils, of various denominations; most of them would in England be called stone-brash, or the broken and triturated surface of imperfect quarries, mixed by time, forest, and cultivation, with some loam and vegetable mould, much is calcareous. There are indeed districts of rich, and even deep friable sandy loams; but the quantity is not considerable enough to deserve attention in a general view. I have already remarked, that the predominant feature of Champagne is chalk; in great tracks it is thin and poor; the southern part, as from Chalons to Troyes, &c. has from its poverty, acquired the name of pouilleux, or lousy. The appropriating of such land to sainfoin is little known there.

I have now made the tour of all the French provinces, and shall in general observe, that I think the kingdom is superior to England in the circumstance of soil. The proportion of poor land in England, to the total of the kingdom, is greater than the similar proportion in France: nor have they any where such tracts of wretched blowing sand, as are to be met with in Norfolk and Suffolk. Their heaths, moors, and wastes, not mountainous; what they term lande, and which are so frequent in Bretagne, Anjou, Maine, and Guienne, are infinitely better than our northern moors; and the mountains of Scotland and Wales cannot be compared, in point of soil, with those of the Pyrenees, Auvergne, Dauphine, Provence, and Languedoc. Another advantage almost inestimable is, that their tenacious loams do not take the character of clays, which in some parts of England are so stubborn and harsh, that the expence of culture is almost equal to a moderate produce. Such clays as I have seen in Sussex, I never met with in France. The smallness of the quantity of rank clay in that kingdom, is indeed surprising.

\* Observations, Experiences, & Memoires sur L'Agriculture; par M. Varenne de Fenille, octavo, 1789, p. 270.

## FACE OF THE COUNTRY.

The chief distinction that marks the faces of different countries, is that of being mountainous or level. In the language, as well as the ideas common in France, mountains are spoken of, to which we should give no other appellation than that of hills: the tracts really mountainous in that kingdom are to be found in the S. only. It is four hundred miles S. of Calais before you meet with the mountains of Auvergne, which are united with those of Languedoc, Dauphine, and Provence, but not with the Pyrenees, for I crossed the whole S. of France, from the Rhone to the ocean, either by plains or ranges of inconsiderable hills. The mountains of Voge, in Loraine, deserve, perhaps, that name, but yet are not to be ranked with the superior elevations I have noticed. The inequalities of all the rest of the kingdom are sufficient to render the prospects interesting, and to give variety to the face of the country, but they deserve not to be called mountains. Some of the hilly and mountainous tracts of France receive a very considerable beauty from the rich and luxuriant verdure of chesnuts. To those who have not viewed them, it is not easy to believe how much they add to the beauty of the Limosin, the Vivarais, Auvergne, and other districts where they are common.

There is no doubt that the Pyrenees are more striking than all the other mountains of France; I have described them so particularly in the Journal, that I would only observe in general here, that their verdure, their woods, their rocks, and their torrents have all the characters of the sublime and beautiful. I saw nothing among the Alps that offered such pleasing scenes as those of the northern parts of Dauphine; which, however, are less varied than those in the neighbourhood of Chambéry so abounding in landscapes. According to every account, the course of the Iser is a scene of perpetual beauty. The Vivarais, and part of Velay, are most romantic.

Of the great rivers of France I prefer the Seine, which is every where an agreeable object. I should suppose the reputation of the Loire must have originated from persons who either had never seen it at all, or only below Angers, where in truth it merits every eulog. From that city to Nantes it is, probably, one of the finest rivers in the world, the breadth of the stream, the islands of woods, the boldness, culture, and richness of the coast, all conspire, with the animation derived from the swelling canvass of active commerce, to render that line eminently beautiful; but for the rest of its immense course, it exhibits a stream of sand; it rolls shingle through vales instead of water, and is an uglier object than I could possibly have conceived, unless I had actually seen it. The Garonne receives more beauty from the country through which it flows than it confers upon it; the flat banks, fringed with willows, are destructive of beauty. I am not equally acquainted with the Rhone; where I saw it, from Montelimart to Avignon, and again at Lyons, it does not interest me like the Seine. The course of the Soane is marked by a noble tract of meadows.

In regard to the general beauty of a country, I prefer Limosin to every other province in France. The banks of the Loire below Angers, and those of the Seine, for two hundred miles from its mouth, superior, undoubtedly, in point of rivers, the capital feature of the country; but the beauty of the Limosin does not depend on any particular feature, but the result of many. Hill, dale, wood, inclosures, streams, lakes, and scattered farms, are mingled into a thousand delicious landscapes, which set off every where this province. Inclosures, which add so much ornament to the face of a

country, would furnish observations, but I must treat of them expressly in a more important view.

Of the provinces of the kingdom, not already named, none are of such singular features as to demand particular attention. The beauties of Normandy are to be found on the Seine, and those of Guienne on the Garonne. Bretagne, Maine, and Anjou have the appearance of deserts; and though some parts of Touraine are rich and pleasing, yet most of the province is deficient in beauty. The fertile territories of Flanders, Artois, and Alsace are distinguished by their utility. Picardy is uninteresting. Champagne in general, where I saw it, ugly, almost as much so as Poitou. Loraine, and Franche Comte, and Bourgogne are sombre in the wooded districts, and want cheerfulness in the open ones. Berry and La Marche may be ranked in the same class. Sologne merits its epithet, triste. There are parts of the Angoumois that are gay, and consequently pleasing.

It may be useful to those who see no more of France than by once passing to Italy, to remark, that if they would view the finest parts of the kingdom, they should land at Dieppe and follow the Seine to Paris, then take the great road to Moulins, and thence quit it for Auvergne, and pass to Viviers, on the Rhone, and so by Aix to Italy. By such a variation from the frequented road, the traveller might suffer for want of good inns, but would be repaid by the sight of a much finer and more singular country than the common road by Dijon offers, which passes, in a great measure, through the worst part of France.

#### CHAP. III...OF THE CLIMATE OF FRANCE.

OF all the countries of Europe there is not, perhaps one that proves the importance of climate, so much as France. In the natural advantages of countries, it is as essential as soil itself; and we can never attain to an idea tolerably correct, of the prosperity and resources of a country, if we do not know how clearly to ascertain the natural advantages or disadvantages of different territories, and to discriminate them from the adventitious effects of industry and wealth. It should be a principal object with those who travel for the acquisition of knowledge, to remove the vulgar prejudices which are found in all countries among those who, not having travelled themselves, have built their information on insufficient authorities.

France admits a division into three capital parts; 1, of vines; 2, of maize; 3, of olives; which plants will give the three districts of, 1, the northern, where vines are not planted; 2, the central, in which maize is not planted; 3, the south, in which olives, mulberries, vines, and maize are all found. The line of separation between vines and no vines, as I observed myself, is at Couey, ten miles to the N. of Soissons; at Clermont, in the Beauvoisis; at Beaumont, in Maine; and Herbignac, near Guerande, in Bretagne. Now there is something very remarkable in this, that if you draw a straight line on the map from Guerande to Couey, it passes very near both Clermont and Beaumont: the former of which is a little to the north of it, and the latter a little to the south. There are vines at Gaillon and La Roche Guyon, which is a little to the N. of this line; there are also some near Beauvais, the most remote from it which I have seen; but even this distance is inconsiderable; and the melancholy spectacle of the vintage of 1787, which I saw there in the midst of incessant rains, is a proof that they ought to have nothing to do with this branch of culture: and at Angers I was informed, that there are no vines, or next to none, between that place and Laval and Mayenne. Having made this remark on the vine climate of France, I wished to know

how far the fact held true in Germany; because if the circumstance arose from a difference of climate, it ought, by parity of reason, to be confirmed by vines in that country being found much farther north than in France. This happens precisely to be the case; for I find, by a late author, that vines in Germany are found no farther north than lat. 52.\* The meeting with these in that latitude is a sufficient proof of the fact in question, since in France their limit is at 49½. The line, therefore, which I have drawn as the boundary of vines in France, may be continued into Germany, and will probably be found to ascertain the vine climate in that country, as well as in France. The line of separation between maize and no maize is not less singular; it is first seen on the western side of the kingdom, in going from the Angoumois and entering Poitou, at Verac, near Ruffec. In crossing Loraine, I first met with it between Nancy and Luneville. It is deserving of attention, that if a line is drawn from between Nancy and Luneville to Ruffec, that it will run nearly parallel with the other line that forms the separation of vines: but that line across the kingdom, is not formed by maize in so unbroken a manner, as the other by vines; for in the central journey, we found it no farther north than Douzenach, in the S. of the Limosin; a variation, however, that does not affect the general fact. In crossing from Alsace to Auvergne, I was nearest to this line at Dijon, where is maize. In crossing the Bourbonnois to Paris, there is an evident reason why this plant should not be found, which is the poverty of the soil, and the unimproved husbandry of all that country, being universally under fallow, and rye, which yields only three or four times the seed. Maize demands richer land or better management. I saw a few pieces so far north as near La Fleche, but they were so miserably bad, as evidently to prove that the plant was foreign to that climate. In order to give the reader a clearer idea of this, I have annexed a map, explaining, at one coup d'œil, these zones or climates, which may be drawn from the productions of France. The line of olives is pretty nearly in the same direction. In travelling south from Lyons, we see them first at Montelimart; and in going from Beziers to the Pyrenees, I lost them at Carcassonne: now, the line on the map drawn from Montelimart to Carcassonne, appears at once to be nearly parallel with those of maize and vines. Hence we may apparently determine, with safety, that there is a considerable difference between the climate of France in the eastern and western parts: that the eastern side of the kingdom is two and a half degrees of latitude hotter than the western, or if not hotter, more favourable to vegetation. That these divisions are not accidental, but have been the result of a great number of experiments, we may conclude from these articles of culture in general gradually declining before you quite lose them. On quitting the Angoumois, and entering Poitou, we find maize dwindling to poor crops, before it ceases to be cultivated; and in going from Nancy to Luneville, I noticed it in gardens, and then but in small pieces in the fields, before it became a confirmed culture. I made the same remark with respect to vines. It is very difficult to account for this fact; it seems probable that the climate is better when remote from the sea, than near it, which is contrary to numerous other facts; and I have remarked, that vines thrive even in the sea air, and almost fully exposed to it, at the mouth of the river Bayonne, and in Bretagne. A great many repeated observations must be made, and with more attention than is in the power of a traveller before such a subject, apparently very curious, can be thoroughly ascertained. In making such inquiries as these, a general culture is alone to be regarded: vines will grow in England; I have maize now on my own farm, and I have seen it at Paris; but this is not the question; for it turns solely on

\* De la Monarchie Prussienne, par M. le Comte de Mirabeau. tom. 11. p. 158.

the climate being so well adapted to such articles as to enable the farmer to make them a common culture.

Of the northern climate of France I may remark, that though vines will yield little profit in it for wine, yet there is a strong distinction, in respect of heat, between it and England, at the same time, that much of it is, I believe, to the full as humid as the S. and E. of England. The two circumstances to be attended to in this inquiry are, the quantity of fruit and the verdure and richness of pastures. In regard to heat, we must attend neither to the thermometer nor to the latitude, but to the vegetable productions. I travelled in the fruit season through Artois, Picardy, Normandy, Bretagne, Anjou, and Maine, and I found at every town, I might properly say at every village, such a plenty of fruit, particularly plums, peaches, late cherries, grapes, and melons, as never can be seen in England in the very hottest summers. The markets of all the towns, even in that poor and unimproved province of Bretagne, are supplied with these in a profusion of which we have no idea. It was with pleasure I walked through the market at Rennes. If a man were to see no other in France, lighting there from an English balloon, he would in a moment pronounce the climate to be totally different from that of Cornwall, our most southerly county, where myrtles will stand the winter abroad; and from that of Kerry, where the arbutus is so acclimated, that it seems indigenous, though probably brought from Spain by the original inhabitants of the country. Yet in this province of Bretagne I saw no maize nor mulberries, and, except in the corner I have mentioned, it has no vineyards. Paris is not supplied with melons from provinces to the S. but from Harfleur, at the mouth of the Seine.

For the humidity of the climate, I may quote the beautiful verdure of the rich pastures in Normandy, which are never irrigated. And I was a witness to three weeks of such rain at Liancourt, four miles only from Clermont, as I have not known, by many degrees, in England. To the great rains in the N. of France, which render it disagreeable, may be added the heavy snows and the severe frosts, which are experienced there to a greater degree than in the S. of England. I am assured that the N. of Europe has not known a long and sharp frost, which has not been much severer at Paris than at London.

The central division that admits vines without being hot enough for maize, I consider as one of the finest climates in the world. Here are contained the province of Touraine, which, above all others, is most admired by the French; the picturesque province of Limosin; and the mild, healthy, and pleasant plains of the Bourbonnois; perhaps the most eligible countries of all France, of all Europe, as far as soil and climate are concerned. Here you are exempt from the extreme humidity which gives verdure to Normandy and England; and yet equally free from the burning heats which turn verdure itself into a russet brown in the S.; no ardent rays that oppress you with their fervour in summer; nor pinching tedious frosts that chill with their severity in winter; a light, pure, elastic air, admirable for every constitution except consumptive ones. But at the same time that I must commend these central provinces of France, for every circumstance of atmosphere that can render a country agreeable to inhabit, I must guard the reader against the idea of their being free from great inconveniences; they are certainly subject to those in relation to agriculture, which are heavily felt by the farmer. They are subject, in common with the olive district, to violent storms of rain, and what is worse, of hail. Two years ago, a storm of hail swept a tract of desolation in a belt across the whole kingdom, to the damage of several millions of our money. Such extended ruin is not common, for, if it were, the finest kingdoms would be laid waste; but no year ever passes without whole parishes suffering to a degree of which

we have no conception, and on the whole to the amount of no inconsiderable proportion of the whole produce of the kingdom. It appears, from my friend Dr. Symond's paper on the climate of Italy,\* that the mischief of hail is dreadful in that country. I have heard it calculated in the S. of France, that the damage in some provinces amounted to one-tenth of the whole produce of them upon an average. A few days before my arrival at Barbesieux, there had fallen, at the duke de la Rouchefoucauld's seat in the Angoumois, and some neighbouring parishes, a shower of hail that did not leave a single grape on the vines, and cut them so severely, as to preclude all hope of a crop the year following, and allowed no well-founded expectation of any beneficial produce even the third year. In another place, the geese were all killed by the same storm; and young colts were so wounded that they died afterwards. It is even asserted, that men have been known to be killed by hail, when unable to obtain any shelter. This storm destroyed a copse of the duke's, that was of two years growth. With such effects, it must be obvious to every one, that all sorts of corn and pulse must be utterly destroyed. At Pompinian, between Montauban and Toulouse, I was witness to such a shower of rain as never fell in Britain; in that rich vale, the corn, before the storm, made a noble appearance; but imagination can hardly picture a more entire destruction than it poured over the whole; the finest wheat was not only beaten flat to the ground, but streams of liquid mud covered it in many places, in a manner that made all expectation of recovery hopeless. These hasty and violent showers, which are of little consequence to a traveller, or to the residence of a gentleman, are dreadful scourges to the farmer, and immense drawbacks from the mass of national products.

A circumstance of less consequence, but not undeserving attention, is the frosts which happen in the spring. We know in England how injurious these are to all the fruits of the earth, and how much they are supposed to damage even its most important product. Towards the end of May 1787, I found all the walnut trees with leaves turned quite black by them, S. of the Loire; and farther to the S. at Brive, we no sooner saw fig-trees, for the first time scattered about the vineyards, than we remarked them bound about with straw to defend them from the frosts of June. Still more to the S. about Cahors, the walnut trees were black on the 10th of June by frosts, within a fortnight; and we were informed of rye being in some years thus killed; and that rarely there is any spring month secure from these unseasonable attacks. In the N. E. quarter I found, in 1789, the frost of the preceding winter had made a sad havock amongst the walnut trees, most of which were killed in Alsace, and the dead trees made a strange figure in summer; they were left in expectation of their shooting again, and some few did. From Autun in Burgundy, to Bourbon Lancy, the broom was all killed. Spring frosts were also complained of as much as on the other side of the kingdom. About Dijon, they said that they have them often late, and they damage or destroy every thing. And all the countries within reach of the mountains of Voge are affected by the snow that falls upon them, which was in 1789, on the 29th of June. This renders the vineyard an uncertain culture. Perhaps it may arise from the late frosts in the spring, that we meet with so few mulberries in France N. of the olive district. The profit of that tree is very great, as I shall explain fully in another place; yet the districts, where they are found in France, are very inconsiderable, when compared with the extent of the whole kingdom. It has been conceived in England, that the mildew is owing to late frosts; when I found myself in a region where rye was sometimes thus killed in June, and where every walnut hung with black, I naturally in-

\* Annals of Agriculture, vol. iii. p. 137.

quired for that distemper, and found in some places, near Cahors for instance, that their wheat was perfectly exempt from that malady in many springs, when other plants suffered the most severely; and we met even with farmers whose lands were so little subject to the distemper that they hardly knew it. This should seem to set aside the theory of frosts being the cause of that malady. As spring frosts are as mischievous in France as they can be with us, so also are they troubled with autumnal ones earlier than is common with us. On the 20th of September 1787, in going on the S. of the Loire, from Chambord to Orleans, we had so smart a one, that the vines were hurt by it; and there had been, for several days, so cold a N. E. wind, yet with a bright sun, that none of us stirred abroad without great coats.

The olive-climate contains but a very inconsiderable portion of the kingdom, and of that portion, not in one acre out of fifty is this tree cultivated. Several other plants, beside the olive, mark this climate. Thus at Montelimart, in Dauphine, besides that tree, you meet with, for the first time, the pomegranate, the arbor judæ, the paliurus, figs, and the evergreen oak; and with these plants, I may add also that detestable animal the mosquito. In crossing the mountains of Auvergne, Velay, and Vivarais, I met, between Pradelles and Thuytz, mulberries and flies at the same time; by the term flies, I mean those myriads of them, which form the most disagreeable circumstance of the southern climates. They are the first of torments in Spain, Italy, and the olive-district of France: it is not that they bite, sting, hurt, but they buz, teaze, and worry: your mouth, eyes, ears, and nose, are full of them: they swarm on every eatable, fruit, sugar, milk, every thing is attacked by them in such myriads, that if they are not driven away incessantly by a person who has nothing else to do, to eat a meal is impossible. They are, however caught on prepared paper, and other contrivances, with so much ease, and in such quantities, that were it not from negligence they could not abound in such incredible quantities. If I farmed in those countries, I think I should manure four or five acres every year with dead flies. Two other articles of culture in this climate, which deserve to be mentioned, though too inconsiderable to be a national object, are capers in Provence, and oranges at Hieres. The latter plant is so tender, that this is supposed to be the only part of France in which it will thrive in the open air. The whole of Roussillon is to the south of this, yet none are to be found there. I went to Hieres to view them, and it was with pain I found them almost, without exception, so damaged by the frost, in the winter of 1788, as to be cut down, some to the ground, and others to the main stem. Vast numbers of olives were in the same situation throughout the whole olive-district, and abundance of them absolutely killed. Thus we find, that in the most southerly part of France, and even in the most sheltered and secure situations, such severe frosts are known as to destroy the articles of common cultivation.

In the description I took of the climate of Provence, from Mons. le President, Baron de la Tour d'Aigues, he informed me, that hail, in some years, does not break glass; but it was mentioned as an extraordinary thing. The only seasons in which is to be expected rain with any degree of certainty, are the equinoxes, when it comes violently for a time. No dependence for a single drop in June, July, or August, and the quantity always very small; which three months, and not the winter ones, are the pinching season for all great cattle. Sometimes not a drop falls for six months together.\* They have white frosts in March, and sometimes in April. The great heats

\* A writer, who has been criticised for this assertion, was therefore right: "Telle est la position des provinces du midi on l'on reste souvent, six mois entiers, sans voir tomber une seule goutte d'eau." Corps Complet d'Agri. tom. viii. p. 56.



are never till the 15th of July, nor after the 15th of September. Harvest begins June 24th, and ends July 15th; and Michaelmas is the middle of the vintage. In many years no snow is to be seen, and the frosts not severe. The spring is the worst season in the year, because the *vent de bize*, the *mœstrale* of the Italians, is terrible, and sufficient, in the mountains, to blow a man off his horse; it is also dangerous to the health from the sun, at the same time, being both high and powerful. But in December, January, and February, the weather is truly charming, with the *bize* very rarely, but not always free from it; for on the 3d of January 1786, there was so furious a *mœstrale*, with snow, that flocks were driven four or five leagues from their pastures; numbers of travellers, shepherds, sheep and asses in the Crau perished. Five shepherds were conducting eight hundred sheep to the butcheries at Marseilles, three of whom, and almost all the sheep, perished.\* To make a residence in these provinces agreeable, a man should also avoid the great summer heats. For during the last week in July, and some days in August, I experienced such a heat at Carcassonne, Mirepoix, Pamiers, &c. as rendered the least exertion, in the middle of the day, oppressive; it exceeded any thing I felt in Spain. It was impossible to support a room that was light. No comfort but in darkness; and even there rest was impossible from myriads of flies.† It is true, such heats are not of long duration; if they were so, nobody, able to quit the country, would reside in it. These climates are disagreeable in spring and summer, and delicious in winter only. In the Bourbonnois, Limosin, and Touraine, there is no *vent de bize*. On the mountains above Tour d'Aigues, are chiefly found *lavendula*—*thymus*—*cistus rosea*—*cistus albidus*—*sorolia bitumina*—*buxus semper virens*—*quercus ilex*—*pinus montana*—*rosmarinus officinalis*—*rhamnus cathartica*—*genistis montis ventosa*—*genista Hispanica*—*juniperus Phœnicia*—*satureja montana*—*bromus sylvatica*, &c. In the stubbles of all the olive-district, and in every waste spot are found *centaurea calycitropa*—*centaurea solstitialis*—also the *eryngium campestrum*, and the *eryngium amethystinum*: they have sown in Provence the *datura stramonium*, which is now habituated to the country. In the mountains, from Cavalero to Frejus, and also in that of Estrelles, the *lentiscus*—*myrtus*—*arbutus*—*lavendula*—*cistus*—and *laurustinus*.

Upon a general view of the climate of France, and upon comparing it with that of countries, not so much favoured apparently by nature, I may remark, that the principal superiority of it arises from adapting so large a portion of the kingdom to the culture of the vine; yet this noble plant is most unaccountably decried by abundance of writers, and especially by French ones, though the farmer is enabled to draw as extensive a profit from poor and otherwise barren, and even almost perpendicular rocks, as from the richest vales. Hence immense tracts of land may be ranked in France among the most valuable, which in our climate would be absolutely waste, or at least applied to no better use than warrens or sheep walks. This is the great superiority which climate gives to that kingdom over England: of its nature and extent, I shall treat fully under another head.

The object of the next importance is peculiar to the olive and maize districts, and consists in the power of having, from the nature of the climate, two crops a-year on

\* *Traite de l'Olivier*, par M. Couture, ii. tom. octavo, Aix, 1786, tom. i. p. 79.

† I have been much surprised, that the late learned Mr. Harmer should think it odd to find, by writers who treated of southern climates, that driving away flies, was an object of importance. Had he been with me in Spain and in Languedoc, in July and August, he would have been very far from thinking there was any thing odd in it. *Observ. on divers Passages of Scripture*, vol. iv. p. 159.

vast tracts of their arable land: an early harvest, and the command of plants, which will not thrive equally well in more northern climates, give them this invaluable advantage. We see wheat stubbles left in England, from the middle of August, to yield a few shillings by sheep, which, in a hotter climate, would afford a second crop, yielding food for man, such as millet, the fifty day maize (the *cinquantina* of the Italians) &c. or prove a better season for turnips, cabbages, &c. than the common season for them here. In Dauphine, I saw buck-wheat in full blossom the 23d of August, that had been sown after wheat. I do no more than name it here, since, in another place, it must be examined more particularly. Mulberries might in France be an object of far greater importance than they are at present, and yet the spring frosts are fatal impediments to the culture: that this plant must be considered for all important purposes, as adapted only to southern climates, appears from this, that Tours is the only place I know in France, north of the maize climate, where they are cultivated for silk with any success; considerable experiments have been made (as I shall shew in the proper place) for introducing them into Normandy and elsewhere, but with no success: and the force of this observation is doubled, by the following fact; that they succeed much better in the olive climate than in any part of the kingdom. But that they might be greatly extended, cannot for a moment be doubted. In going south, we did not meet with them till we came to Causade, near Montauban. In returning north, we saw them at Auch only. A few at Aguilon, planted by the duke; the promenade at Poitiers planted by the intendant; and another at Verteul, by the duke d'Anville; all which are experiments that have not been copied, except at Auch. But at Tours there is a small district of them. In another direction, they are not met with after Moulins, and there very few. Maize is an object of much greater consequence than mulberries; when I give the courses of the French crops, it will be found that the only good husbandry in the kingdom (some small and very rich districts excepted) arises from the possession and management of this plant. Where there is no maize, there are fallows; and where there are fallows, the people starve for want. For the inhabitants of a country to live upon that plant, which is the preparation for wheat, and at the same time to keep their cattle fat upon the leaves of it, is to possess a treasure, for which they are indebted to their climate. The quantity of all the common sorts of fruits, which, through the greater part of France, is such as to form a considerable object in the subsistence of the great mass of people, is a point of more consequence than appears at first sight. To balance these favourable circumstances, other countries, not so happily situated (especially England) have advantages of an opposite nature, which are very material in the practice of their agriculture: that humidity of atmosphere, with the French provinces north of vines enjoy; which England has in a greater degree, and Ireland still more, and which is better marked by the hygrometer than by the rain gauge, is of singular importance in the maintenance of cattle by pasturage, and in adapting the courses of crops to their support. Artificial grasses, turnips, cabbages, potatoes, &c. thrive best in a humid climate. It would take up too much room here fully to explain this; to mention it will be sufficient for those who have reflected on similar subjects. From a due attention to all the various circumstances that affect this question, which, relatively to agriculture, is the best climate, that of France, or that of England? I have no hesitation in giving the preference to France. I have often heard, in conversation, the contrary asserted, and with some appearance of reason; but I believe the opinion has arisen more from considering the actual state of husbandry in the two countries, than the dis-

inct properties of the two climates. We make very good use of ours; but the French are, in this respect, in their infancy, through more than half the kingdom.\*

CHAP. V...OF THE POPULATION OF FRANCE.

AS the subject of population is best treated by an inquiry into the industry, agriculture, division of landed property, &c. I shall at present merely lay before the reader some facts collected with care in France, that afford useful data for political arithmeticians. Mons. P'abbe Expilly, in his Dictionnaire de la France, makes the number 21,000,000. And the marquis de Mirabeau† mentions an enumeration of the kingdom in 1755; total 18,107,000. In Normandy 1,665,200 and in Bretagne 847,500. Mons. de Buffon, in his Histoire Naturelle, assigns for the population of the kingdom 22,672,077. Mons. Messance, in his Recherches sur la Population, quarto, 1766, gives the details from which he draws the conclusion, that in many towns in Auvergne the births are to the number of inhabitants as 1 to  $24\frac{1}{2}\frac{1}{30}\frac{1}{30}$ ; the marriages per annum 1 to 114 inhabitants; and families, one with another, composed of  $5\frac{1}{3}\frac{1}{3}$ , or 24 families contain 124 inhabitants. In various towns in the Lyonnaise, births are to the inhabitants as 1 to  $23\frac{1}{2}$ ; the marriages per annum 1 to 111 persons; and families composed  $4\frac{3}{4}\frac{1}{30}$ ;‡ 80 families contain 381 inhabitants. In various towns in Normandy the births to the inhabitants as 1 to  $27\frac{1}{2}\frac{1}{30}$ ; marriages per annum 1 to 114 persons; families are composed of  $3\frac{1}{2}\frac{1}{3}\frac{1}{30}$ ; 20 represent 76 inhabitants. In the city of Lyons families are composed of  $5\frac{1}{3}\frac{1}{30}$ ; 60 represent 316 inhabitants; and there are a few above 24 persons per house in that city. In the city of Rouen families are composed of  $6\frac{1}{3}\frac{1}{30}$  persons; and there are  $6\frac{1}{3}\frac{1}{30}$  persons per house. At Lyons 1 in  $35\frac{1}{2}$  dies annually; at Rouen 1 in  $27\frac{1}{2}$ . Mean life in some parishes in the generality of Lyons 25 years; ditto in the generality of Rouen 25 years 10 months. At Paris 1 in 30 dies annually: a family consists of 8, and each house contains  $24\frac{1}{2}$  persons. By comparing the number of births in every month at Paris for forty years, he found that those in which conception flourished most were May, June, July, and August, and that the mortality for forty years was as follows:

Months.	Deaths.	Months.	Deaths.	Months.	Deaths.
March, -	77,803	February, -	66,789	October, -	54,897
April, -	76,815	December, -	60,926	September, -	54,339
May, -	72,198	June, -	58,272	November, -	54,029
January, -	69,166	July, -	57,339	August, -	52,479

It should appear from this table, that the influence of the sun is as important to human health as it is to vegetation. What pity that we have not similar tables of cities in all the different latitudes and circumstances of the globe.

\* The minute details concerning agriculture are omitted, as, however valuable in themselves, they little accord with the nature of this publication.

† L'Ami des Hommes, 1760, fifth edit. tom. iv. p. 184.

‡ The committee of Mendicite asserts, that each family in France consists of five, as each has three children. Cinquicme Rapport, p. 34.

At Clermont Ferrand 1 in 38 dies annually. At Carcassonne 1 in  $22\frac{1}{2}$ . At Valence 1 in  $24\frac{1}{2}$ . At Vitry le Francois 1 in  $23\frac{1}{2}$ . At Elbœuf 1 in  $29\frac{1}{2}$ . At Loviers 1 in  $31\frac{1}{2}$ . At Honfleur 1 in 24. At Vernon 1 in 25. At Gisors 1 in 29. At Pont-au-de-Mer 1 in 33. At Neufchatel 1 in  $24\frac{1}{2}$ . At Pont l'Eveque 1 in 26. At le Havre 1 in 35. Upon a comparison in seven principal provinces of the kingdom, population in sixty years has augmented in the proportion of 211 to 196, or a thirteenth. General deduction—that the number of people in France in 1764 was 23,909,400. Monsieur Moheau\* gives to the best peopled provinces 1700 inhabitants per square league; and to the worst 500; the medium 872, at which rate he makes the total 23,500,000, and an increase of a ninth since 1688. The isle of Oleron is peopled at the rate of 2886 per league, and that of Re 4205. He also calculates that 1 in 36 dies, and 1 in 26 is born every year. Mons. Necker, in his work de l'Administration des Finances de la France, has the following particulars, which it is also necessary to have in our attention: Births in the whole kingdom per annum on an average, of 1776, 77, 78, 79, and 80, were 963,207: which, multiplied by  $25\frac{1}{3}$ , the proportion he fixes on, gives 24,802,580 inhabitants in France. He notices the gross error of the œconomistes, in estimating the population of the kingdom at 15 or 16 millions. A later authority, but given in whole numbers, and therefore not accurate, states the population of the kingdom at 25,500,000 of which the clergy are supposed to be 80,000, the nobility 110,000 the protestants 3,000,000, and Jews 30,000:† the committee of imposts assert, that to multiply the births in the cities of France by 30, will give their population with sufficient truth; but for the country not so high.‡ The rule of 30 would make the population 28,896,210. But much later than all these authorities, the National Assembly has ordered such inquiries to be made into the population of the kingdom, as have produced a much greater degree of accuracy than was ever approached before: this has been done by the returns of taxes, in which all persons, not liable to be charged are entered in what we should call the duplicates; and as the directions for making these lists are positive and explicit, and no advantage whatever results to the people by concealing their numbers, but on the contrary, in many instances, they are favoured in taxation, by reason of the number of their children, we may surely conclude, that these returns are the safest guides to direct our calculations. Here follows the detail:

\* Recher. sur la Population de la France, octavo, 1778.

† Bibliotheque de l'Homme Publique, par Mess. de Condorcet, Peyssonnel, & le Chapelier, tom. iii.

‡ Rapport de Comite d' Impos sur les Taxes, p. 27.

ETAT GENERALE DE LA POPULATION DU ROYAUME DE LA FRANCE.

No.	Noms des Departemens.	Population des villes and bourgs.	Pop. des villages & des Cham-pagne.	Total de la population.	No.	Noms des Departemens.	Population des villes and bourgs.	Pop. des villages & des Cham-pagne.	Total de la population.
						Brought forward,	2,447,880	10,019,521	12,599,677
1	L'Ain, . . . . .	42,300	251,566	293,866	43	Du l'Orient, . . . . .	84,600	185,266	269,866
2	L'Aine, . . . . .	86,800	305,253	392,053	44	Du Lot, . . . . .	55,100	212,900	268,000
3	L'Allier, . . . . .	42,800	203,280	246,080	45	Du Lot & Garonne, . . . . .	39,200	262,666	308,666
4	Les Hautes Alpes, . . . . .	29,500	151,833	181,333	46	La Lozere, . . . . .	19,400	176,226	195,626
5	Des Basses Alpes, . . . . .	38,060	180,606	218,666	47	De Maine & Loire, . . . . .	94,000	200,666	294,666
6	L'Ardeche, . . . . .	24,600	185,533	210,133	48	La Manche, . . . . .	88,100	242,566	330,666
7	Les Ardennes, . . . . .	62,100	113,260	175,360	49	La Marne, . . . . .	76,200	206,466	282,666
8	L'Ariege, . . . . .	31,400	139,266	170,666	50	La Haute Marne, . . . . .	36,100	177,293	213,393
9	L'Aube, . . . . .	40,100	157,251	197,351	51	La Mayenne, . . . . .	73,600	243,533	322,133
10	L'Aude, . . . . .	48,400	203,120	251,520	52	La Meurthe, . . . . .	65,900	314,336	380,236
11	L'Aveyron, . . . . .	46,500	250,135	296,635	53	La Meuse, . . . . .	58,100	194,166	252,266
12	Les bouches du Rhône, . . . . .	163,200	158,933	322,133	54	Le Morbihan, . . . . .	42,400	448,266	490,666
13	Le Calvados, . . . . .	105,350	329,850	435,200	55	La Moselle, . . . . .	67,000	223,133	290,133
14	Le Cantal, . . . . .	39,950	237,385	277,335	56	La Nyevre, . . . . .	34,500	218,100	252,600
15	La Charente, . . . . .	44,100	224,060	268,160	57	Le Nord, . . . . .	168,800	390,733	568,533
16	La Charente Inférieure, . . . . .	89,120	279,306	368,426	58	L'Oise, . . . . .	53,900	266,100	320,000
17	Le Cher, . . . . .	47,900	228,366	276,266	59	L'Orne, . . . . .	57,800	328,333	386,133
18	La Correzé, . . . . .	52,750	221,692	274,442	60	Du Paris, . . . . .	556,800	168,533	725,333
19	La Corse, . . . . .			132,266	61	Le Pas de Calais, . . . . .	79,600	507,066	586,666
20	La Côté d'Or, . . . . .	59,350	367,983	427,333	62	Le Puy de Dome, . . . . .	82,550	322,783	405,333
21	Les Côtés du Nord, . . . . .	27,500	441,166	468,666	63	Les Hautes Pyrennées, . . . . .	35,000	124,866	157,866
22	La Creuse, . . . . .	22,800	244,293	267,093	64	Les Basses Pyrennées, . . . . .	55,490	231,465	286,955
23	La Dordogne, . . . . .	51,900	353,433	405,333	65	Les Pyrennées Orientales, . . . . .	31,100	131,033	162,133
24	Le Doubs, . . . . .	36,500	187,500	224,000	66	Le Haut Rhin, . . . . .	29,500	276,633	306,133
25	La Drome, . . . . .	29,900	194,100	224,000	67	Le Bas Rhin, . . . . .	90,500	272,366	362,666
26	L'Eure, . . . . .	76,600	323,400	400,000	68	Le Rhone and Loire, . . . . .	215,000	460,440	675,440
27	L'Eure et Loire, . . . . .	44,350	186,650	230,400	69	La Haute Saonne, . . . . .	18,700	231,966	250,666
28	Le Finisterre, . . . . .	63,000	417,000	480,000	70	Saonne and Loire, . . . . .	60,100	342,033	402,133
29	Du Gard, . . . . .	100,700	124,900	225,600	71	La Sarthe, . . . . .	66,500	296,166	362,666
30	De la Haute Garonne, . . . . .	71,600	182,053	253,653	72	Seine and Oise, . . . . .	105,900	214,100	320,000
31	Du Gers, . . . . .	54,000	214,200	268,200	73	La Seine Inférieure, . . . . .	184,550	261,316	445,866
32	La Gironde, . . . . .	209,000	408,000	608,000	74	La Seine and Marne, . . . . .	52,300	293,300	345,600
33	D'Hérault, . . . . .	102,700	155,833	264,533	75	Des deux Sevres, . . . . .	56,300	157,033	213,333
34	L'Ille et Villaine, . . . . .	50,800	439,866	490,666	76	La Somme, . . . . .	91,600	294,533	386,133
35	L'Indre, . . . . .	56,850	219,750	270,400	77	Le Var, . . . . .	51,900	171,500	230,400
36	L'Indre et Loire, . . . . .	82,500	267,366	349,866	78	Le Vendée, . . . . .	49,900	213,566	263,466
37	L'Isere, . . . . .	33,700	269,873	303,573	79	La Vienne, . . . . .	48,700	232,900	281,600
38	Du Jura, . . . . .	30,900	218,700	249,600	80	La Haute Vienne, . . . . .	41,300	140,033	181,333
39	Des Landes, . . . . .	36,500	209,700	246,200	81	Les Vosges, . . . . .	28,200	291,800	320,000
40	Loire et Cher, . . . . .	51,400	207,800	259,200	82	L'Yonne, . . . . .	72,900	366,566	439,466
41	La Haute Loire, . . . . .	41,100	172,233	213,333					
42	La Loire Inférieure, . . . . .	108,100	399,633	507,733					
	Carry forward,	2,447,880	10,019,531	12,599,677		Total,	5,709,270	20,521,538	26,363,074

Estimating the acres at 131,722,295, and the people as here detailed, we find that it makes, within a small fraction, five acres a head. That proportion would be 131,815,270 acres. If England were equally well peopled, there should be upon 46,915,933 acres, rather more than 9,000,000 souls. And for our two islands, to equal France in this respect, there should be in them 19,867,117 souls; instead of which there are not more than 15,000,000.

An observation, rather curious, may be made on this detail; it appears, that less than one-fourth of the people inhabit towns; a very remarkable circumstance, because it is commonly observed, and doubtless founded on certain facts, that in flourishing countries the half of a nation is found in towns. Many writers, I believe, have looked upon this as the proportion in England: in Holland, and in Lombardy, the richest countries in Europe, the same probably exists. I am much inclined to connect this singular fact, relating to France, with that want of effect and success in its agriculture, which I have remarked in almost every part of the kingdom; resulting also from the extreme division of the soil into little properties. It appears likewise, from this detail, that their towns

arc not considerable enough to give that animation and vigour to the industry of the country, which is best encouraged by the activity of the demand which cities afford for the products of agriculture. A more certain and unequivocal proof of the justice of my remarks, on the too great and mischievous division of landed property and farms in that kingdom could hardly have arisen: and it yields the clearest conviction, that the progress of national improvement has been upon the whole but small in France. The manufactures and commerce of the kingdom must have made a less advance than one would have conceived possible, not to have effected a proportion far different from this of a fifth. A really active industry, proportioned to the real resources of the kingdom, should long ago have purged the country (to use an expression of Sir James Stuart's) of those superfluous mouths, I do not say hands; for they eat more than they work; and it is their want of employment that ought to drive them into towns. Another observation is suggested by this curious table of population: I have repeatedly, in the diary of my journey, remarked, that the near approach to Paris is a desert compared to that of London; that the difference is infinitely greater than the difference of their population; and that the want of traffic, on the high roads, is found every where in the kingdom as well as at Paris. Now it deserves notice, that the great resort, which is every where observable on the highways of England, flows from the number, size, and wealth of our towns, much more than from any other circumstance. It is not the country, but towns that give the rapid circulation from one part of a kingdom to the other; and though, at first sight, France may be thought to have the advantage in this respect, yet a nearer view of the subject will allow of no such conclusion. In the following list, the English column has surely the advantage:

English.	French.	English.	French.
London,	Paris,	Manchester,	Rouen,
Dublin,	Lyons,	Birmingham,	Lille,
Edinburgh,	Bourdeaux,	Norwich,	Nismes,
Liverpool,	Marsilles,	Cork,	St. Malo,
Bristol,	Nantes,	Glasgow,	Bayonne,
Newcastle,	Havre,	Bath,	Versailles.
Hull,	Rochelle,		

The vast superiority of London and Dublin, to Paris and Lyons, renders the whole comparison ridiculous. I believe, London, without exaggeration, to be alone equal to Paris, Lyons, Bourdeaux, and Marseilles, as appears by the lists of population, and by the wealth and trade of all. But if we reflect, that the towns of England, &c. are portions of a population of fifteen millions only, and those of France parts of twenty-six millions, the comparison shews at once the vastly greater activity there must be in one country than in the other.\*

Of all the subjects of political œconomy, I know not one that has given rise to such a cloud of errors as this of population. It seems, for some centuries, to have been considered as the only sure test of national prosperity. The politicians of those times, and

\* What can be thought of those marvellous politicians, the nobility of Dourdon, who call for entrees at the gates of the cities, not as a good mode of taxation, but to restrain the too great populousness of cities, "which never takes place but by the depopulation of the country." Cahier, p. 20. The count de Mirabeau, in his *Monarchie Prussienne*, recurs often to the same idea. He was grossly erroneous, when he stated the subjects of the king of France as thrice more numerous than those of England, if he meant by England, as we are to suppose, Scotland and Ireland also. tom. i. p. 402.

the majority of them in the present, have been of opinion, that, to enumerate the people, was the only step necessary to be taken, in order to ascertain the degree in which a country was flourishing. Two-and-twenty years ago, in my "Tour through the North of England, 1769," I entered my caveat against such a doctrine, and presumed to assert, "that no nation is rich or powerful by means of mere numbers of people; it is the industrious alone that constitute a kingdom's strength;" that assertion I repeated in my "Political Arithmetic, 1774;" and in the second part, 1779, under other combinations. About the same time a genius of a superior cast (Sir James Stuart) very much exceeded my weak efforts, and, with a masterly hand, explained the principles of population. Long since that period, other writers have arisen who have viewed the subject in its right light; and of these none have equalled Mons. Herenschwandt, who, in his "Economie Politique Moderne, 1786;" and his "Discours sur la Division des Terres,\* 1788," has almost exhausted the subject. I shall not, however, omit to name the report of the committee of Mendicite in the national assembly. The following passage does the highest honour to their political discernment: "C'est ainsi que malgre les assertions, sans cesse repetees depuis vingt ans, de tous les ecrivains politiques qui placent la prosperite d'un empire dans sa plus grande population, une population excessive sans un grand travail & sans des productions abondantes, seroit au contraire une devorante surcharge pour un etat; car, il faudroit alors que cette excessive population partageat les benefices de celle qui, sans elle, eut trouve une subsistence suffisante; il faudroit que la meme somme de travail fut abandonnee a une plus grande quantite de bras; il faudroit enfin necessairement que le prix de ce travail baissat par la plus grande concurrence des travailleurs, d'on resulteroit une indigence complete pour ceux qui ne trouveroient pas de travail, & une subsistence incomplete pour ceux-memes aux quels il ne seroit pas refuse."† France itself affords an irrefragable proof of the truth of these sentiments; for I am clearly of opinion, from the observations I made in every province of the kingdom, that her population is so much beyond the proportion of her industry and labour, that she would be much more powerful, and infinitely more flourishing, if she had five or six millions less of inhabitants. From her too great population, she presents, in every quarter, such spectacles of wretchedness, as are absolutely inconsistent with that degree of national felicity, which she was capable of attaining even under her old government. A traveller much less attentive than I was to objects of this kind, must see at every turn most unequivocal signs of distress. That these should exist, no one can wonder who considers the price of labour, and of provisions, and the misery into which a small rise in the price of wheat throws the lower classes; a misery that is sure to increase itself by the alarm it excites, lest subsistence should be wanted. The causes of this great population were certainly not to be found in the benignity of the old government yielding a due protection to the lower classes, for, on the contrary, it abandoned them to the mercy of the privileged orders. It is fair, however, to observe, that there was nothing in the principles of the old government, so directly inimical to population, as to prevent its increase. Many croaking writers in France have repeatedly announced the depopulation of that kingdom, with pretty much the same truth and ingenuity that have been exercised on the same subject in England. Mons. Necker, in a very sensible passage, gives a decisive answer to them, which is at the same time thoroughly applicable to the state of England, as well as to that of France.‡ Nor can the great population of France be attributed to the climac, for the tables of births

\* See particularly, p. 48, 51, &c.

† Plan de Travail du Comite pour l'extinction de la Mendicite presente par M. de Liancourt, octavo, p. 6, 1790.

‡ De l'Administ. des Finances. Ouvres, quarto, Londres, p. 320.

and burials offer nothing more favourable in that kingdom, than in our own. And a much worse climate in Holland and Flanders, and in some parts of Germany and Italy, is attended with a still greater populousness.\* Nor is it to be imputed to an extraordinary prosperity of manufactures, for our own are much more considerable, in proportion to the number of people in the two countries.

This great populousness of France I attribute very much to the division of the lands into small properties, which takes place in that country to a degree of which we have in England but little conception. Whatever promises the appearance even of subsistence, induces men to marry. The inheritance of ten or twelve acres to be divided amongst the children of the proprietor, will be looked to with the views of a permanent settlement, and either occasions a marriage, the infants of which die young for want of sufficient nourishment; † or keeps children at home, distressing their relations, long after the time that they should have emigrated to towns. In districts that contain immense quantities of waste land of a certain degree of fertility, as in the roots of the Pyrenees, belonging to communities ready to sell them, œconomy and industry, animated with the views of settling and marrying, flourish greatly; in such neighbourhoods something like an American increase takes place; and, if the land be cheap, little distress is found. But as procreation goes on rapidly, under such circumstances, the least check to subsistence is attended with great misery; as wastes becoming dearer, or the best portions being sold, or difficulties arising in the acquisition; all which cases I met with in those mountains. The moment any impediment happens, the distress of such people will be proportioned to the activity and vigour which had animated population. It is obvious, that in the cases here referred to, no distress occurs, if the manufactures and commerce of the district are so flourishing as to demand all this superfluity of rural population as fast as it arises; for that is precisely the balance of employments which prevails in a well regulated society; the country breeding people to supply the demand and consumption of towns and manufactures. Population will, in every state, increase perhaps too fast for this demand. England is in this respect, from the unrivalled prosperity of her manufactures, in a better situation than any other country in Europe; but even in England population is sometimes too active, as we see clearly by the dangerous increase of poor's rates in country villages; and her manufactures being employed very much for supplying foreign consumption, they are often exposed to bad times; to a slack demand, which turns thousands out of employment, and sends them to their parishes for support. Since the conclusion of the American war, however, nothing of this kind has happened; and the seven years which have elapsed since that period, may be named as the most decisively prosperous which England ever knew. It has been said to me in France, would you leave uncultivated lands waste, rather than let them be cultivated in small portions, through a fear of population? I certainly would not: I would on the contrary, encourage their culture; but I would prohibit the division of small farms, which is as mischievous to cultivation, as it is sure to be distressing to the people. The indiscriminate praise of a great sub-division, which has found its way unhappily into the national assembly, must have arisen from a want of examination into facts: go to districts where the properties are minutely divided, and you will find (at least I have done it universally) great distress, and even misery, and probably very bad agriculture. Go to others, where such sub-division

\* A very ingenious Italian writer states the people of France at 1290 souls per league; and in Italy at 1335. *Fabbroni Reflexions sur l'Agric.* p. 243.

† Mons. Necker, in the same section as that quoted above, remarks this to be the case in France; and justly observes, that the population of such a country being composed of too great a proportion of infants, a million of people implies neither the force nor labour of a million in countries otherwise constituted.



has not taken place, and you will find a better cultivation, and infinitely less misery ; and if you would see a district, with as little distress in it as is consistent with the political system of the old government of France, you must assuredly go where there are no little properties at all. You must visit the great farms in Beauce, Picardy, part of Normandy, and Artois, and there you will find no more population than what is regularly employed and regularly paid ; and if in such districts you should, contrary to this rule, meet with much distress, it is twenty to one but that it is in a parish which has some commons that tempt the poor to have cattle, to have property, and, in consequence, misery. When you are engaged in this political tour, finish it by seeing England, and I will shew you a set of peasants well clothed, well nourished, tolerably drunken from superfluity, well lodged, and at their ease ; and yet amongst them, not one in a thousand has either land or cattle. When you have viewed all this, go back to your tribune, and preach, if you please, in favour of a minute division of landed property. There are two other gross errors, in relation to this subject, that should be mentioned ; these are, the encouragements that are sometimes given to marriage, and the idea of the importance of attracting foreigners. Neither of these is at all admissible on just principles, in such a country as France. The predominant evil of the kingdom, is the having so great a population, that she can neither employ nor feed it ; why then encourage marriage ? would you breed more people, because you have more already than you know what to do with ? You have so great a competition for food, that your people are starving or in misery ; and you would encourage the production of more to encourage that competition. It may almost be questioned, whether the contrary policy ought not to be embraced ? whether difficulties should not be laid on the marriage of those who cannot make it appear that they have a prospect of maintaining the children that shall be the fruit of it ? But why encourage marriages which are sure to take place in all situations in which they ought to take place ? There is no instance to be found of plenty of regular employment being first established, where marriages have not followed in a proportionate degree. The policy, therefore, at best is useless, and may be pernicious. Nor is the attraction of foreigners desirable in such a kingdom as France. It does not seem reasonable to have a peasantry half starved for want of employment, arising from a too great populousness ; and yet, at the same time, to import foreigners, to increase the competition for employment and bread, which are insufficient for the present population of the kingdom. This must be the effect, if the new comers be industrious ; if they belong to the higher classes, their emigration from home must be very insignificant and by no means an object of true policy ; they must leave their own country, not in consequence of encouragement given in another, but from some strokes of ill policy at home. Such instances are indeed out of the common course of events, like the persecutions of a duke d'Alva, or the revocation of the edict of Nantes. It is the duty of every country, to open its arms, through mere humanity, to receive such fugitives ; and the advantages derived from receiving them may be very considerable, as was the case with England. But this is not the kind of emigrations to which I would allude, but rather to the establishment of such colonies as the king of Spain's, in the Sierre Morena. German beggars were imported, at an immense expence, and supplied with every thing necessary to establish little farms in those deserts ; whilst at the same time, every town in Spain swarmed with multitudes of idle and poor vagrants, who owed their support to bishops and convents. Suppress gradually this blind and indiscriminate charity, the parent of infinite abuse and misery, and at the same time give similar employments to your own poor ; by means of this policy, you will want no foreigners ; and you may settle ten Spanish families for the expence of one German. It is very common to hear of the want of population in Spain, and some other countries ; but such ideas are usually the result of ignorance, since all ill govern-

ed countries are commonly too populous. Spain, from the happiness of its climate, is greatly so, notwithstanding the apparent scarcity of inhabitants; for, as it has been shewn above, that country which has more people than it can maintain by industry, who must either starve, or remain a dead weight on the charity of others, is manifestly too populous;\* and Spain is perhaps the best peopled country in Europe, in proportion to its industry. When the great evil is having more people than there is wisdom, in the political institutes of a country to govern, the remedy is not by attracting foreigners, it lies much nearer home.

## CONSUMPTION.

Twenty Years Consumption at Paris, of Oxen, Calves, Sheep, and Hogs, as entered in the Books of the Entrees.									
Years.	Oxen.	Calves.	Sheep.	Hogs.	Years.	Oxen.	Calves.	Sheep.	Hogs.
1767,	68,763	106,579	358,577	37,899	1777,	71,755	104,000	343,300	35,823
68,	69,985	112,949	344,320	32,299	78,	73,606	107,292	328,868	36,204
69,	66,586	111,608	333,916	36,186	79,	73,468	99,952	324,028	38,211
70,	66,818	110,578	335,013	36,712	80,	71,488	104,825	308,043	41,419
71,	65,360	107,598	314,124	30,753	81,	70,484	99,533	317,681	41,405
72,	63,390	101,791	293,946	28,610	82,	72,107	100,706	316,763	44,772
73,	65,324	99,749	309,137	29,391	83,	71,042	98,478	321,627	39,177
74,	68,025	103,247	309,573	30,032	84,	72,984	100,112	327,034	39,621
75,	68,306	109,235	309,662	32,722	85,	73,846	94,727	322,628	28,697
76,	71,208	102,291	328,505	37,740	86,	73,088	89,575	328,699	39,577
Average.....Oxen, 69,883. Calves, 103,271. Sheep, 323,762. Hogs, 36,332.									

These are the quantities for which duties are paid; but it is calculated by the officers of the customs, that what enters contraband, and for which nothing is paid, amounts to one-sixth of the whole.†

The consumption of flour is 1500 sacks per diem, each weighing 320lb. requiring nine septiers of corn to yield four of those sacks, or 3375 septiers per diem. This is, per annum, 1,231,875 septiers; the French political arithmeticians agree in calculating the consumption of their people per head, at three septiers for the whole kingdom on an average; but this will not lead us to the population of the capital, as the immense consumption of meat in it must evidently reduce considerably that proportion. It may probably be estimated at two septiers, which will make the population 615,937 souls. Mons. Necker's account of the population was 660,000. The enumeration in 1790 made the numbers no more than 550,800; and there are abundant reasons for believing the assertion, that this capital was diminished by the revolution in that proportion at least. This point is, however, ascertained by the consumption, which is now 1350 sacks a day, or reduced one-tenth, which, at two septiers of corn, implies a population of

\* An Italian author, with whom I had the pleasure of conversing at Turin, justly observes, "Quanto la popolazione proporzionata ai prodotti della natura e dell' arte e vantaggiosa ad una nazione, altrettanto e nociva una popolazione soverchia." L'Abbate Vasco, Risposta al quesito proposto da lia Reale Accad. delle Scienze, &c. octavo, 1788. p. 85.

† To some it may appear strange, how such a commodity as live oxen, can be smuggled in great quantities; but the means of doing it are numerous; one was discovered, and many more of the same sort are supposed to exist undiscovered: a subterraneous passage was pierced under the wall, going from a court-yard without the wall, to a butcher's yard within; and whole droves of oxen, &c. entered by it in the night for a long time, before it was known. The officers of the barriers are convinced, that on an average of commodities, one-sixth is smuggled.

554,344; and as this comes within 2000 of the actual enumeration, it proves that two septiers a head is an accurate estimate; and though it does not perfectly agree with Mons. Necker's account of the former population of Paris, yet it is much nearer to it than the calculations made to correct that account, by Dr. Price, and by the very able and ingenious political arithmetician, Mr. Howlet. As the late enumeration shews the population of Paris to have been (proportionably to the consumption of corn) 615,937 souls, when its births amounted to 20,550, this fact confirms the general calculation in France, that the births in a great city are to be multiplied by thirty; for the above mentioned number so multiplied, gives 616,500, which comes so near the truth, that the difference is not worth correcting. M. Necker's multiplier is confirmed clearly; and the event, which gives to France a population of 26,000,000, has proved, that Dr. Price, who calculated them at above 30,000,000, was as grossly mistaken in his exaggeration of French populousness, as Mr. Howlet has shewn him to be in his diminution of that of England. It seems indeed to have been the fate of that calculator to have been equally refuted upon almost every political question he handled; the mischief of inclosures; the depopulation of England; the populousness of France; and the denunciation of ruin he pronounced so authoritatively against a variety of annuitant societies, that have flourished almost in proportion to the distresses he assigned them. The consumption of wine at Paris, on an average of the last twenty years, has been from 230,000 to 260,000 muids per annum; average 245,000. In 1789 it sunk rather more than 50,000 muids, by smuggling during the confusion of that period. In 245,000 muids there are 70,560,000 Paris pints, or English quarts, which makes the daily consumption 193,315 quarts; and if to this, according to the computation of the commis of the barriers, one-sixth is to be added for smuggling, it makes 225,534, which is one-third of a quart, and one-tenth of that third per head per diem. The consumption of meat is very difficult to be calculated, because the weight of the beasts is not noted; I can guess at it only, and therefore the reader will pay no other attention to what follows than to a mere conjecture. I viewed many hundreds of the oxen, at different times, and estimate the average at sixty stone; but as there are doubtless many others smaller, let us calculate at 50, or 700lb. and let us drop smuggling in these cases, since though it may on the whole, be one-sixth yet it cannot be any thing like that in these commodities; the calves at 120lb. the sheep at 60lb. and the hogs at 100lb.

Oxen,	-	-	-	-	69,893, at 700lb.	48,918,100lb.
Calves,	-	-	-	-	103,271, at 120	12,392,520
Sheep,	-	-	-	-	323,762, at 60	19,425,720
Hogs,	-	-	-	-	36,333, at 100	3,633,200
Total,*						84,369,540

This quantity divided amongst a population of 615,937, gives to each person 136lb. of meat for his annual consumption, or above one-third of a pound per diem. During the same twenty years, the consumption of London was on an average, per annum, 92,539 oxen, and 649,369 sheep.† These oxen probably weighed 840lb. each, and the sheep 100lb.; which two articles only, without calves or hogs, make 142,669,660;

\* Long since this was written, I received Mons. Lavoisier's Resultats d'un ouvrage, 1791, in which he gives a table of the Paris consumption; but I do not know on what authority, for the weight per head he makes the total of all meats 82,300,000lb.

† Report of the Com. of the Court of Common Council, 1786, folio, p. 75.

yet these quantities do not nearly contain the whole number brought to London, which for want of such taxes as at Paris, can be discovered with no certainty. The consumption of Brest is registered for the year 1778, when 22,000 people, in 1900 houses consumed 82,000 boiscan, each 150lb. of corn of all sorts; 16,000 barriques of wine and brandy, and 1000 of cider and beer.\* This consumption amounted to per head—corn  $2\frac{1}{3}$  septiers, of 240lb. per annum; wine, brandy, beer, and cyder, one-third of a quart per head per diem. Nancy, in 1733, when it contained 19,645 souls, consumed,

Oxen 2402. Calves 9073. Sheep 11,863. Total 23,338.

It consumed, therefore, more than one of these pieces per head of its population. In 1738, when it contained 19,831 souls, it consumed,

Oxen 2309. Calves 5038. Sheep 9549. Total 16,896;†

above three-fourths each. The consumption of Paris is three-fourths of one of these beasts per head of population. As the finest cattle in the kingdom are sent to the capital, the proportions in number ought to be less; but the wealth of that capital would have justified the supposition of a still greater comparative consumption.

#### CHAP. XVII....OF THE POLICE OF CORN IN FRANCE.

OF all subjects, there is none comparable to the police of corn, for displaying the folly to which men can arrive, who do not betray a want of common sense in reasoning on other topics. One tells us (I confine myself chiefly to French authorities, engaged as I am at present in researches in that kingdom) that the price is in exact proportion to the quantity of corn, and to the quantity of money at the same time in the kingdom;‡ and that when wheat sells at 36 livres the septier, it is a proof there is not half enough to last till harvest.§ He proposes to have magazines in every market, and to prohibit under severe penalties, a higher price than 24 livres. This would be the infallible method to have it very soon at 50, and perhaps 100 livres. That the price of corn does not depend on the quantity of money, is proved by the sudden rise proceeding from alarms, of which this author might have known an instance in the year he printed; for M. Necker's memoir to the National Assembly was no sooner dispersed, than the price rose in one week 30 per cent.; yet the quantity in the kingdom both of money and corn, remained just as before that memoir was published. But it has already been sufficiently proved, that a very small deficiency of the crop will make an enormous difference in the price. I may add that the mere apprehension of a deficiency, whether ill or well founded, will have the same effect. From this circumstance, I draw a conclusion of no trifling import to all governments; and that is, never to express publicly any apprehension of a want of corn; and the only method by which government can express their fears, is by proclamations against export: prohibitions; ordinances of regulation of sale; arrets, or laws against monopolizers; or vain and frivolous boasts, like those of Mons. Necker, of making great imports from abroad; all these measures have the same tendency; they confirm amongst the people the apprehension of want; for when it is found amongst the lowest orders, that government is alarmed, as well as they themselves, their own fears augment; they rise in a rage against monopolizers, or speculators, as they ought rather to be called, and then every step they take has the never-

\* Encyclop. Methodique Marine, tom. i. part 1. p. 198.

† Descrip. de la Lorraine, par M. Durival, 3 tom. quarto, 1778, t. ii. p. 5.

‡ Consid. sur la Cherte des Grains, par M. Vaudrey, 1789, octavo, p. 5.

§ Ib. p. 7, 8, 19.

failing effect of increasing the evil; the price rises still higher, as it must do inevitably, when such furious obstructions are thrown on the interior trade in corn, as to make it a matter of great and serious danger to have any thing to do with it. In such a situation of madness and folly in the people, the plenty of one district cannot supply the want of another, without such a monstrous premium, as shall not only pay the expence of transport, but insure the corn, when lodged in granaries, against the blind and violent suspicions of the people. To raise this spirit, nothing more is necessary than for government to issue any decree whatever, that discovers an alarm; the people immediately are apprehensive of famine; and this apprehension can never take place without creating the reality in a great measure. It is therefore the duty of a wise and enlightened government, if at any time they should fear a short provision of corn, to take the most private and cautious measures possible, either to prevent export, by buying up the corn that is collected for exportation, and keeping it within the kingdom, a measure easy to be done through individuals, or to encourage import, and to avoid making any public decree or declaration. The history of corn, in France, during the year 1789, was a most extraordinary proof of the justness of these principles. Wherever I passed, and it was through many provinces, I made inquiries into the causes of the scarcity; and was every where assured, that the dearness was the most extraordinary circumstance in the world: for, though the crop had not been great, yet it was about an average one; and consequently that the deficiency must certainly have been occasioned by exportation. I demanded, if they were sure that an exportation had taken place? They replied, no; but that it might have been done privately: this answer sufficiently shewed, that these exports were purely ideal. The dearness, however, prevailed to such a degree, in May and June particularly (not without being fomented by men who sought to blow the discontents of the people into absolute outrage) that Mons. Necker thought it right not only to order immense cargoes of wheat, and every other sort of corn, to be bought up all over Europe, but likewise in June, to announce to the public, with great parade, the steps that he had taken, in a paper called *Memoire Instructif*, in which he stated, that he had bought, and ordered to be bought, 1,404,463 quintaux of different sorts of grain, of which more than 800,000 were arrived. I was a personal witness, in many markets, of the effect of this publication; instead of sinking the price, it raised it directly, and enormously. Upon one market day, at Nangis, from 38 livres to 43 livres the septier of 240lb.; and upon the following one to 49 livres, which was July 1st; and on the next day, at Columiers, it was taxed by the police at 4 livres 5s. and 4 livres 6s. the 25lb.; but as the farmers would not bring it to market at that price, they sold it at their farms at 5½ livres, and even 6 livres, or 57 livres the septier. At Nangis it advanced, in fourteen days, 11 livres a septier; and at Columiers a great deal more. Now, it is to be observed, that these markets are in the vicinity of the capital, for which Mons. Necker's great foreign provision was chiefly designed; and consequently if his measures would have had any where a good effect, it might have been expected here; but since the contrary happened, and the price, in two markets, was raised 25 per cent. we may reasonably conclude, that it did good no where; but to what was this apparent scarcity imputable? Absolutely to Mons. Necker's having said in his memoir, *a mon arivee dans la ministere je me hatai de prendre des informations sur le produit de la recolte & sur les besoins des pays etrangers.\** It was from these unseasonable inquiries in September

\* He has introduced a tissue of the same stuff in his *Memoir sur L'Administration de M. Necker*, par lui meme, p. 367, where he says, with the true ignorance of the prohibitory system, "*Mon systeme sur l'exportation des grains est infiniment simple, ainsi que j'ai eu souvent l'occasion de le developper; il se borne a n'en avoir aucun d'immuable, mais a defendre ou permettre cette exportation*

1788, that all the mischief was derived. They pervaded the whole kingdom, and spread an universal alarm; the price in consequence arose; and when once it rises in France, mischief immediately follows, because the populace, by their violence, render the internal trade insecure and dangerous. The business of the minister was done in a moment; his consummate vanity, which, from having been confined to his character as an author, now became the scourge of the kingdom, prohibited the export for no other reason, than because the archbishop of Sens had the year before allowed it, in contradiction to that mass of errors and prejudices which M. Necker's book upon the corn trade had disseminated. It is curious to see him, in his *Memoir Instructif*, asserting, that France, in 1787, *etait livree au commerce des grains dans tout le royaume, avec plus d'activite, que jamais & l'on avoit envoye dans l'etranger une quantite considerable de grains.* Now, to see the invidious manner in which this is put, let us turn to the register of the Bureau General de la balance du Commerce, where we shall find the following statement of the corn trade for 1787:

Imports.			Exports.		
Wheat,	-	8,116,000 liv.	Corn, -	-	3,165,600 liv.
Rice, -	-	2,040,000	Wheat, -	-	6,559,900
Barley,	-	375,000	Legumes, -	-	949,200
Legumes,	-	945,000			<u>10,674,700</u>
		<u>11,476,000</u>			

selon le temps & selon les circonstances." When a man starts upon a rotten foundation, he is sure to flounder in this manner; the simplicity of a system to be new-moulded every moment, "selon le temps & selon les circonstances!" And who is to judge of these seasons and circumstances? A minister? A government? These, it seems, are to promulgate laws, in consequence of their having made inquiries into the state of crops and stocks on hand. What presumption! what an excess of vanity must it be, which impels a man to suppose, that the truth is within the verge of such inquiries; or, that he is one line, or one point nearer to it, after he has made them before he began. Go to the intendant in France, or to the lord lieutenant of England, and suppose him to receive a letter from government directing such inquiries; pursue the intelligence, follow him to his table for conversation on crops, or in his ride among the farmers (an idea that may obtain in England, but never was such a ride taken by an intendant in France) in order to make inquiries; mark the desultory, broken, and false specimens of the intelligence he receives, and then recur to the simplicity of the system that is to be founded on such inquiries. Mons. Necker writes as if we were ignorant of the sources of his information. He ought to have known that ministers can never procure it; and that they cannot be so good an authority for a whole kingdom, at a country gentleman, skilled in agriculture, is for his own parish; yet what gentleman would presume to pronounce upon a crop to the 360th part of its amount, or even to the 20th? But it must be observed, that all Mons. Necker's simple operations, which caused an unlimited import, at an unlimited expence, affected not one twentieth part of a year's consumption by the people, whose welfare he took upon him to superintend. If this plain fact, the undoubted ignorance of every man what the crop is, or has been, in such fractions as  $\frac{1}{20}$ ,  $\frac{1}{30}$ ,  $\frac{1}{40}$ , and much more  $\frac{1}{50}$ , be well considered, it will surely follow, that an absolute and unbounded liberty in the corn trade is infinitely more likely to have effect, than such paltry, deceitful, and false inquiries as this minister, with his system of complex simplicity, was forced, according to his own account, to rely upon. Let the reader pursue the passage, p. 369, the prevoyance of government; application; hater le mouvement du commerce; attrait prochain; calculs. A pretty support for a great nation! Their subsistence is to depend on the combination of a visionary declaimer, rather than on the industry and energy of THEIR OWN exertions. Mons. Necker's performance deserves an attentive perusal, especially when he paints pathetically the anxieties he suffered on account of the want of corn. I wished that those who read it would only carry in their minds this undoubted fact, that the scarcity which occasioned those inquietudes was absolutely and solely of his own creating; and that if he had not been minister in France, and that government had taken no step whatever in this affair, there would not have been such a word as scarcity heard in the kingdom. He converted, by his management, an ordinarily short crop into a scarcity; and he made that scarcity a famine; to remedy which, he assumes so much merit, as to nauseate a common reader.

This account shews pretty clearly how well founded the minister was, when he attempted to throw on the wise measure of his predecessor the mischiefs which arose from his own pernicious prejudices alone; and how the liberty of commerce, which had taken place most advantageously in consequence of the free trade in 1787, had been more an import trade than an export one; and of course, it shews, that when he advised his sovereign to prohibit that trade, he acted directly contrary even to his own principles; and he did this at the hazard of raising a general alarm in the kingdom, which is always of worse consequence than any possible export. His whole conduct, therefore, was one continued series of such errors, as can, in a sensible man, be attributed only to the predominant vanity that instigated him to hazard the welfare of a great nation to defend a treatise of his own composition. But as this minister thought proper to change the system of a natural export and import; and to spread, by his measures, an alarm amongst the people, that seemed to confirm their own apprehensions, let us next examine what he did to cure the evils he had thus created. He imported, at the enormous expence of 45,543,697 livres (about 2,000,000 sterling) the quantity of 1,404,465 quintaux of corn of all sorts, which, at 240lb. make 585,192 septiers, sufficient to feed no more than 195,064 people a year. At three septiers per head, for the population of 26 millions of mouths, this supply, thus egregiously boasted of, would not, by 55,908 septiers, feed France even for three days; for her daily consumption is 213,700 septiers, nor have I the least doubt of more persons dying of famine, in consequence of his measures, than all the corn he procured would feed for a year.\* So absolutely contemptible is all importation as a remedy for famine! and so utterly ridiculous is the idea of preventing your own people from being starved, by allowing an import which, in its greatest and most forced quantities, bears so trifling a proportion to the consumption of a whole people, even when bribed, rather than bought from every country in Europe! But a conclusion of much greater importance is to be deduced from these curious facts, in the most explicit confirmation of the preceding principles, that all great variations in the price of corn are engendered by apprehension, and do not depend on the quantity in the markets. The report of Mons. Necker's measures we have found, did not sink, but raised the price: providing France with less than three days bread, when blazed forth with all the apparatus of government, actually raised the price in the markets, where I was a witness, 25 per cent. Of what possible consequence was three days provision added to the national stock, when compared with the misery and famine implied, and which actually took place in consequence of pushing the price up so enormously, by Mons. Necker's measures? Would it not have been infinitely wiser never to have stopped the trade, which I have proved to have been a trade of import? Never to have expressed any solicitude? Never to have taken any public steps, but to have let the demand and supply quietly meet, without noise and without parade? The consequence would have been, saving forty-five millions of the public money, and the lives of some hundred thousands, starved by the high price that was created, even without a scarcity; for I am firmly persuaded, that if no public step whatever had been taken, and the archbishop of Sens' edict never repealed, the price of wheat in no part of France would have seen, in 1789, so high a rate as 30 livres, instead of rising to 50 and 57 livres. If there is any truth in these principles, what are we to think of the first minister hunting after a little popularity, and boasting

\* At a moment when there was a great stagnation in every sort of employment, a high price of bread, instead of a moderate one, must have destroyed many; there was no doubt of great numbers dying for want in every part of the kingdom. The people were reduced in some places to eat bran and boiled grass. *Journal de l'Alp Nat. tom. i.*

in his Memoire, that the king allowed only bread of wheat and rye mixed to be served at his own table? What were the conclusions to be looked for in the people, but that if such were the extremities to which France was reduced, all were in danger of death for want of bread. The consequence is palpable; a blind rage against monopolizers, hanging bakers, seizing barges, and setting fire to magazines; and the inevitable effect of a sudden and enormous rise in the price, wherever such measures are precipitated by the populace, who never are truly active but in their own destruction. It was the same spirit that dictated the following passage, in that Memoire Instructif, "Les accaparemens sont la premiere cause a laquelle la multitude attribue la cherte des grains, & en effet on souvent eu lieu de se plaindre de la cupidite des speculateurs."\* I cannot read these lines, which are as untrue in fact as erroneous in argument, without indignation. The multitude never have to complain of speculators; they are always greatly indebted to them. There is no such thing as monopolizing corn but to the benefit of the people.† And all the evils of the year 1789 would have been prevented, if monopoli-

\* This is pretty much like his sending a memoir to the national assembly, which was read October 24, in which the minister says, Il est donc urgent de defendre de plus en plus l'exportation en France; mais il est difficile de veiller a cette prohibition. On a fait placer des cordons de troupes sur les frontieres a cette effect. Journal des Etats Generaux, tom. v. p. 194. Every expression of this nature becoming public, tended to inflame the people, and consequently to raise the price.

† I am much inclined to believe, that no sort of monopoly ever was, or ever can be injurious without the assistance of government; and that government never tends in the least to favour a monopoly without doing infinite mischief. We have heard in England of attempts to monopolize hemp, allum, cotton, and many other articles: ill-conceived speculations, that always ended in the ruin of the schemers, and eventually did good, as I could shew, if this were the proper place. But to monopolize any article of common and daily supply and consumption to a mischievous degree, is absolutely impossible: to buy large quantities, at the cheapest season of the year, in order to hoard and bring them out at the very dearest moment, is the idea of a monopolizer or accapareur: this is, of all other transactions, the most beneficial towards an equal supply. The wheat which such a man buys is cheap, or he would not buy it with a view to profit: What does he do then? He takes from the market a portion, when the supply is large; and he brings that portion to the market when the supply is small; and for doing this you hang him as an enemy. Why? Because he has made a private profit, perhaps a very great one, by coming in between the farmer and the consumer. What should induce him to carry on his business, except the desire of profit? But the benefit of the people is exactly in proportion to the greatness of that profit, since it arises directly from the low price of corn at one season, and the dearness of it at another. Most clearly any trade which tends to level this inequality is advantageous in proportion as it effects it. By buying great quantities when cheap, the price is raised, and the consumption forced to be more sparing: this circumstance can alone save the people from famine; if, when the crop is scanty, the people consume plentifully in autumn, they must inevitably starve in summer; and they certainly will consume plentifully if corn is cheap. Government cannot step in and say, you shall now eat half a pound of bread only, that you may not by and by be put to half an ounce. Government cannot do this without erecting granaries, which we know, by the experience of all Europe, is a most pernicious system, and done at an expence which, if laid out in premiums, encouraging cultivation, would convert deserts into fruitful corn-fields. But private monopolizers can and do effect it; for by their purchases in cheap months they raise the price, and exactly in that proportion lessen the consumption; this is the great object, for nothing else can make a short crop hold out through the year: when once this is effected, the people are safe; they may pay very dear afterwards, but the corn will be forth-coming, and they will have it though at an high price. But reverse the medal, and suppose no monopolizers; in such a case, the cheapness in autumn continuing, the free consumption would continue with it: and an undue portion being eaten in winter, the summer would come without its supply: this was manifestly the history of 1789; the people enraged at the idea of monopolizers, not at their real existence (for the nation was starving for want of them) hung the miserable dealers, on the idea of their having done what they were utterly unable to do. Thus, with such a system of small farms as empty the whole crop into the markets in autumn, and make no reserve for summer, there is no possible remedy, but many and great monopolizers, who are beneficial to the public exactly in proportion to their profits. But in a country like England divided into large farms, such corn dealers are not equally wanted; the farmers are rich enough to wait for their returns, and keep a due reserve in stacks to be threshed in summer; the best of all methods of keeping corn and the only one in which it receives no damage.



zers, by raising the price in the preceding autumn, and by lessening the consumption, had divided the supply more equally through the year. In a country like France, subdivided mischievously into little farms, the quantity of corn in the markets in autumn is always beyond the proportion reserved for supplying the rest of the year; of this evil, the best remedy is, enlarging the size of farms; but when this does not take place, the dealings of monopolizers are the only resource. They buy when corn is cheap, in order to hoard it till it is dear; this is their speculation, and it is precisely the conduct that keeps the people from starving; all imaginable encouragement should be given to such merchants, whose business answers every purpose of public granaries, without any of the evils that are sure to flow from them.\* It may easily be conceived, that in a country where the people live almost entirely on bread, and the blind proceedings of mobs are encouraged by arrets of parliaments, seconded by such blunders of government as I have described, and unaided by the beneficial existence of real monopolizers; it may easily be conceived, I say, that the supply must be irregular, and in many instances insufficient; it must be insufficient, exactly in proportion to the violence of the populace; and a very high price will be the unavoidable consequence, whatever may be the quantity in the kingdom. In June and July 1789, the markets were not opened before troops arrived to protect the farmers from having their corn seized; and the magistrates, to avoid insurrections among the people, set the assize too low upon corn, bread, and butcher's meat; that is, they fixed the prices at which they were to be sold, which is a most pernicious regulation. The farmers, in consequence, refrained from going to market, in order to sell their wheat at home at the best price they could get, which was of course much higher than the assize of the markets. How well these principles, which such ample experience proves to be just, are understood in France, may be collected from the cahiers, many of whom demand measures which, if really pursued, would spread absolute famine through every province in the kingdom. It is demanded at one place, "that as France is exposed to the rigours of famine, every farmer should be obliged to register his crop of every kind, gerbs, bottes, muids, &c. and also every month the quantity sold."† Another requires, "that export be severely prohibited, as well as the circulation from province to province; and that importation be always allowed."‡ A third,§ "that the severest laws be passed against monopolizers; a circumstance which at present desolates the kingdom." A system of prohibition of export is demanded by no less than twelve cahiers.|| And fifteen demand the erection of public magazines.¶ Of all solecisms, none ever equalled Paris demanding that the transport of corn from province to province should be prohibited. Such a request is

\* Well has it been observed by a modern writer, Lorsque les recolttes manquent en quelque lieu d'un grand empire, les travaux du reste de ses provinces elant payes d'une heureuse fecundite suffisent a la consommation de la totalite. Sans sollicitude de la part du gouvernement, sans magazins publics, par le seul effet d'une communication libre & facile on n'y connoit ni disette ni grande cherte. *Theorie de Luxe*, tom. i. p. 5.

† Tier Etat de Mendon, p. 36. ‡ Tier Etat de Paris, p. 43. § Tier Etat de Reims, art. 110.

|| Nob. de Quesnoy, p. 24. Nob. de St. Quintin, p. 9. Nob. de Lille, p. 20. T. Etat de Reims, p. 20. T. Etat de Rouen, p. 43. T. Etat de Dunkerque, p. 15. T. Etat de Metz, p. 46. Clerge de Rouen, p. 24. T. Etat de Rennes, p. 65. T. Etat de Valenciennes, p. 12. T. Etat de Troyes, art. 96. T. Etat de Dourdon, art. 3.

¶ I have lately seen (January, 1792) in public print, the mention of a proposal of one of the ministers to erect public magazines; there wants nothing else to complete the system of absurdity in relation to corn which has infested that fine kingdom. Magazines can do nothing more than private accapereurs; they can only buy when corn is cheap, and sell when it is dear; but they do this at such a vast expence, and with so little œconomy, that if they do not take an equal advantage and profit with private speculators, they must demand an enormous tax to enable them to carry on their business; and if they do take such profit, the people are never the better for them. Mr. Symonds, in his paper on the public magazines of Italy, has proved them to be every where nuisances. See *Annals of Agriculture*, vol. xiii. p. 299. &c.

really edifying, by offering to the attention of the philosophical observer, mankind under a new feature, worthy of the knowledge and intelligence that ought to reign in the capital of a great empire; and Monsieur Necker was exactly suited to be minister in the corn department of such a city! The conclusions to be drawn from the whole business, are evident enough. There is but one policy which can secure a supply with entire safety to a kingdom so populous and so ill\* cultivated as France, with so large a portion of its territory under wood and vines; the policy I mean is an entire and absolute liberty of export and import at all times, and at all prices, to be persisted in with the same unremitted firmness, that has not only rescued Tuscany from the jaws of periodical famines, but has given her eighteen years of plenty, without the intervention of a moment's want. A great and important experiment! and if it has answered in such a mountainous, and, in comparison with France, a barren territory, though full of people, assuredly it would fulfil every hope, in so noble and fertile a kingdom as France. But to secure a regular and certain supply, it is necessary that the farmer be equally secure of a steady and good price. The average price in France vibrates between 18 and 22 livres a septier of 240lb.† I made inquiries through many provinces in 1789, into the common price, as well as that of the moment, and found (reducing their measures to the septier of 240lb.) that the mean price in Champagne is 18 livres; in Lorraine 17½; in Alsace 22 livres; in Franche Comte 20 livres: in Bourgogne 18 livres; at Avignon, &c. 24 livres; at Paris, I believe, it may be calculated at 19 livres. Perhaps the price, through the whole kingdom, would be found to be about 20 livres. Now, without entering into any analysis of the subject, or forming any comparison with other countries, France ought to know, at least she has dearly learned from experience, that this is not a price sufficient to give such encouragement to the farmers as to secure her a certainty of supply: no nation can have enough without a surplus; and no surplus will ever be raised, where there is not a free corn trade. The object, therefore, of an absolutely free export, is to secure the home supply. The mere profit of selling corn is no object; it is less than none; for the right use thereof is to feed your own people. But they cannot be fed, if the farmers have not encouragement to improve their agriculture; and this encouragement must be the certainty of a good

\* The assertion of the marquis de Cassaux, that the free corn trade established by Mons. Turgot, increased the productions of the agriculture of France as 150 to 100," (Seconde Suite de Consid. sur les Mech. des Soc. p. 119) must be received with great caution. That of Mons. Millot, "that the lands of the same kingdom produced five times as much in Henry Fourth's reign as they do at present," is a very gross error, irreconcilable with the least probability. Elem. de l'Hist. Gen. t. ii. p. 488.

† Price of wheat at Paris, or at Rosoy, for 146 years.

Price of 73 years, the reign of Louis Fourteenth.				Price of 73 years, the reigns of Louis Fifteenth, and Sixteenth.			
			Liv. Sol. Den.				Liv. Sol. Den.
From 1643 to 1652	-	-	35 14 1	From 1716 to 1725	-	-	17 10 9
1653 to 1662	-	-	32 12 2	1726 to 1735	-	-	16 9 4
1663 to 1672	-	-	23 6 11	1736 to 1745	-	-	18 15 7
1673 to 1682	-	-	25 13 8	1746 to 1755	-	-	18 10 11
1683 to 1692	-	-	22 0 4	1756 to 1765	-	-	17 9 1
1693 to 1702	-	-	31 16 1	1766 to 1775	-	-	28 7 9
1703 to 1712	-	-	23 17 1	1776 to 1785	-	-	22 4 7
1713 to 1715	-	-	33 1 6	1786	-	-	20 12 6
				1787	-	-	22 2 6
General Average			28 1 5	1788	-	-	24 0 0
				General average			20 1 4

De la Balance du Commerce, tom. 3.

price. Experience has proved sufficiently, that 20 livres will not do. An absolute freedom of interior circulation is so obviously necessary, that to name it is sufficient.\*

A great and decided encouragement to monopolizers† is as necessary to the regular supply, as that seed should be sown to procure a crop; but reaping in order to load the markets in winter, and to starve the people in summer, can be remedied by no other person but an accapareur. While such men are therefore objects of public hatred; while even laws are in force against them (the most preposterous that can disgrace a people, since they are made by the mouth, against the hand for lifting food to it) no regular supply can be looked for. We may expect to see famine periodical, in a kingdom governed by the principles which must take place, where the populace rule not by enlightened representatives, but by the violence of their ignorant and unmanageable wills. Paris governs the national assembly; and the mass of the people, in great cities, are all alike absolutely ignorant how they are fed; and whether the bread they eat be gathered like acorns from a tree, or rained from the clouds, they are well convinced, that God Almighty sends the bread, and that they have the best possible right to eat it. The courts of London, aldermen and common councilmen, have, in every period, reasoned just like the populace of Paris.‡ The present system of France, relative to agriculture, is curious:

To encourage investments in land....1. Tax it three hundred millions.

\* The internal shackles on the corn trade of France, are such as will greatly impede the establishment of that perfect freedom which alone forms the proper regulation for such a country. M. Turgot, in his *Lettres sur les Grains*, p. 126, notices a most absurd duty at Bourdeaux, of 20s. per septier on all wheat consumed there, or even deposited for foreign commerce, a duty which ought to have prevented the remark of the author of *Credit National*, p. 222, who mentions, as an extraordinary fact, "that at Toulouse there is a duty of 12s. per septier on grinding, yet bread is cheaper there than at Bourdeaux." Surely it would be so: it ought to be 8s. the septier cheaper.

† The word speculator, in various passages of this chapter, would be as proper as monopolizer, they mean the same thing as accapareur; a man who buys corn with a view to selling it at a higher price; whatever term is used, the thing meant is every where understood.

‡ Aldermen, common councilmen, and mobs, are consistent when they talk nonsense; but philosophers are not so easily to be pardoned; when M. l'Abbe Rozier declares, que la France recolte anne ordinaire pres du double plus de bled qu'elle n'en consomme (*Recueil de Memoires sur la Culture & le Rouissage du Chauvre*, octavo, 1787, p. 5.) he wrote what has a direct tendency to inflame the people; for the conclusion they must draw is, that an immense and incredible export is always going on. If France produces in a common year double her consumption, what becomes of the surplus? Where are the other 26 millions of people that are fed with French corn? Where do the 78,000,000 of septiers go that France has to spare; a quantity that would load all the ships possessed by that kingdom above thirty times to carry it. Instead of the common crop equalling two years consumption, it certainly does not equal thirteen months common consumption; that is such a consumption as takes place at an average price. And all the difference of crops is, that consumption is moderate with a bad product, and plentiful with a good one. The failure of a crop in one province in a very small degree, which under a good government, and entire liberty of trade, would not even be felt, will, under a system of restrictions and prohibitions, raise the price through the whole kingdom enormously; and if measures are taken to correct it by government, they will convert the high price into a famine. The author of *Traite d'Economie Politique*, octavo, 1783, p. 59, does not talk quite so greatly, when he says a good crop will feed France a year and a half; but pretty near it. The absurdities that daily appear on this subject are astonishing. In a work now publishing, it is said, that a moderate crop furnishes England for three years, and a good one for five. *Encyclopedie Methodique Economie Pol.* pt. i. t. i. p. 75. This assertion is copied from an Italian, viz. Zanoni dell' *Agricoltura*, 1763, octavo, t. i. p. 109, who took it verbatim from *Essais sur divers Sujets interessans de Politique et de Morale*, octavo, 1760, p. 216. It is thus that such nonsense becomes propagated, when authors are content to copy one another, without knowledge or consideration.

To enable the land to pay it....2. Prohibit the export of corn.  
 That cultivation may be rich and spirited....3. Encourage small farms.  
 That cattle may be plentiful....4. Forbid the inclosure of commons.  
 And that the supply of the markets may be equal in summer as in winter....5. Hang  
 all monopolizers.

Such may be called the agricultural code of the new government of France!

#### CHAP. IV....OF THE COMMERCE OF FRANCE.

AGRICULTURE, manufactures, and commerce, uniting to form what may be properly termed the mass of national industry, are so intimately connected in point of interest, under the dispensations of a wise political system, that it is impossible to treat amply of one of them, without perpetually recurring to the others. I feel, in the progress of my undertaking, the impossibility of giving the reader a clear idea of all the interests of French agriculture, without inserting, at the same time, some details of manufactures and commerce. The opportunities I possessed of gaining some valuable intelligence, enable me to insert several accounts hitherto unpublished, which I believe my commercial readers (should I have any such) will not be displeased to examine.

#### IMPORTS INTO FRANCE IN 1784.

	liv.		liv.
Wood, - - - - -	216,200	Flax-seed, - - - - -	612,600
Timber, - - - - -	1,866,800	Hops, - - - - -	272,400
Hoops, &c. - - - - -	92,100	Tallow loaves, - - - - -	1,133,400
Staves, - - - - -	628,500	Refuse of silk, - - - - -	94,900
Planks, - - - - -	2,412,000	Hemp, - - - - -	4,385,300
Pitch and tar, - - - - -	825,200	Hemp and flax thread, - - - - -	2,091,100
Ashes, - - - - -	1,372,600	Thread of refuse silk, - - - - -	55,800
Soda and pot ash, - - - - -	3,873,900	Various wools, - - - - -	25,925,000
Kelp, - - - - -	50,700	Spun ditto, - - - - -	119,400
Peat ashes for manure, - - - - -	665,100	Vigonia ditto, - - - - -	259,800
Grain, - - - - -	141,500	Flax, - - - - -	1,109,500
Millet and Canary, - - - - -	51,400	Silk raw, - - - - -	29,582,700

#### MANUFACTURED GOODS.

Mercery, thread, and boneteric, - - - - -	335,500	Table linen, - - - - -	99,200
Woollen stuffs, - - - - -	81,300	Linen called platite, - - - - -	602,100
Ditto silk, - - - - -	430,700	treilis, - - - - -	892,700
Bours d'œst, - - - - -	252,200	coutis hemp, - - - - -	432,000
Silk gauzes, - - - - -	54,700	Sail Cloth, - - - - -	157,700
Silk handkerchiefs, - - - - -	115,900	Candles, - - - - -	50,300
Silk ribbons, - - - - -	374,400	Yellow wax, - - - - -	1,317,900
Ribbons of wool, - - - - -	87,500	Cordage, - - - - -	99,000
Thread ribbons, - - - - -	1,406,100	Horse-hair, - - - - -	59,000
Ribbons of thread and wool, - - - - -	92,700	Raw hides, - - - - -	2,805,400
Linen, flax and hemp, mixed, - - - - -	1,918,600	Distilled waters and oils, - - - - -	875,500
Linen of flax, - - - - -	4,849,700	Essences, - - - - -	126,500

	liv.		liv.
Dresses, - - - - -	92,200	Skins, calves, - - - - -	115,200
Oil of grain, - - - - -	248,300	— hares and rabbits, - - - - -	78,600
Corks, - - - - -	219,300	Quills, - - - - -	143,900
— in plank, - - - - -	97,100	Bcd feathers, - - - - -	81,700
Skins, - - - - -	873,400	Hog and wild boar hair, - - - - -	148,400
— goats and kids, - - - - -	148,400	Coaches, - - - - -	783,900

EDIBLES.

Almonds, - - - - -	140,600	Various wines, - - - - -	684,900
Butter, - - - - -	880,100	Desert wines, - - - - -	362,200
Salt Beef, - - - - -	1,716,400		
Salt pork, - - - - -	181,600		
Cheese, - - - - -	3,352,700		
Fruits, - - - - -	238,100		
Lemons and oranges, &c. (in No. 17,543,000)	731,000		
Sweetmeats, - - - - -	52,600		
Dried fruits and figs, - - - - -	254,600		
Dried grapes, - - - - -	248,300		
Wheat, - - - - -	5,347,900		
Rye, - - - - -	139,800		
Barley, - - - - -	163,800		
Oil of Olives, - - - - -	25,615,700		
Legumes, - - - - -	550,900		
Vermicelli, - - - - -	287,200		
Salt, - - - - -	113,800		
Various edibles, - - - - -	90,800		
Beer, - - - - -	383,500		
Brandy of wine, - - - - -	1,151,900		
— corn, - - - - -	1,086,900		
Liqueurs and lemon juice, - - - - -	62,900		

LIVE-STOCK.

Cattle of all sorts, - - - - -	31,800
Oxen, - - - - -	1,355,200
Sheep, - - - - -	1,087,000
Hogs, - - - - -	276,100
Cows and bulls, - - - - -	1,264,800
Calves, - - - - -	89,300
Horses, - - - - -	2,052,900
Mules, - - - - -	148,400

DRUGS.

Liquorice juice, - - - - -	67,300
Gaul nuts, - - - - -	313,000
Madder, - - - - -	476,600
Roots of Allisary, - - - - -	226,300
Saffranam, - - - - -	578,700
Shumac, - - - - -	73,200
Turnsole, - - - - -	87,600
Tobacco leaf, - - - - -	5,993,100

EXPORTS THE SAME YEAR.

Various woods, - - - - -	89,600	Laces of thread and silk, - - - - -	445,300
Plank, - - - - -	66,300	Woollen cloth, - - - - -	15,530,900
Pitch and tar, - - - - -	255,700	Various stuffs, - - - - -	122,300
Common ashes, - - - - -	152,000	Woollen stuffs, - - - - -	7,491,300
Charcoal, - - - - -	70,600	Stuffs of thread and wool, - - - - -	109,300
Coals, - - - - -	419,000	— hair, - - - - -	3,655,700
Grains, - - - - -	148,900	— hair and wool, - - - - -	633,600
Cole-seed, - - - - -	144,900	— rich in gold, - - - - -	1,538,500
Garden-seeds, - - - - -	75,700	Silk stuffs, - - - - -	14,834,100
Flax-seed, - - - - -	248,900	Stuffs mixed with silk, - - - - -	649,600
Bours of silk, - - - - -	94,700	Silk gauzes, - - - - -	5,452,000
Hemp, - - - - -	47,200	Thread and silk gauzes, - - - - -	209,000
Thread of flax and hemp, - - - - -	143,400	Thread and cotton handkerchiefs, - - - - -	405,800
Wool, - - - - -	1,576,300	Silk handkerchiefs, - - - - -	118,000
Silk, - - - - -	2,657,600	Silk ribbons, - - - - -	1,231,900
Boneterie of thread, &c. - - - - -	175,100	Linen of flax and hemp mixed, - - - - -	12,427,200
— filosel, - - - - -	83,400	— flax, - - - - -	1,727,800
Woollen stockings, - - - - -	365,500	— fine, - - - - -	346,300
Woollen caps, - - - - -	413,100	Cambric and lincn, - - - - -	6,173,200
Boneterie of silk, - - - - -	3,375,100	Linen of thread and cotton, - - - - -	291,400
Hats, - - - - -	86,200	— siamoiscs, - - - - -	1,047,600
Boneterie of hair and wool, - - - - -	910,300	— hemp, - - - - -	344,300
Silk laccs, - - - - -	2,589,200	Candles, - - - - -	78,700

	liv.		liv.
Wax,	449,800	Raw ditto,	131,500
Wax candles,	90,400	Dried ditto,	69,600
Woollen blankets,	129,800	Prunes dried,	791,700
Raw leathers,	96,300	Grapes,	324,220
Prepared leathers,	304,500	Wheat,	2,608,300
Leather curried,	137,700	Rye,	239,400
tanned,	698,100	Meslin and Maize,	52,700
Distilled water and oils,	167,500	Indian corn,	633,100
Gloves of skins,	63,900	Barley,	321,100
Grenoble,	491,700	Legumes,	558,600
Dresses,	131,100	Oil of Olives,	1,346,100
Oil of grains,	368,100	Honey,	361,800
Cork,	65,500	Eggs,	75,200
in plank,	110,600	Salt,	2,189,800
Cabinet ware,	65,700	Wine brandy,	11,035,200
Willow ware,	54,800	Corn ditto,	1,045,500
Cole-seed cakes,	547,600	Liqueurs,	205,300
Parchment,	76,100	Wines,	6,807,900
Perfumery,	196,100	Wines of Bourdeaux,	16,150,900
Various skins,	123,500	Vinegar,	124,400
Skins of goats and kids,	156,800	Cattle,	108,600
calves prepared,	448,600	Oxen (No. 7659)	1,088,200
sheep ditto,	312,500	Sheep (No. 104,990)	1,017,200
calves curried,	1,571,100	Hogs,	965,800
sheep and calves tanned,	256,000	Cows and bulls,	227,000
Feathers prepared,	54,600	Horses,	455,700
Soap,	1,376,700	Mules,	1,509,000
Various edibles,	49,100	Saffron,	239,200
Almonds,	450,800	Oil of terebinth,	46,000
Butter,	118,400	Terebinth,	128,400
Salt meat,	121,400	Verdigrise,	266,300
Flour,	1,271,500	Tobacco leaf,	418,400
Cheese,	144,100	rappe,	653,100
Various fruits,	279,000		

N. B. The provinces of Lorraine, Alsace, and the three bishoprics, are not included in this account, nor any export or import to or from the West Indies.

Total export, - 307,151,700 livres.  
 ——— import, - 271,365,000

Balance, 35,786,700 = 1,565,668l. sterling.

#### IMPORTS INTO FRANCE IN 1787.

	liv.		liv.
Steel from Holland, Switzerland, and Germany,	862,000	Coals from England, Flanders, and Tuscany,	5,674,000
Copper,	7,217,000	Woods from the Baltic,	5,408,000
Tin from England,	885,000	Woods seuillard & mercin,	1,593,000
Iron from Sweden and Germany,	8,469,000	Cork from Spain,	262,000
Brass from ditto,	1,175,000	Pitch and tar,	1,557,000
Lead from England and the Hanseatic towns,	2,242,000	Ashes, soda, and pot-ash,	5,762,000
Steel manufactures from Germany and England,	4,927,000	Yellow wax,	2,260,000
		Garden seeds, flax, and millet,	1,115,000
		Madder and roots of Allisary,	962,000

	liv.		liv.
Wheat,	8,116,000	Goat's hair from Levant,	1,137,000
Rice,	2,040,000	Bristles of hogs and wild boars,	275,000
Barley,	375,000	Tallow,	3,111,000
Legumes,	945,000	Raw wool,	20,884,000
Fruits,	3,060,000	Woollen stuffs,	4,325,000
Butter,	2,507,000	Raw silk,	28,266,000
Salt beef and pork,	2,960,000	Silk manufactures,	4,154,000
Cheese,	4,522,000	Flax,	6,056,000
Oil of Olives,	16,645,000	Linens of flax,	11,955,000
Brandy of Corn,	1,874,000	Hemp,	5,040,000
— of wine,	3,715,000	Linen of hemp,	6,544,000
Wines,	1,489,000	Cotton from the Brazils, the Levant, and	
Beer,	469,000	Naples,	16,494,000
Oxen, sheep, and hogs,	6,646,000	Cotton manufactures,	13,448,000
Horses and mules,	2,911,000	Tobacco,	14,142,000
Raw hides,	2,707,000	Drugs, spices, glass, pottery, books,	
Skins not prepared,	1,180,000	feathers, &c. &c.	61,820,000

EXPORTS IN THE SAME YEAR.

	liv.		liv.
Timber and wood of all sorts,	166,000	Butter,	88,600
Pitch and Tar,	317,100	Salted meat,	487,700
Ashes for manure,	59,400	Preserved fruits,	1,518,600
Charcoal,	31,300	Corn of all sorts, except hereafter	
Vetch hay,	12,000	named,	3,165,600
Garden seeds, flax-seed, &c.	988,500	Wheat,	6,559,900
Grease,	17,300	Legumes,	949,200
Hops,	105,600	Olive oil,	1,732,400
Tallow-loaves,	145,600	Honey,	644,600
Cocoon silk refuse,	41,500	Eggs,	99,800
Threads of all sorts,	241,800	Salt,	2,322,500
Hemp,	117,100	Poultry,	35,700
Wool, raw, and spun,	4,378,905	Cyder	17,500
Flax,	22,800	Brandy of wine (114,044 muids)	14,455,600
Rabbits' wool,	10,400	Liqueurs,	234,000
Silk,	628,000	Wines in general (159,222 muids)	8,558,200
Starch,	32,200	— Bourdeaux (201,246 muids)	17,718,100
Candles,	131,900	— Vin de liqueurs,	10,000
Horses,	42,100	Vinegar,	130,900
Wax,	307,800	Oxen, hogs, shcep, &c.	5,074,200
Cordage,	268,000	Mulcs, horses, asses,	1,453,700
Tanned leather,	1,280,300	Juice of lemons,	60,000
Raw leather,	116,000	— liquorice,	35,500
Distilled waters and oils,	162,500	Liquorice,	24,600
Pigeon's dung,	37,000	Saffron,	214,900
Spirit of wine,	144,700	Roots of Allisary,	1,500
Essences,	10,000	Salt of tartar,	14,900
Staves,	22,800	Shumac,	10,200
Gloves,	428,900	Terebinth,	33,100
Linseed-oil,	174,800	Turnsole,	12,200
Corks,	139,000	Verdigrise,	512,400
Cole-seed oil cakes	449,500	Cloth,	14,242,400
Sheep, roebuck, and calve-skins tanned,	2,705,200	Wollen stuffs,	5,615,800
Feathers for beds,	51,100	Cotton, linen, cambric, &c.	19,692,000
Soap,	1,752,800	Of this cambric, 5,230,000 liv.	
Almonds,	850,500		

Total exports, including the articles not here minuted,	349,725,400 livres.	
— imports,	310,184,000	
	<hr/>	
Balance,	39,541,400	1,729,936l. sterling.
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EXPLANATION....The contraband trade of export and import has been calculated, and the true balance found to be about 25,000,000 livres (1,093,750l.) the provinces of Lorraine, Alsace, the three bishoprics, and the West Indies not included.

## OBSERVATIONS.

The preceding accounts of the trade of France, for these two years, are correct in all probability in the articles noted; but that they are imperfect there is great reason to believe. In 1787 there is an import of raw metals to the amount of above twenty millions: but in the account of 1784 there is no such article in the list, which is plainly an omission. And though coals are among the exports in 1784, there are none in the imports, which is another omission. In the manufactured articles also are various omissions, not easily to be accounted for, though the treaty of commerce explains some articles, as that of cotton manufactures, &c. the idea to be formed of the exports and imports of France should be gathered from an union of the two, rather than from either of them separate. No idea, thus to be gained or acquired by any other combinations, will allow for one moment the possibility of a balance of commerce of 70,000,000 livres, (3,062,500l.) in favour of France, which Mons. Necker has calculated it to be, in his book, *De l'Administration des Finances*, and which calculation the marquis de Cassaux, in his *Mechanism des Societes*, has refuted in an unanswerable manner. It will be curious to examine what is the amount of the imports of the produce of land, minerals excluded.

In 1784 the imports of the produce of land amounted to,	liv.	In 1787 the same articles are,	liv.
Wool,	25,925,000	Wool,	20,884,000
Silk,	29,582,700	Silk,	28,266,000
Hemp and flax,	5,494,800	Hemp and flax,	11,096,000
Oil,	25,615,700	Oil,	16,645,000
Live stock and its produce	18,398,400	Live stock,	29,079,000
Corn,	5,651,500	Corn,	11,476,000
Sundries,	24,860,700	Tobacco,	14,142,000
	<hr/>	Sundries,	24,206,000
	135,558,800		<hr/>
			155,794,000
			<hr/>

She may be said, therefore, to import in a common year about 145,000,000 livres (6,343,750l.) of agricultural products: and these imports are a striking proof, that I was not wide of the truth when I condemned so severely the rural œconomy of France in almost every particular, the culture of vines alone excepted. For the country, of all Europe, the best adapted by nature to the production of wool, to import so immensely, shews how wretchedly they are understocked with sheep; and how much their agriculture suffers for want of the fold of these five or six millions, in which they are deficient even for their own demand. The import of such great quantities of other sorts of live stock also speaks the same language. Their husbandry is weak and languishing in every



part of the kingdom, for want of larger stocks of cattle, and the national demands cannot be supplied. In this trade of live stock there is, however, one circumstance which does the highest honour to the good sense and policy of the old French government; for though wool was so much wanted for their fabrics, and many measures were taken for increasing sheep and improving the breed, yet was there no prohibition on the export either of live sheep or wool, nor any duty farther than for ascertaining the amount. It appears that they exported above 100,000 sheep annually; and this policy they embraced, not for want of experience of any other (for the export was prohibited for many years) but finding it a discouragement to the breed, they laid the trade open, and the same plan has been continued ever since; by this system they are sure that the price is as high in France as amongst her neighbours, and consequently that there is all the encouragement to breed which such equality of price can give. The export of woollen manufacture in 1784, amounts to 24,795,800 livres, or not equal to the import of raw wool. On the general account, therefore, France does not supply herself; and the treaty of commerce having introduced many English woollen stuffs, she is at present further removed from that supply. Considering the climate, soil, and population of the kingdom, this state of her woollen trade certainly indicates a most gross neglect. For want of having improved the breed of her sheep, her wools are very bad, and she is obliged to import, at a heavy expence, other wools, some of which are by no means good; and thus her manufactures are under a heavy disadvantage, on account of the low state of agriculture. The steps she has taken to improve her wools, by giving pensions to academicians, and ordering experiments of inquiry upon obvious points, are not the means of improvement. An English cultivator, at the head of a sheep farm of three or four thousand acres, as I observed above, would, in a few years, do more for their wools than all the academicians and philosophers will effect in ten centuries.

**BAYONNE.....** Trade here is various, the chief articles are the Spanish commerce, the Newfoundland fishery, and the coasting trade to Brest, Nantes, Havre, Dunkirk, &c. they have an export of wine and flour, and they manufacture a good deal of table linen. They build merchant ships, and the king has two frigates on the stocks here under slated roofs. Of a merchantmen, the workmanship alone amounts to about 15 livres a ton. They reckon two thousand sailors and fishermen, including the barque men, about sixty ships of different sizes, belong to the place, eight of which are in the American trade, seventeen in the Newfoundland fishery, of from eighty to one hundred tons average, but some much larger; the rest in the Spanish, Mediterranean, and coasting trades. Seamen here are paid in the Newfoundland fishery 36 liv. a month wages, and one quintal in five of all the fish caught. To Dunkirk 27 liv. to Nantes 45 liv. per voyage; to the coast of Guinea 50 liv. per month; to Boston and Philadelphia 50 liv. to St. Sebastian 24 liv. the voyage; to Bilboa 36 liv. to St. Andero 40 liv. to Colonia and Ferrol 46 liv. to Lisbon and Cadiz 30 liv. a month, and for three months certain.

**BOURDEAUX.....** All the world knows that an immense commerce is carried on at this city; every part of it exhibits to the traveller's eye unequivocal proofs that it is great; the ships that lie in the river are always too numerous to count easily; I guess there are at present between three and four hundred, besides small craft and barges; at some seasons they amount to one thousand or fifteen hundred, as I was assured, but know not the truth of it; I rather question it, as it does not seem absolutely to agree with another account, which makes the number of ships that enter the harbour ten on an average every day; or, as asserted by others, three thousand in a year. It may be sufficient to say, at present, that here are every sign of a great and flourishing trade; crouds of men all em-

ployed, busy, and active; and the river much wider than the Thames at London, animated with so much commercial motion, will leave no one in doubt.

Ship-building is a considerable article of their trade; they have built sixty ships here in one year; a single builder has had eight of his own on the stocks at a time; at present they reckon the number on an average from twenty to thirty; the greater number was towards the termination of the war, a speculation on the effect of peace; there are sixty builders who are registered after undergoing an examination by an officer of the royal navy; they reckon from two to three thousand ship-carpenters, but including the river Garonne for many leagues; also fifteen hundred sailors, including those carpenters; the expence of building rises to 5*l.* a ton, for the hulk, masts, and boats; the rigging and all other articles about 4*l.* more; thirty-three men, officers and boys included, are estimated the crew for a vessel of 400 tons, eight men for one of 100 tons, and so on in proportion; they are paid all by the month from 30 to 36 *liv.* some few 40 *liv.* carpenters 40 to 50*s.* a day, and some 3 *liv.* There are private ship-owners, whose whole trade consists in the possession of their vessels, which they navigate on freight for the merchants; they have a calculation, that ships last one with another twelve years, which would make the number possessed by the town three hundred, built by themselves; a number I should apprehend under the truth: the Bretons and Dutch build also for them.

Ships of a larger burthen than seven hundred tons cannot come up to the town but in spring tides.

The export of wine alone is reckoned to amount to eighty thousand tons, besides which brandy must be an immense article.

HAVRE DE GRACE..... There is not only an immense commerce carried on here, but it is on a rapid increase; there is no doubt of its being the fourth town in France for trade. The harbour is a forest of masts; they say, a 50 gun ship can enter, I suppose without her guns. They have some very large merchantmen in the Guinea trade of 5 or 600 tons, but by far their greatest commerce is to the West-India sugar islands; they were once considerable in the fisheries, but not at present. Situation must of necessity give them a great coasting trade, for as ships of burthen cannot go up to Rouen, this place is the emporium for that town, for Paris, and all the navigation of the Seine, which is very great.

Sailors are paid 40 *liv.* a month.

There are thirty Guineamen belonging to the town, from 350 to 700 tons; one hundred and twenty West-Indiamen; one hundred coasting trade; most of them are built at Havre. The mere building a ship of 300 tons is 30,000 *livres*, but fitted out 60,000 *livres*.

The increase of the commerce of Havre has been very great in twenty-five years, the expression used was, that every crown has become a louis, and not gained by rivalling other places, but an increase nationally, and yet they consider themselves as having suffered very considerably by the regulations of the Marechal de Castries, in relation to the colonies; his permitting foreigners to serve them with salt provisions, lumber, &c. opened an immense door to smuggling manufactures in, and sugar out, which France feels severely.

HONFLEUR..... The basin full of ships, and as large as those at Havre, I saw some of at least 600 tons.

CHERBOURG..... Sailors 36 *liv.* to 40 *liv.* a month.

ST. BRIEUX..... The ships belonging to this little port are generally of 200 tons, employed in the Newfoundland fisheries, carrying sixty men of all sorts, who are paid

not by shares, but wages by the voyage: seamen two hundred livres, to two hundred and fifty livres, and some to five hundred livres.

**NANTES....**The accounts I received here of the trade of this place, made the number of ships in the sugar trade one hundred and twenty, which import to the amount of about thirty-two millions; twenty are in the slave-trade; these are by far the greatest articles of their commerce: they have an export of corn, which is considerable from the provinces washed by the Loire, and are not without minotories, but vastly inferior to those of the Garonne. Wines and brandy are great articles, and manufactures even from Switzerland, particularly printed linens and cottons, in imitation of Indian, which the Swiss make cheaper than the French fabrics of the same kind, yet they are brought quite across France; they export some of the linens of Bretagne, but not at all compared with St. Maloes, which has been much longer established in that business. To the American States they have no trade, or next to none. I asked if Bourdeaux had it? No. Marseilles? No. Havre? No. Where then is it? Tout en Angleterre.

The accounts they give here of the trade to the Sugar Islands is, that Bourdeaux has twice as much of it as Nantes, and Havre to the amount of twenty-five millions, this will make it,

		liv.		
Bourdeaux,	-	-	60,000,000	And the proportion of ships,
Nantes,	-	-	30,000,000	Bourdeaux,
Havre,	-	-	25,000,000	Nantes,
			115,000,000	Havre,
Marseilles,	-	-	50,000,000	
			165,000,000	Marseilles,
			600	

But at Havre they talk of 120.

The whole commerce of these isles they calculate at 500 millions liv. by which I suppose they mean exports, imports, navigation, profit, &c. &c.

The trade of Nantes is not at present so great as it was before the American war; thirty ships have been building here at once, but never half that number now; the decline they think has been much owing to the Marechal de Castries' regulations, admitting the North Americans into the Sugar Islands, by which means the navigation of much sugar was lost to France, and foreign fabrics introduced by the same channel. The 40 livres a ton given by government to all ships that carry slaves from Africa to the Sugar Islands, and return home with sugars, and which I urged as a great favour and attention in government, they contended was just the contrary to a favour; it is not near equal to what was at the same time taken away; that of favouring all cargoes of sugar in ships under that description, with paying only half the duties, 2½ instead of 5 per cent. and which equalled 60 liv. per ton instead of 40.

A ship of 300 tons in the sugar trade thirty hands, but not more than sixteen or eighteen good ones, because of the law which forces a certain proportion of new hands every voyage.

West India estates in general render to their owners at Nantes 10 per cent. on the capital so invested.

They assert, that if the East India trade was laid open, numbers here would engage in it. There is a ship of 1250 tons now at Pambon, idle for want of employ.

A circumstance in ship-building deserves attention. It was remarked in conversation, that many Spanish ships last incomparably longer than any other; that this is owing to mastic being laid on under the copper bottom. Mons. Epivent, a considerable merchant here, has tried it and with the greatest success; copper bottoms all with copper bolts instead of iron ones.

Building a ship of 300 tons, 30 to 35,000 livres; ten now building.

L'ORIENT.... Every thing I saw in this port spoke the declension of the Indian commerce, the magazines and warehouses of the company are immense, and form a spectacle of which I had seen nothing of the kind equal, but the trade is evidently dead, yet they talk of the company possessing ten ships from 600 to 900 tons, and they even say, that five have gone this year to India and China. In 1774, 5, 6, it was great, amounting to sixty millions a year. What activity there is at this port at present, is owing to its royal dock for building some men of war. It is the port at which the farmers generally import their American tobacco, the contract of which was for 25,000 hogsheads, but dwindled to 17,000.

MARSEILLES.... I found here as at the other great ports of France, that the commerce with North America is nothing, not to a greater amount than a million of livres a year. The great trade is that of the Levant.

I was informed here, that the great plantation of Mons. Galifet, in St. Domingo, has 1800 negroes on it, and that each negro in general in the island produces gross 660 liv. feeding himself besides.

Wages of seamen 33 to 40 liv. a month; in the Mediterranean 33, America 40 liv. A ship of 200 tons building here costs for timber only 25,000 liv. of 300 tons 40,000 liv. of 400 tons 75,000 liv. the wood is from 50 to 70s. per cubical foot; fitting out afterwards for sea, costs nearly the same.

#### WEST INDIA TRADE.

The following is the state of the trade in 1775, as given by Mons. l'abbé Raynal.

Products exported to France of St. Domingo, Martinique, Guadaloupe, and Cayenne.				
		Value.	Re-exported from France.	Value of re- export.
	liv.	liv.	lb.	liv.
Sugar, - - - - -	166,353,834	61,149,381	104,099,866	38,703,720
Coffee, - - - - -	61,991,699	29,421,099	52,058,246	23,757,464
Indigo, - - - - -	2,067,498	17,573,733	1,130,638	9,610,423
Cacao, - - - - -	1,462,027	1,093,419	794,275	555,992
Rocon, - - - - -	352,216	220,369	153,178	95,838
Cotton, - - - - -	3,407,157	11,017,892	102,011	255,127
Hides, - - - - -	16,123	180,078	568	5,112
Carret, - - - - -	8,912	89,120	100	1,000
Canefice, - - - - -	206,916	55,752	120,759	32,604
Wood, - - - - -	9,441,900	922,222	4,180,280	408,355
Sundries, - - - - -		1,352,148		
Silver, - - - - -		2,600,000		
		125,375,213		73,425,535
Sterling, - - - - -				

SHIPS THAT CARRIED ON TRADE THE SAME YEAR.

	Ships.		Ships.
Dunkerque, - - -	13	La Rochelle, - - -	24
Le Havre, - - -	96	Bourdeaux, - - -	220
Honfleur, - - -	4	Bayonne, - - -	9
St. Malo, - - -	13	Marseilles, - - -	71
Nantes, - - -	112		<hr style="width: 50px; margin: 0 auto;"/>
			562

In 1786, the imports from these colonies into France were,

	liv.
St. Domingo, - - -	131,481,000
Martinique, - - -	23,958,000
Guadeloupe, - - -	14,360,000
Cayenne, - - -	919,000
Tobago, - - -	4,113,000
St. Lucie, nothing directly,	
	<hr style="width: 50px; margin: 0 auto;"/>
	*174,831,000

Of these, Sugar, 174,222,000lb. Coffee, 66,231,000lb. Cotton, 7,595,000lb.

The navigation in 569 ships, of 162,311 tons, of which Bourdeaux† employs 246 ships of 75,285 tons.

	lb.
In 1786 the import of raw sugar was greater than in 1784, by	8,475,000
Of white sugar, by	17,155,000
Of cotton, by	2,740,000

Cotton has been increasing in demand by foreigners, who took in 1785, more by 1,495,000lb. than in 1784; and in 1786 more by 1,798,000lb. than in 1785.

In 1784, France sent to Africa 72 ships of 15,198 tons. In 1785, the number 102 ships of 36,429 tons, and in 1786, she employed 151 ships of 65,521 tons, the cargoes worth 22,748,000 livres, of which navigation Nantes possessed 42 ships; the cargo consisted of

	liv.		liv.
Arms, - - -	617,000	Cowrie-shells, - - -	1,250,000
Pitch and tar, - - -	82,000	Coral, - - -	265,000
Cases, - - -	78,000	Cordage and sails, - - -	357,000
Salt meat, &c. - - -	677,000	Cutlery, - - -	132,000

\* Total in 1784 was 139,000,000 liv. What can Monsieur Begoueu, of Havre, mean by raising this to 230,000,000? 800 ships? 1200 ships? 25,000 seamen? and I do not know what other extravagancies. *Precis sur l'Importance des Colonies*, 8vo. 1790, p. 3, 5, &c. Another writer states, 800 large ships, 500 small ones, and value 240,000,000! *Opinion de Monsieur Blin*, p. 7. How these calculations are made, I do not conceive.

† Bourdeaux I take to be a place of greater and richer trade than any provincial town in the British dominions. Our greatest are,

	Tons.	Seamen.		Tons.	Seamen.		Tons.	Seamen.
Newcastle, which in 1787 possessed of shipping,	105,000	5,390	Whitehaven,	53,000	4,000	Bristol,	33,000	4,070
Liverpool,	72,000	10,000	Sunderland,	53,000	3,300	Yarmouth,	32,000	
			Whitby,	46,000	4,200	Lynn,	16,000	
			Hull,	46,000		Dublin,	14,000	

Copper, - - -	431,000	Handkerchiefs, - - -	735,000
Woollen cloths; - - -	393,000	Piastres, - - -	514,000
Brandies, - - -	1,289,000	Beads, &c. - - -	123,000
Stuffs of all sorts, - - -	566,000	Rice, - - -	257,000
Flour, - - -	186,000	French linens, - - -	2,205,000
Iron, - - -	446,000	Foreign ditto, - - -	8,865,000
Oil of Olives, - - -	41,000	Bourdeaux wines, - - -	655,000
Legumes, - - -	415,000	Other wines, - - -	114,000
Liqueurs, - - -	100,000		

The returns to France in six ships, of 1180 tons, brought 355,000lb. of gum Senega, 37,000lb. of elephant's teeth, both worth 1,173,000 livres.

But the slave-trade on French bottoms did not increase with the increase of the African trade in general.

In 1784, slaves sold in the isles, - - -	25,116
1785, ditto, - - -	17,147
1786, ditto, - - -	26,000

But as the produce increased, there seems reason to think, that foreigners partook of this trade.

These in French bottoms, the total numbers must be much more considerable, as appears from the following table of St. Domingo only :

Years.	No. Negroes sold.	Price.	Years.	Coffee sold.	Price.
		liv.		lb.	liv.
1783	9,370	15,650,000	1783	44,573,000	33,429,750
1784	25,025	43,602,000	1784	52,885,000	44,951,250
1785	21,762	43,634,000	1785	57,368,000	57,368,000
1786	27,648	54,420,000	1786	52,180,000	57,398,000
1787	30,839	60,563,000	1787	70,003,000	91,003,900
1788	29,506	61,936,000	1788	68,151,000	92,003,850*

It deserves observation, that while the quantity almost trebled in five years, the price rose continually.

Price per lb. in 1783, - 15s.	Price per lb. in 1786, - 22s.
1785, - 17s.	1787, - 26s.
1785, - 20s.	1788, - 27s.

#### EXPORTS FROM FRANCE TO THESE ISLES IN 1786.

To St. Domingo, - - -	44,722,000 liv.
Martinique, - - -	12,109,000
Guadaloupe, - - -	6,274,000
Cayenne, † - - -	578,000
Tobago, - - -	658,000
St. Lucie, nothing directly,	
	<u>64,341,000</u>

\* Memoire Envoye le 18 Juin 1790, au Comite des Rapports, par M. de la Luzerne, Ministre & Sec. d'Etat, 4to. p. 70.

† In 1777, it was 600,0000 livres.

Consisting of	livres.	Consisting of	livres.
Salted beef, - - -	1,264,000	Muslins, French, foreign, and Indian, - - -	789,000
Stockings and caps, - - -	722,000	Mercery and clinqualerie, - - -	1,028,000
Hats, &c. - - -	1,676,000	Furniture, - - -	374,000
Cordage and sails, - - -	2,667,000	Sundries, - - -	804,000
Silk lacc, - - -	791,000	Shoes, - - -	1,248,000
Woollen cloths, - - -	602,000	Soap, - - -	1,402,000
Stuffs of all sorts, - - -	1,442,000	Tallow and candles, - - -	1,420,000
Brandy, - - -	467,000	French linens, - - -	13,360,000
Flour, - - -	6,515,000	Foreign linens, - - -	985,000
Iron, - - -	1,410,000	Bourdeaux wines, - - -	5,490,000
Cheese, - - -	740,000	Other wines and liquors, - - -	1,080,000
Oil of Olives, - - -	1,314,000		
Linen, - - -	697,000		
Handkerchiefs, - - -	1,696,000		
			<u>64,342,000</u>

Of which Bourdeaux exports to the amount of 33,761,000 livres. Foreign articles exported pursuant to the arret of August 30th, were 4,967,000 livres.

Imports from the isles, 174,831,000 livres. Exports to them, 64,341,000 livres.  
Balance against France, 210,490,000.

The exports in 1786 to the isles were less than those of 1785 by 11,761,000 livres.

But the exports to Senegal were greater by 12,514,000 livres.

The decrease was in manufactures.

Linens in 1784, 17,796,000 livres. 1786, 13,363,000 livres.

August 30, 1784, in the ministry of the Marechal de Castries, foreigners were permitted, under certain regulations, to trade to the French sugar islands, after a spirited controversy in print for and against the measure. The trade of 1786, in consequence of this arret, was as follows :

IMPORTS IN THE ISLES.			EXPORTS FROM DITTO.		
		livres.			livres.
From the United States, - - -		13,065,000	To the Americans, - - -		7,263,000
English, - - -		4,550,000	English, - - -		1,259,000
Spaniards, - - -		2,201,000	Spaniards, - - -		3,189,000
Dutch, - - -		801,000	Dutch, - - -		2,030,000
Portuguese, - - -		152,000	Swedes and Danes, - - -		391,000
Danes, - - -		68,000			
Swedes, - - -		41,000			
		<u>20,878,000</u>			<u>14,132,000</u>

NAVIGATION OF THIS TRADE.

IMPORTS.			EXPORTS.		
	Ships.	Tons.		Ships.	Tons.
American vessels, - - -	1,392	105,095	American, - - -	1,127	85,403
French, - - -	313	9,122	French, - - -	534	13,941
English, - - -	189	10,192	English, - - -	153	10,778
Spanish, - - -	245	6,471	Spanish, - - -	249	5,856
Dutch, Portuguese, Swedes, and Danes, - - -	34	2,229	Dutch, &c. - - -	32	1,821
	<u>2,102</u>	<u>133,109</u>		<u>2,095</u>	<u>117,799</u>

As the cultivation and exports from the isles in 1786, were greater than in 1784, the demand for French manufactures ought to have been greater also; but this was not the case;

Export of French linens to the isles in	1784,	17,796,000 liv.
	1786,	13,363,000
Aulns of French linen	1784,	7,700,000
	1785,	5,200,000
	1786,	6,100,000

It would have been found so, if the arret of August 30 had not opened the colonies to foreigners, who introduced manufactures as well as lumber and provisions. It is a great question, whether this was right policy; the argument evidently turns on one great hinge; the peculiar benefit to the mother country, from possessing colonies, is their supply; to sell them whatever they demand, and to secure the navigation dependent. It is not, to be sure, of sugar and coffee that nations plant colonies; they are sure of those, and of any other commodities if they be rich enough to pay for them; a Russian or a Pole, is as certain of commanding sugar as a Frenchman or an Englishman; and the governments of those countries may raise as great a revenue on the import, as the governments that possess the islands. The peculiar benefit, therefore, of colonics, is the monopoly of their supply. It is in vain to say, that permitting the colonists to buy what they want at the cheapest and the best hand, will enable them to raise so much more sugar, and tend ultimately to the benefit of the mother country; since, let them grow as rich as possible, and increase their culture to any degree whatever, still the advantage of the mother country arises from supply; and if she loses that to gain more sugar, she loses all for which the possession is desirable. It would be right for every country to open her colonies to all the world on principles of liberality and freedom; and still it would be better to go one step farther, and have no colonies at all. The sugar islands of all nations, in the West Indies, including the great island of Cuba, are considerable enough to form an independent free nation; and it wants not many arguments to shew, that the existence of such an one would be far more beneficial to the English, French, and Spaniards, than the possession of those islands as colonies. To return, however, to the arret of August 30, there is reason to believe, that the policy which induced the Marechal de Castries to alter the existing laws relating to foreigners was questionable, and attended with evils, in proportion to the extent of the trade that took place in consequence.

The result of the French sugar trade resembles nearly that which England carries on with her sugar colonies, namely, an immense balance against her. We have writers who tell us, that this trade ought to be judged by a method the reverse of every other, the merit of it depending not on the exports, but on the imports: I have met with the same idea in France; and as it is an object of very great consequence in the national œconomy, it may be worth remarking, 1, That the advantages resulting from commerce, are the encouragement of the national industry, whether in agriculture or manufactures; and it is unquestionably the exports which give this encouragement, and not the imports of a trade, unless they are the raw materials of future labour. 2, The real wealth of all trade consists in the consumption of the commodities that are the object of such trade; and if a nation be rich enough to consume great quantities of sugar and coffee, she has undoubtedly the power of giving activity to a certain quantum of her own industry, in consequence of the commerce which such consumption occasions, whether the sugar be the product of her own colonies, or those of any other power.



3, The taxes levied on West Indian commodities are no motive whatever for esteeming the possession of such colonies beneficial, since it is the consumption that pays the tax, and not the possession of the land that produces the commodity. 4, The monopoly of navigation is valuable no farther than as it implies the manufacture of ship-building and fitting out; the possession of many sailors, as instruments of future wars, ought to be esteemed in the same light as great Russian or Prussian armies; that is to say, as the means of ambition; and as the instruments of wide-extended misery.\* 5, The possession of sugar islands is the investment of immense capitals in the agriculture of America, instead of the agriculture of France: the people of that kingdom starve periodically for want of bread, because the capitals which should raise wheat in France are employed on sugar in St. Domingo. Whatever advantage the advocates for colonies may be supposed to see in such possessions, they are bound to shew, that the investment of equal capitals in the agriculture of France would not be productive of equal and even of infinitely superior benefits. 6, It is shewn, in another place, that the agriculture of France is, in the capital employed, 450,000,000*l.* inferior to that of England; can any madness, therefore, be greater than the investment of capitals in American agriculture for the sake of a trade, the balance of which is above 100,000,000 livres against the mother country, while nothing but poverty is found in the fields that ought to feed Frenchmen? 7, If it be said, that the re-exportation of West Indian commodities is immense, and greater even than the balance, I reply, in the first place, that Mons. Necker gives us reason to believe, that this re-exportation is greatly exaggerated; but granting it to rise to any amount, France bought those commodities before she sold them, and bought them with hard cash to the sum of the balance against her; first losing by her transactions with America the sums she afterwards gains by exporting to the north. The benefit of such a trade is nothing more than the profit on the exchange and transport. But in the employment of capital, the loss is great. In all common trades, such as those she carries on with the Levant, or with Spain, she has the common profit of the commerce, without investing any capitals in producing the commodities she buys; but in the West Indian commerce she invests double capitals, to produce the goods she sells, and equally to produce the goods she buys. 8, If it should be said that St. Domingo is not to be considered as a foreign country, with which France trades, nor a colony, but as a part of itself; and that the balance between them is like the balance between them and the provinces, then I reply, that it is so ill situated a province, that to encourage a deviation of capitals from all other provinces to be invested in this, is little short of madness; first, from distance and cultivation by slaves, it is insecure. If it escapes the attacks of European foes, the natural progress of events will throw it into the hands of the United States. Secondly, it demands a great navy to defend it; and consequently taxes on all the other provinces, to the amount of two millions sterling per annum. Of what expence to Languedoc, is the possession of Bretagne? Its proportion of the common defence. Is this so with St. Domingo? France pays a marine of two millions, but St. Domingo does not pay one shilling to defend France, or even to defend itself. In common sense, the possession of such a province ought to be deni- ed a principle of poverty and weakness, rather than of riches and of strength. 9, I have

\* Prejudices of the deepest root are to be eradicated in England before men will be brought to admit this obvious truth. Those prejudices took their rise from a dastardly fear of being conquered by France, which government has taken every art to propagate ever since the revolution, the better to promote its own plans of expence, profusion, and public debts. Portugal, Sardinia, the little Italian and German states, Sweden, and Denmark, &c. have been able, deficient as they are in government and in people, to defend themselves; but the British Isles, with fifteen millions of people, are to be conquered!!

conversed on this subject at Hayre, Nantes, Bourdeaux, and Marseilles; and I have not yet met with a man able to give me one other solid reason for such a system than the fact that agriculture in the West Indies is profitable, and not so in France. The same argument is used, and with equal truth, in England. I admit the fact; and it recurs at once to the pernicious doctrine of laying such taxes, restrictions, prohibitions, and monopolies on land at home, that men inclined to pursue agriculture as a trade must go with their capitals into another hemisphere, in order to reap an adequate profit. But change this wretched and abominable policy; remove every tax, even to the shadow of one on land; throw all on consumption; proclaim a FREE CORN TRADE; give every man a power of inclosure. In other words give in the Bourbonnois what you have given in Domingo, and then see if French corn and wool will not return greater profits than American sugar and coffee. The possession of sugar islands, so rich and prosperous as those of France and England, dazzles the understandings of mankind, who are apt to look only on one side, where they see navigation, re-export, commercial profit, and a great circulation: they do not reverse the medal, and see, in the mischievous deviation of capitals from home, agriculture languishing, canals standing still, and roads impassable. They do not balance the culture of Martinique by the lands of Bourdeaux; the tillage of St. Domingo by the deserts of Bretagne; or the wealth of Guadaloupe by the misery of Sologne. If you purchase the riches that flow from America by the poverty and wretchedness of whole provinces, are you blind enough to think the account a beneficial one? I have used no arguments against the French sugar islands that are not applicable likewise to the English: I hold them to be equal obstacles to the prosperity of both kingdoms; and, as far as experiment of the loss of North America goes, I am justified by that vast and important fact, that a country may lose the monopoly of a distant empire, and rise from the imaginary loss more rich, more powerful, and more prosperous!

If these principles be just, and that they are so is confirmed by an immense range of facts, what are we to think of a politician who declares, that the loss of Bengal, or the Dutch withdrawing their money from our funds, would ruin England?\*

EXPORT OF THE PRODUCTS OF FRENCH AGRICULTURE TO THE WEST INDIES, IN 1787.

Wine, brandy, &c.	-	-	-	-	-	-	-	livres.	6,332,000
Edibles,	-	-	-	-	-	-	-		769,000
Salted meats,	-	-	-	-	-	-	-		971,000
Flour,	-	-	-	-	-	-	-		6,944,000
Legumes,	-	-	-	-	-	-	-		300,000
Candles,	-	-	-	-	-	-	-		500,000
Woods, cordage, &c.	-	-	-	-	-	-	-		2,869,000
Raw materials of manufactures,	-	-	-	-	-	-	-		4,000,000
Furniture, clothes, &c. the raw materials of,	-	-	-	-	-	-	-		2,000,000
Raw materials of the exports to Africa,	-	-	-	-	-	-	-		2,000,000
									<hr/>
Exports of the soil,	-	-	-	-	-	-	-		26,685,000
								livres.	
Manufactured goods of national workmanship,	20,549,000								
Materials, as above,	-	-	-	-	4,000,000				
					<hr/>				16,549,000

\* Consid. sur les Richesses et le Luxe. octavo, 1787, p. 492. In the same spirit is the opinion, that England, before the last war, had attained the maximum of her prosperity, p. 483.

	livres.	
Furniture, clothes, &c.	10,136,000	
Materials as above,	2,000,000	
	<hr/>	8,136,000
Exports to Africa,	17,000,000	
Materials, as above,	2,000,000	
	<hr/>	15,000,000
Sundry articles,		7,341,000
		<hr/>
		73,711,000

Of which 49,947,000 livres were French products and manufactures.

FISHERIES.

No trade is so beneficial as that of fishing ; none in which a given capital makes such large returns ; nor any so favourable to those ideal advantages, which are supposed to flow from a great navigation. The French were always very assiduous in pushing the progress of their fisheries. Supposing them right in the principles of those efforts they have made to become powerful at sea, which, however, is exceedingly questionable, they have certainly acted wisely in endeavouring to extend these nurseries of maritime power.

		Ships.		Tons.
Newfoundland and Island fisheries,	1784,	-	328	-
	1785,	-	450	-
	1786,	-	453	-
Returns of cod, mackarel, and herring in	1784, were		15,414,000lb.	
	1785,		18,154,000	
	1786,		19,100,000	
Quantity of Newfoundland dried cod,	1784,	-	230,516	quintaux.
	1785,	-	241,850	
	1786,	-	272,398	
Cod exported to Italy and Spain,	1784,	-	1,835,000	lb.
	1785,	-	2,410,000	
	1786,	-	4,117,000	

This great increase attributed to the arret of Sept. 1785, which granted bounties on the export of cod of 5 livres, and of 10 livres per quintal.

Most of the national fisheries are flourishing ; they employed in 1786,

	Ships.	Tons.	Ships.	Tons.
Herrings, &c.	928	-	Irish from Dunkerque,	62
Newfoundland,	391	47,399		Whale,
				970

Dieppe does most in the fishing trade, possessing 556 ships, of 21,531 tons.

The value of the merchandize embarked in 1786, on board the fishing vessels, 3,734,000 livres, and the returns the same year were,

Herrings and mackarel, &c.	5,589,000 liv.
Cod,	13,686,000
Whales	53,000
Sundries,	200,000
	<hr/>
	19,528,000

## TRADE WITH THE UNITED STATES.

The commerce which France carries on with the North Americans, is all the reward she reaps from having expended probably fifty millions sterling to secure their freedom. Visions of the depression of the British power, played indeed in the imaginations of the cabinet of Versailles; but peace was scarcely returned before those airy hopes entirely vanished; every hour proved, that England, by the emancipation of her colonies, was so far from losing any thing, that she had gained immensely: the detail of this trade will prove, that France was as much deceived in one expectation as in the other.

On an average of three years preceding the French revolution, the im-					
ports from America were,	-	-	-	-	9,600,000
Ditto into the French sugar islands,	-	-	-	-	11,100,000
					<hr/>
					20,700,000
Exports of France to North America,	-	-	-	1,800,000	
Ditto from the isles,	-	-	-	6,400,000	
					<hr/>
					8,200,000
					<hr/>
Balance,	-	-	-	-	12,500,000

Ces republicains, says Mons. Arnould,\* se procurent maintenant sur nous, une balance en argent de 7 a 8 millions, avec laquelle ils soudoyent l'industrie Anglaise. Voila donc pour la France le nec plus ultra d'un commerce, dont l'espoir au pu contribuer a faire sacrifier quelques centaines de millions et plusieurs generations d'hommes!

## TRADE TO RUSSIA.

It is commonly supposed in England, that the trade which France carries on with Russia is very beneficial, in the amount of the balance; and there are French writers also who give the same representation; the part in French navigation will appear in the following statement:

Imports from Russia to France in 1788,	-	-	-	6,871,900
From France to Russia,	-	-	-	6,108,500
				<hr/>
Balance against France,	-	-	-	763,400

This, it is to be noted, concerns French bottoms only; the greatest part of the commerce being carried on in English and Dutch bottoms.†

\* De la Balance du Commerce, 1791, tom. i. p. 234.

† The navigation of the Baltic will appear from the following list of ships which passed the Sound:

	In 1784	In 1785		In 1784	In 1785
English,	3172	2535	Courlanders,	16	25
Danish,	1691	1789	Dantzickers,	190	161
Swedish,	2170	2116	Bremeners,	259	176
Prussians,	1429	1358	Hamburghers,	75	61
Dutch,	1366	1571	Lubeckers,	63	79
Imperial,	167	66	Rostockers,	53	110
Portuguese,	38	28	Oldemberghers,	8	0
Spanish,	19	15	French,	25	20
American,	13	20			
Venetian,	5	4			
Russian,	138	114			
				<hr/>	<hr/>
				10,897	10,226

The whole commerce of France with the Baltic is said to employ six or seven hundred ships of two hundred tons.\*

TRADE TO INDIA.

At the period of the revolution the state of the trade to India was as follows :

Imports from India on a medium of 1785, 1786, and 1787,	34,700,000
In 1788,	33,300,000

MERCHANDIZE.

	livres.
Indian manufactures,	26,600,000
Spices, tea and coffee of Moka,	6,000,000
Silk, cotton, ivory, woods,	1,150,000
China, &c. &c.	493,000
Drugs,	367,000
	34,610,000

Exports from France at same time,	17,400,000†
Exports to the isles of France and Bourbon on an average of the same three years,	4,600,000
Imports,	2,700,000

By the regulation of May 1787, confirmed by the national assembly, Port Louis, in the Isle of France is made free to foreign ships, by which means it is expected that that port will become an entrepot for the Indian trade.

NAVIGATION.

There is not much reason for modern readers to be solicitous concerning the commerce or navigation of any country ; we may rest assured, that the trading spirit which has seized all nations, will make the governments anxious to promote, as much as possible, whatever interests their commerce, though their agriculture is, at the same moment, in the lowest state of poverty and neglect. All the English authorities I have met with, respecting the navigation of France, are of a very old date ; persons who are curious in these speculations, will probably be pleased with the following account :

SHIPS IN FRANCE CLEARED OUTWARDS IN 1788

	Ships.	Tons.
For the Levant and coast of Barbary,	366	45,285
Whale fishery,	14	3,232
Herring fishery,	330	9,804
Mackarel fishery,	437	4,754
Sardinia,	1,441	4,289
Fresh both in the ocean and Mediterranean,	2,668	11,596
Cod,	432	45,446
All parts of Europe and the American States,	2,038	128,736
West Indies,	677	190,753
Senegal and Guinea,	105	35,227
East Indies, China, Isles of France and Bourbon, both by company and otherways,	86	37,157
	8,588	516,279

\* Cormere Recherches sur les Finances, tom. i. p. 362. † De la Balance du Commerce, tom. i. p. 282.

N. B. The total navigation in Europe and America, either by French or foreign ships, amounts to 9,445 ships and 556,152 tons.

Mons. Arnould in his treatise *De la Balance du Commerce*, has given an account of the French navigation for the year 1787, which does not well accord with this. I insert an extract from it here that the reader may have an opportunity of comparing them.

TABLE OF THE TONNAGE, FRENCH AND FOREIGN, EMPLOYED IN THE COMMERCE OF FRANCE IN 1787.

	French tons.	Foreign tons.
Europe, the Levant, coast of Barbary, and United States,	161,582	532,687
India and China,	6,667	—
Coast of Guinea, slave-trade, isles of France and Bourbon,	45,124	—
Sugar Islands,	164,081	—
Whale fishery,	3,720	—
Cod fishery,	53,800	—
Herring ditto,	8,602	—
Mackarel ditto,	5,166	—
Anchovie ditto,	3,062	—
Sundry fisheries,	12,320	—
Coasting trade,	1,004,729	6,123
	<u>1,459,998</u>	<u>538,810</u>
Total,	<u>2,007,661</u>	

The immense increase of the navigation of England, appears by comparing this account with that first of commercial writers lord Sheffield, for the average of three years preceding 1773.

	Ships.	Tons.	Men.
Foreign trade,	2719	335,583	30,771
Coasting trade,	3458	219,756	15,244
Fishing vessels,	1441	25,339	6,774
Totals,	<u>7618</u>	<u>589,978</u>	<u>52,789</u>

This is exclusive of Scotland.\*

Mons. Arnould, however, assures us, that at the period of the revolution, France possessed 1000 ships (I do not love such round numbers, which always betray inaccuracy) of 250 tons, employed in long voyages, and in the cod and whale fisheries.† The whole maritime commerce of exportation employing at the same time 580,000 tons of all nations; of which 152,000 tons were French.

\* *Observ. on the Commerce of the American States*, by John lord Sheffield, 6th edit. p. 160.

† *Balance du Commerce*, tom. ii. p. 23. 8vo. 1791.

## CABOTAGE (COASTING TRADE) THE SAME YEAR.

	Ships.	Tons.
French ships, - - - - -	22,360	997,666
Foreign ditto, - - - - -	60	2,742
	<u>22,420</u>	<u>1,000,408</u>

N. B. There is no distinction between ship and voyage; if a ship clears out five times a-year, she is registered every voyage. The article Sardinia, which appears so large in ships, and so small in tonnage, must, I should suppose, be for a fishery on the coasts of that island.

From the tonnage of the ships, as they are called, in the fisheries, it appears, that they are little more than boats: those in the herring fishery, are about 30 tons each, and in the mackarel, little more than 10 tons.

The navigation of England for a year, ending the 30th September, 1787, was,

	Ships.	Tonnage.	Men.
English, - - - - -	8,711	954,729	84,532
Scotch, - - - - -	1,700	133,034	13,443
East Indiamen, - - - - -	54	43,629	5,400
Ireland, - - - - -	—	60,000	—
	<u>10,465</u>	<u>1,191,392</u>	<u>103,375</u>

Without including the West India trade, or that of the North American colonies, or the African or Asian, the Indiamen excepted.

## PROGRESS OF THE FRENCH COMMERCE.\*

	Imports. liv.	Exports. liv.
1716 to 1720, peace, average per annum,	65,079,000	106,216,000
1721 to 1732, peace, - - - - -	80,198,000	116,765,000
1733 to 1735, war, - - - - -	76,600,000	124,465,000
1736 to 1739, peace, - - - - -	102,035,000	143,441,000
1740 to 1748, war, - - - - -	112,805,000	192,334,000
1749 to 1755, peace, - - - - -	155,555,000	257,205,000
1756 to 1763, war, - - - - -	133,778,000	210,899,000
1764 to 1776, peace, - - - - -	165,164,000	309,245,000
1777 to 1783, war, - - - - -	207,536,000	259,782,000
1784 to 1788, peace, - - - - -	301,727,000	354,423,000

It will not be useless to contrast this with the trade of England:

\* Mons. Arnould, of the Bureau de la Balance du Commerce at Paris, asserts, I know not on what authority, that the English navigation in 1789 amounted to 2,000,000 tons.

Imports.		Exports.		Imports.		Exports.	
L.		L.		L.		L.	
1717,	6,346,768	- - -	9,147,700	1771,	12,821,995	- - -	17,161,146
1725,	7,094,708	- - -	11,352,480	1783,	13,122,235	- - -	15,450,778
1735,	8,160,184	- - -	13,544,144	1785,	16,279,419	- - -	16,770,228
1738,	7,438,960	- - -	12,289,495	1787,	17,804,000	- - -	16,869,000
1743,	7,802,353	- - -	14,623,653	1788,	18,027,000	- - -	17,471,000
1753,	8,625,029	- - -	14,264,614	1789,	17,821,000	- - -	19,340,000
1763,	11,665,036	- - -	16,160,181	1790,	10,130,000	- - -	20,120,000

As the balance, or ideas of a balance, are a good deal visionary, we shall find, by adding the two columns together, that the trade of England has suffered no decline, but on the contrary, is greater than ever; it deserves attention, however, that the progress of it has not been nearly so rapid as that of France, whose commerce, in the last period, is  $3\frac{1}{2}$  times as great as it was in the first; whereas ours has in the same period not much more than doubled. The French trade has almost doubled since the peace of 1763, but ours has increased not near so much. Now it is observable, that the improvements, which in their aggregate mark national prosperity, have, in this period of twenty-nine years, been abundantly more active in England than in France, which affords a pretty strong proof that those improvements, and that prosperity, depend on something else than foreign commerce; and as the force of this argument is drawn directly from facts, and not at all from theory or opinion, it ought to check that blind rage for commerce, which has done more mischief to Europe, perhaps, than all other evils taken together. We find, that trade has made an immense progress in France; and it is elsewhere shewn, that agriculture has made little or none; on the contrary, agriculture has experienced a great increase in England, though very seldom favoured by government, but commerce an inferior one; unite this with the vast superiority of the latter in national prosperity, and surely the lesson afforded by such facts needs no comment.

#### OF PREMIUMS FOR ENCOURAGING COMMERCE IN FRANCE.

The French administration has long been infected with that commercial spirit which is at present the disgrace of all the cabinets of Europe. A totally false estimate that has been made of England, has been the origin of it, and the effect has been an almost universal neglect of agriculture.

The premiums paid in France for encouraging their commerce are the following, and the amount for a year, ending the first of May, 1789, is added:

	liv.
Expence of transporting dry cod to the American isles, and to various foreign countries, at the rate of 5, 10, and 12 livres per quintal, by the arret of 18th Sept. 1785, and 11th Feb. 1787,	547,000
Bounty payable on the departure of ships for the coast of Guinea, and for Mozambique, at the rate of 40 liv. per ton, by the arrets of 26th Oct. 1784, &c.	1,950,000
Bounty on the negroes transported into the colonies at the rate of 60 to 100 liv. a head, by the arret of 26th Oct. 1781, and of 160 liv. and 200 liv. by that of the 10th Sept. 1786,	865,000



Bounty for encouraging the navigation in the North Sea, at the rate of 3, 4, 6, and 10 liv. per ton, by the arret of 25th Sept.	4,000
Bounty on the export of refined sugar 4 liv. the quintal, by the arret of 26th May 1786,	108,000
Encouragements given to seventeen manufactures, 39,000 } To others, - - - - - 61,000 }	100,000
Bounty of 4 liv. per 1000lb. of cast iron, granted to the founderies of Mont Cenis in Bourgogne,	18,000
Bounty granted to the people of Nantuket established at Dunkerque for the whale fishery, at 50 liv. per ton of oil,	170,000
To the coal mines of the kingdom,	100,000
	<hr/>
	*3,862,000

I hope it does not at this time of day want much explanation, or many observations on this contemptible catalogue of the commercial merit of the old government of France. The fisheries and sugar islands, if we are to believe the French writers, are the most valuable and the most important articles of the French commerce. How can this be, if they want these paltry bounties to assist them? St. Domingo is said in France to be the richest and most valuable colony there is in the world; I believe the fact; but if we were to consider only a premium on supplying it with slaves, we should be apt to imagine it a poor sickly settlement, scarcely able to support itself. If cultivation is vigorous there, it demands slaves without any bounty; if it is not vigorous, no bounty will make it so; but the object real or pretended, of bounties, is to induce people to invest capitals in certain employments, which they would not so invest without such bounties. This is to profess giving bounties to the investment of capitals in American agriculture, rather than in that of France; the tendency is clear; but in this age it surely becomes a question, whether the landes of Bretagne and Anjou would not be as deserving of such a bounty as the forests of Hispaniola?

To remark on all these premiums is unnecessary; it is sufficient to observe, that all, except that for coal, is absurd, and that that is so given as to be useless.

#### OF THE TREATY OF COMMERCE BETWEEN GREAT BRITAIN AND FRANCE.

This celebrated measure was so thoroughly debated in England, that I shall not go again over ground trodden almost bare; but, with attention chiefly to brevity, give some French authorities upon it, which are but little known in England.

There are in most of the great commercial towns in France, societies of merchants and manufacturers, known under the title of *Chambre du Commerce*; these gentlemen associate for the purpose of giving information to the ministry on any commercial question upon which their opinion is demanded, and for other purposes that concern the trading interests of their respective towns. The *Chambre du Commerce de Normandie*, on occasion of this treaty, printed and dispersed (it was not sold) a pamphlet entitled, *Observations sur le Traite de Commerce entre la France & l'Angleterre*.

In this work they inform their readers, that in order to draw a fair comparison between the advantages and disadvantages of the two kingdoms in manufactures, they

\* *Compte General*, 1789, p. 186.

had deputed two merchants of Rouen, sufficiently understanding in the fabrics of Normandy, and who spoke English, to take a journey to the manufacturing parts of England, in order to acquire authentic intelligence, and upon their return they were desired to make a similar tour through the manufactures of Normandy, that they might possess themselves of the knowledge requisite for a fair comparison; and from their reports, as well as from other materials, the *Chambre du Commerce* speak in their observations :

“But while we are embarking in this undertaking, the alarm of our commerce increases every day, and becomes a real evil by a most active sale of every article of English manufacture, which can enter into competition with our fabrics. There is not an article of habitual consumption with which England has not filled all the magazines of France, and particularly those of this province, and in the greatest number of these articles the English have a victorious preponderance. It is afflicting to see the manufactures who suffer by this rivalship, already diminishing successively the number of their workmen, and important fabrics yielding in another manner to the same scourge, by English goods being substituted in the sale for French ones; receiving a preparation agreeable to the consumption, named, marked, and sold as French, to the infinite prejudice of the national industry.

“The chamber is apprehensive of the immediate effect of the introduction of English cottons, whercof the perfection of the preparation, the merit of the spinning, united with their cheapness, has already procured an immense sale. A coup d'œil upon the folio 5 of the table of patterns of Manchester, and the Fauxbourg St. Sever, at Rouen, will demonstrate the disadvantages of the latter.

“Our potteries cannot escape a notable prejudice; the low price of coals in England enables the English to undersell us in these articles 25 per cent.; considerable cargoes have already arrived at Rouen.

“The 36,000 dozen pairs of stockings and caps of cotton, made in the generality, are the produce of 1200 looms. Within three months it is calculated, that at Rouen alone, more than one hundred have stopped. The merchants have made provision of English goods, for more than 30,000 dozen pairs of stockings and caps have already been imported.

“Manchester is the Rouen of England, the immense fabrication of cotton stuffs, the industry of the manufacturers, their activity, the resource of their mechanical inventions, enable them to undersell us from 10 to 15 per cent. Every circumstance of the fabric proves the riches of the master manufacturers, and the sollicitude of government for supporting and favouring their industry.

“In general their stuffs and their linens are finer, of a more equal spinning, and more beautiful than ours; nevertheless they are at a lower price, which proves the importance of their machines for carding and spinning the cotton in a perfect and expeditious manner. By the aid of these united means, they flatter themselves at Manchester with equalling the muslins of India, yet the highest price of those hitherto wrought does not exceed 8s. a yard, but the fabric is so considerable, that they are not afraid to value it at 500,000 liv. a week; however one may be permitted to doubt of this, one must be amazed (*effrayé*) at the immense sale which the English have procured for this article, and the more so, as we have been assured, that the magazines of the company contained, within a few months, to the value of 80,000,000 livres, in India muslins.

“We do not know that the English have in their fabrics of linen any other inventions for simplifying the labour than the flying shuttle and the flax-mill, because the

fibres of flax are not adapted to the application of machines for spinning and carding ; we are, however, assured that they have found means, by water-mills, to weave many pieces of linen at the same time and in the same loom.

“ The price of coals in the preparation of cotton is of some importance. The inhabitants of Manchester pay for coal only 9s. a ton, of 2000lb. (French) but at Rouen it is 47 to 50 liv. the ton.

“ The English are forced to render justice to the cloths of Louviers, as well as to those of Abbeville and Sedan. They cannot dissemble that they think them more soft than their own, and that the colours are more lively and more seducing, but we cannot hope to sell them in England. The English, whether through a spirit of patriotism, or by the real agreement of their kind of fabric to the nature of their climate, prefer their cloths extremely fulled, and of colours very sombre, because the smoak of their coal fires, combined with the humidity of the atmosphere, depositing a greasy dust, might easily affect our colours so lively, but of little solidity ; however it may be, the competition at present of the English in France cannot be very hurtful to the manufactures of Louviers, Sedan, and Abbeville ; but as the English import as well as we the wools of Spain, they may certainly attain the beauty of the cloths of Louviers.

“ The fabrics of Elbœuf, however prosperous, have not the same resources as the English ones of the same kind, excellent national wools proper for their fabric at a low price. We calculate that the ordinary cloths of five-fourths breadth, and 15 or 16 livres price per auln, can scarcely withstand the competition of the cloths of Leeds, called Bristols, which cost only 11 liv. the auln.

“ The cloths, ratines, espagnolettes, flannels, and blankets of Darnetal, have most of them a superiority over many similar English fabrics ; but the low price of these last will render their competition fatal. We cannot too often recur to the advantages which the English possess over all the woollens of France, which are wrought like those of Darnetal, with the wools of France. The high price of our wool, and its inferiority in quality\* to that of England is such, that this inequality alone ought to have induced the rejection of the treaty of commerce on the terms upon which it has passed. The manufacturers of Darnetal, Rouen, Beauvais, Amiens, Lille, and Rheims, may find it their interest to import English fabrics before they have received the last hand, which they can give cheaper than in England, and thus appropriate to themselves a profit in the cheapness and beauty of the English wools, by underselling the similar fabrics entirely French.

“ The English ratines cannot support the parallel with those of Andely, where also good kerseymers are made in imitation of the English, but quite unable to stand against them. Before the treaty the English kerseymers came contraband to France, and were therefore dear, but now all the magazines of the kingdom regorge with them, for at the same time that they are cheaper, they are in quality more perfect, of a more equal grain, and less subject to grease.

“ The manufacture of cloths at Vire has fallen from 26,000 pieces per annum to 8000. During the war they had an export to North America, but on the peace, the cloths of Leeds presented themselves with a victorious superiority, and will hold it till we have perfected the breed of our sheep, and obtained fleeces of a greater length and weight.

\* The manufacturers of France possess no such iniquitous monopoly against the farmer, as makes the disgrace and mischief of English agriculture.

“In regard to the stuffs of wool, called serges, molletons, flannels, londrins, satins, burats, camelots, baracans, calmandes, etamines, kerseymeres, sagathis, &c. which were furnished both to France and foreigners by Darnetal, Aumale, Beauvais, Amiens, Lille, Rheims, and le Mans, they must sink under the competition of the similar manufactures of England. During the late war the Spaniards gave considerable employment in these articles to the manufactures of Amiens, Lille, and Aumale. On the first report of a peace, they not only suspended their commissions, but even gave counter orders for what were already bespoke, the English having offered the same stuffs 20 per cent. cheaper than we could afford them.

“We may observe in fine, upon the conditions of the treaty, that the English have contrived to leave excessive duties upon all the articles, the trade of which would have offered advantages for France, and to prohibit the most interesting, to admit those whereof the reciprocity would be wholly to their own advantage; and to favour in a manner almost exclusively, in their importations, such as are made in English bottoms; circumstances which, united with the famous act of navigation, explain, in a great measure the disproportion which exists between the number of English and French vessels in the commerce of the two nations since the treaty, which is at least twenty to one.

“The opinion we develop upon this treaty is general, and founded on a simple reflection, that France furnishes twenty-four millions of consumers against eight millions which England offers in return.\*

“The situation of France cannot have been considered in the present circumstances; at the same time that the consumption of its inhabitants, first, that natural and necessary aliment of national industry becomes a tribute to England, who has carried her fabrics to the highest degree of perfection; the French manufacturers and workmen, discouraged without labour, and without bread, may offer an easy conquest to Spain, who, more enlightened at present upon the real means of increasing her prosperity and her glory, develops with energy the desire of augmenting her population, of extending and perfecting her agriculture, and of acquiring the industry that shall suffice for her wants, and exclude as much as shall be possible from her markets objects of foreign fabrication. We are assured that the workmen in the southern provinces pass successively into the different manufactures which are established; an emigration, which cannot but increase by the effects of the treaty of commerce with England.”

The chamber of commerce in the same memoir declare, that the English had not augmented their consumption of French wines in consequence of the treaty. And they dwell repeatedly on the superior wealth of the English manufactures to that of the French ones, the influence of which, in the competition of every fabric, they feel decisively.

The French ministry, the archbishop of Sens at their head, to remove the impression which they feared would follow the preceding memorial of the merchants and manufacturers of Normandy, employed the celebrated œconomiste Mons. du Pont, editor of the *Ephemerides du Citoyen*, a periodical work, printed 1767—1770, and since elected for Nemours into the national assembly, to answer it, which he did in detail, and with ability: the following extracts will shew the arguments in favour of the treaty.

— “Relative to the wine trade, your information has not been exact. I am certain that it has been considerably augmented. The difference between the duties

\* It is not a trifling error in the chamber to state eight millions instead of fifteen, the fact.

in England upon the wines of Portugal and France was 34s. of our money the bottle ; it is at present but 5s. a den. in spite of the proportional diminution made upon the wines of Portugal, an approximation of which must be very favourable to us. Authentic accounts of the custom-house at London have been sent to the department of foreign affairs, stating the quantity of French wines imported into that single city, and it rises from the month of May to that of December of the last year (1787) to 6000 tons of four bariques each. In preceding years, in the same space of time, the legal importation has amounted only to 400 tons, and the contraband import was estimated at about an equality. The augmentation, therefore, for the city of London, is at least 5000 tons, or 20,000 bariques, which, at 1200 livres amount to 6,000,000 livres. The accounts of the balance of commerce for nine years preceding the last war mark 1500 tons as the mean export of our wines to England, Scotland, and Ireland. In 1784, that export did not exceed 2000 tons. The city of London has therefore imported in the eight last months of 1787 four times more than the three kingdoms formerly imported in the course of a whole year.

“The sale of vinegars, brandy, oil, soap, dried fruits, preserves, cambric, linens, and millinery, has much augmented. In particular, cambric and linens have doubled.

“But this is no reason why the ministry should not, on one hand, exert themselves with all activity to oblige the English to adhere to the terms of the treaty (which they have deranged by their tariffs and regulations of their customs ; ) and, on the other, to favour the national industry, particularly that of the provinces of Picardy, Normandy, and Champagne, for whom, since the treaty, the competition of the English has certainly been very mischievous (*tres facheuse.*)

“There are five branches of industry in which the English have over us at present in some respects an advantage more or less solid ; in cotton stuffs, in small woollens, in pottery, in steel, and in leather.

“In regard to cotton, Mons. Barneville is in possession of a machine, invented by his uncle, which spins thread of a degree of fineness till now unknown ; even to 300,000 aulns of thread from a pound of cotton. The finest muslins of Asia are made with threads of 140,000 aulns to the pound. The government, after three years consideration, has at last determined on the report of M. Desmarest to purchase this machine, and to distribute many of them among our manufactures.

“It is inconceivable that we have not a superiority over the English in cottons. We have the raw material, and even sell to our rivals the greater part of what they use. We have provisions and labour cheaper than they have.\* It is only machines which we want, or rather we do not want them, for we have them in great numbers ; we have artists capable of perfecting them ; we have already the foreign models ; we can give prizes, and we have academies to judge.†

“As to the woollen fabrics, we have nothing to fear of competition in fine cloths, ratines, espagnolettes, molletons, and caps made of Spanish wool ; or in which it enters for the greater part. Our fabrication of this sort is superior to that of the English ; our stuffs are softer and more durable, and our dyeing more beautiful. We can imitate at will, all the sombre colours of the English fabrics, but they cannot copy any of our lively colours, and especially our scarlet.

\* Not so ; a man is fed cheaper in France, living badly, but provisions are not cheaper, and labour is really dearer, though nominally cheaper.

† I must smile at academies being named among the manufacturing advantages of France : I wonder what academies have done for the manufactures of England.

“ In the middling class of woollens, which comprises the tricots and small stuffs, we have a marked inferiority. The wools of which these are made are with us less fine, less brilliant, and higher priced. But this evil is not without a remedy.

“ Of the next manufacture it may be observed, that the English potteries have been imported at all times into Loraine, without paying any duties, and yet that province is full of manufactures of pottery which prosper.”

Relative to the steel manufactures, Mons. du Pont cites the following case : Mons. Doffier, after having been a long time at Clignancourt occupied for our English magazines to make bijoux of steel, which have been sold for English, has been taken under the protection of government, who have furnished him with the means of carrying on business, At present established in the inclosure of the Quinze Vingts, he there fabricates with at least as great perfection as in England, and at a lower price by 30 per cent.\* all the beautiful works in steel, watch-chains, swords, &c. &c. &c.”

Mons. du Pont then insists at length on the great import of English manufactures, which took place clandestinely, not only from England directly, but by Flanders, Holland, Germany, and Liege, which it was found impossible to prevent, and contends, that converting such import to a legal one, to the profits of the state, was an object of no slight importance.

“ It is some years since the manufacturers of Sedan, and after its example, those of Louviers, Abbeville, and of Elbœuf, have raised the prices of their cloths 25 per cent. and not without some reason, imagining, under the influence of a spirit of monopoly, to benefit the undertakers of those fabrics. But to whatever reason it might be assigned, certain it is, that German cloths, which never come into the kingdom before, have, since this rise of price, found a considerable sale in France, to the prejudice of the national manufactures ; the treaty of commerce having been made at the time of the evil being felt, the whole effect has been laid, without much reason, to the operations of that treaty.”

M. du Pont in like manner examines the state of the silk manufacture, which he shews to be at Lyons in the lowest state of misery and distress, owing to the war in the north of Europe absorbing those expences which in peace were otherwise employed ; to the successful exertions in Spain for increasing the fabrics of that country ; and to the failure of the crop of silk ; yet while the declension of that manufacture had thus no shadow of connection with the treaty of commerce, yet happening at the same time, the evil, like all the others, has been attributed to its influence.

At all events, the treaty of commerce, such as it is, is perhaps the only guarantee of peace between the two empires. I have the strongest reason to believe, that its perspective has hastened the conclusion a year or two, and we have thus spared 400,000,000 livres of expence ; the imposts which would have been necessary to pay the interest, the loss of blood, and the frightful chances which every war entrains in its suite. It is more than probable, that without it, we should for six months past have been enga-

\* The extravagance of this ridiculous assertion, carries in itself its own reply : if this cheapness arises from government premiums or assistance, it is a farce, and absolutely beyond any fair conclusion : if it is not from such assistance, I demand how it happens that this manufacture has been established by government ? A man who is not able to establish his own fabric, able to under-work, and at Paris too ! the English steel fabrics 30 per cent !! if so, then the Chamber of Commerce in Normandy are truly weak in their arguments in favour of great capitals in the hands of master manufacturers, and the fact on the contrary must be admitted, that no capital at all will affect the business just as well. What satisfaction is here given to prove that the whole of this business was not, as in many other cases, a piece of charletanerie in government ? To please and delude the people by a cheapness gained by government paying the piper ? Has the business taken root ? Has it become a national object ? or is it a Paris toy ?

ging in hostilities, the term of which would have been impossible to foresee. When France and England remain neuter and united, no war can be durable in Europe; for though other powers have cannons, soldiers, and bayonets, yet none of them have resources to support a war of any length; not even those who reckon upon a treasure, which would be dissipated in two campaigns at most. The only solid treasure is a good agriculture and an industrious people. The repose of the world, and above all our own, holds therefore almost solely by this treaty; which citizens, zealous without doubt, but certainly too little enlightened, would wish to see annihilated.

The argument which has been drawn from the population of the two kingdoms, founded on France containing twenty-four millions, and England eight millions, is not just. France contains nearly twenty-eight millions, and the three British kingdoms eleven; but the whole reasoning is a sophism, founded upon ignorance of the riches of the two nations. It is not on population that we are to calculate the means of buying and selling, of paying and being paid. Unhappily the greatest difference found between the two empires is not in their manufactures; that of their agriculture and crops is much more considerable. The annual crops of England have been calculated with care at 2,235,000,000 liv. (97,781,250l.) adding those of Scotland and Ireland, they cannot amount to less than 3,000,000,000 liv. (131,250,000l.) Those of France, calculated with great sagacity, after certain cases in some points, and on conjectures combined from all sorts of views in others, have been valued at the lowest at 3,200,000,000 liv. and at the highest at 4,000,000,000 liv. (175,000,000l.) We have therefore, at the most, but a fourth more crop than England; but we have to subsist a population two and an half times greater. Before we trade abroad we must live. Retrench from three milliards the easy subsistence of eleven millions of people; retrench from four milliards the subsistence, a little more difficult, of twenty-eight millions of people, and you will soon see that it is not the nation of twenty-eight millions that furnishes the best market for foreign commerce, and consequently for luxury, which can only be paid for with a superfluity.

The experience of all times has proved, that nations successively rival each other in manufactures. Spain debauches and carries off our workmen in silk; but she cannot take from us our cultivators, the nature of our soil, our happy exposition, nor the privileged products which we possess exclusively. It is therefore upon the products of cultivation that must be founded, in the most solid manner, the prosperity and commerce of a great empire.

And even as to fabrics, you see by the example of the past, that excluding competition has left ours in an inferiority of which you complain. It cannot be necessary to prove to you, that the best method of raising the industry of a nation to a par with its neighbours, is by establishing such a communication as shall place unceasingly models and objects of emulation under the eyes of such as are inferior.

It is clear that by reserving to the manufacturers of a nation the exclusive privilege of supplying it, we destroy among them a great part of the principle of that activity which ought to perfect their industry. Believing themselves sure of purchasers, and sure also of fixing their own price, they neglect, with all proprietors of exclusive privileges, to seek the means of fabrication the most economical, and those which would render their labour the most perfect.

Mons. du Pont enters into a detail of the course of exchange through fifty-seven pages, from which he deduces the fact, that the balance upon the trade, in consequence of the treaty, was in favour of France: from May 1787 to March 1788, he gives a table of exchanges, divided into three epochs; 1. From the 1st of January 1785, to the re-coin-

age at the French mint in October; 2. From the re-coinage to the treaty of commerce, from 1st November 1785 to last of April 1787; 3. From the treaty to the time of his writing, i. e. from 1st May 1787 to last of March 1788.

## FIRST EPOCH.

Par of exchange counted on silver  $28\frac{16}{178}\frac{45}{207}$ , counted on gold 30.

January, - - -	$29\frac{1}{158}$	May, - - -	$28\frac{3}{2}$	August, - - -	$28\frac{3}{4}$
February, - - -	$28\frac{13}{16}$	June, - - -	$28\frac{23}{36}$	September, - - -	$29\frac{1}{96}$
March, - - -	$28\frac{25}{32}$	July, - - -	$28\frac{35}{48}$	October, - - -	$29\frac{3}{16}$
April, - - -	$28\frac{25}{32}$				

From January to September 1784, exchange was at 30 and 31, and fell to 29, at which rate it was about 3 per cent. against France; but it fell in June to  $28\frac{23}{36}$ , which was a loss of 4 per cent.; and in August the loss was at the height, or  $4\frac{1}{2}$  per cent. which sunk in October to  $2\frac{1}{2}$  per cent.

## SECOND EPOCH.

Par of exchange by the alteration in the French money counted on gold  $28\frac{150}{333}\frac{164}{116}$ , and on silver  $28\frac{16}{178}\frac{45}{207}$ .

Nov. - - -	$29\frac{3}{15}$	May, - - -	$29\frac{17}{48}$	Nov. - - -	$29\frac{17}{128}$
Dec. - - -	$29\frac{5}{16}$	June, - - -	$29\frac{5}{24}$	Dec. - - -	$29\frac{3}{32}$
Jan. - - -	$29\frac{35}{66}$	July, - - -	$29\frac{1}{18}$	1787 Jan. - - -	$29\frac{5}{16}$
Feb. - - -	$29\frac{7}{12}$	Aug. - - -	$29\frac{13}{60}$	Feb. - - -	$29\frac{1}{2}$
March, - - -	$29\frac{23}{32}$	Sept. - - -	$29\frac{9}{32}$	March, - - -	$29\frac{13}{48}$
April, - - -	$29\frac{7}{12}$	Oct. - - -	$27\frac{1}{18}$	April, - - -	$29\frac{1}{4}$

Upon this epoch, Mons. du Pont has a long observation concerning a supposed transport of old louis d'or from England to the French mint, which the chamber of commerce, in their reply, justly rejects.

## THIRD EPOCH.

Par as before.

1787 May, - - -	$30\frac{3}{16}$	Sept. - - -	$29\frac{17}{32}$	1788 Jan. - - -	$29\frac{11}{32}$
June, - - -	$29\frac{17}{32}$	Oct. - - -	$29\frac{59}{96}$	Feb. - - -	$29\frac{1}{3}$
July, - - -	$29\frac{1}{2}$	Nov. - - -	$29\frac{39}{96}$	March, - - -	$29\frac{23}{96}$
Aug. - - -	$21\frac{17}{32}$	Dec. - - -	$29\frac{7}{16}$		

During these eleven months, the mean rate has been  $29\frac{22}{9}\frac{16}{20}$ , or about  $2\frac{1}{7}$  per cent. in favour of France.

By the accounts of the Bureau General de la Balance du Commerce, the imports of English goods in France for the eight last months of 1787, amounted to 35,294,000 liv. and the export of French goods to England during the same time to 26,276,000 liv. a difference which Mons. du Pont attempts to convert into the favour of France, upon grounds not at all satisfactory.



The Chamber of Commerce, in their reply, assert, respecting the navigation employed, that from May to December 1787, there entered the ports of France 1030 English ships of 68,686 tons, whereas, in the same trade, there were only 170 French ships of 5570 tons.

In the same reply, the Chamber reject the reasonings of M. du Pont upon the course of exchange, and insist that it was effected by collateral changes, and by transactions not commercial.

I shall lay before the reader the result of the treaty, both according to the English custom-house, and also by the registers of the Bureau de la Balance du Commerce at Paris; which, I should however remark, is beyond all comparison more accurate in its estimations; and whenever it is a question between the authority of the two in opposition to each other, I should not hesitate a moment in preferring the French authority; indeed it is certain, that in many articles the valuation attached to some denominations is as old as the reign of Charles II, though the real value is known to have quintupled.

### ENGLISH ACCOUNT.

#### EXPORT OF BRITISH MANUFACTURES TO FRANCE.

	£.	s.	d.		£.	s.	d.
1769, -	83,213	18	4	1784, -	93,763	7	1
1770, -	93,231	7	5	1785, -	244,807	19	5
1771, -	85,951	2	6	1786, -	343,707	11	10
1772, -	79,534	13	7	1787, -	713,446	14	11
1773, -	95,370	13	1	1788, -	884,100	7	1
1774, -	85,685	13	2	1789, -	830,377	17	0

The rise in the years 1785 and 1786, may be attributed to the rage for every thing English, which, I believe, was then pretty much at its height; the moment the honour of the nation was secured by wiping off the disgraces of the war of 1756, by the success of the American one, the predilection for every thing English spread rapidly. In order to shew the proportion which our export of manufactures to France bears to our exports to all the world, I shall insert the total account by the same authority.

	£.	s.	d.		£.	s.	d.
1786, -	11,830,194	19	7	1789, -	13,779,740	18	9
1787, -	12,053,900	3	5	1790, -	14,922,000	0	0
1788, -	12,724,719	16	9				

We know that all these sums are incorrect; but we may suppose the incorrectness as great one year as another, and that therefore the comparison of one year with another may be tolerably exact. The following French accounts have been taken with singular attention; and as duties have been levied on every article, the amount may be more, but cannot be less.

## FRENCH ACCOUNT.

## IMPORTS FROM ENGLAND INTO FRANCE, IN 1788.

	liv.
Woods, coal, and raw materials, of which coal near 6,000,000 liv.	16,553,400
Other raw materials, not the direct product of the earth,	2,246,500
Manufactured goods,	19,101,900
Manufactured goods from foreign industry,	7,700,900
Liquors (boissons)	271,000
Eatables (comestibles) such as salt meat, butter, cheese, corn, &c.	9,992,000
Drugs,	1,995,900
Groceries,	1,026,900
Cattle and horses,	702,800
Tobacco,	843,100
Various articles,	187,200
West India cotton, and West India goods, none.	
	60,621,600

## EXPORTS FROM FRANCE TO ENGLAND, IN 1788.

	liv.
Woods, coal, and raw materials,	534,100
Other raw materials, not the direct product of the earth,	635,200
Manufactured French goods,	4,786,200
Manufactured goods from foreign industry,	2,015,100
Liquors,	13,492,200
Eatables,	2,215,400
Drugs,	759,100
Groceries, none.	
Cattle and horses,	181,700
Tobacco,	733,900
Various articles,	167,400
West India cotton,	4,297,300
West India goods,	641,100
	30,458,700

Explanation....All manufactured goods, both English and foreign, imported by the English merchants have been under-rated about one-twelfth, which will add 3,238,800 liv. The French exports must also be increased for smuggling, &c. &c.; so that there is great reason to think the real account between the two nations may be thus stated:

	liv.
Exports from England to France,	63,327,600
<u>France to England,</u>	<u>33,847,470</u>
Balance against France,	29,480,130

	liv.
Total exports of England to France in 1789, - - - - -	58,000,000
Ditto of English manufactures in 1787, - - - - -	33,000,000
1788, - - - - -	27,000,000
1789, - - - - -	23,000,000

Hence it appears, that the two custom-houses do not differ essentially in their accounts.

Before I offer any observations on these accounts, I shall insert a few notes I made at some considerable towns of the intelligence I received personally.

1787....**ABBEVILLE**....In discourse upon the effect of the new treaty of commerce with England, they expressed great apprehensions that it would prove extremely detrimental to their manufactures. I urged their cheap labour and provisions; and the encouragement their government was always ready to give to manufactures: they said, that for their government nothing was to be depended upon; if their councils had understood the manufactures of the kingdom, they certainly would not have made the treaty upon such terms; that there were intelligent persons in their town who had been in England, and who were clearly of opinion, that the similar English fabrics were some cheaper and others better, which, aided by fashion in France, would give them a great advantage; that provisions were by no means cheap at Abbeville, and the workmen in several branches of their fabrics were paid nearly as much as in England, without doing the work equally well, at least this was the opinion of some very good judges; and lastly, that all Abbeville are of this opinion.

**AMIENS**....I had here some conversation to the same purport as at Abbeville; the whole town I was assured had been alarmed from the first rumour of the terms on which the treaty of commerce had been concluded; they are well convinced that they cannot in any one instance, as they assert, stand the competition of English goods. On my asking what reason they had for such an idea, the person I conversed with went into a warehouse, and bringing a piece of stuff and another of flannel, they were, he said, English, and from the price at which they were gotten before the treaty, he drew the conclusion; he was also, he said, well informed of the prices in England. In the cotton fabric, he said, the superiority was yet greater; in a word, that Amiens would be ruined, and that on this point there was but one opinion.

The manufacturers of all countries are full of these apprehensions, which usually prove extremely groundless. In all probability the effect would be as expected, if a counter stream of emulation and industry did not work against it. The introduction of English fabrics may be hurtful for a time, but in the long run may be beneficial, by spurring up the French manufacturers to greater exertions and to a keener industry.

**BOURDEAUX**....The intercourse between this port and England has been increased a great deal since the treaty. Warehouses of English goods are opened. The article which has hitherto sold the best, and quickest, is that of the Staffordshire potteries; the quantities of these which have been sold is very great: but the hardware sent hither has been found so dear, that it could not be sold in competition with French and German, except in a very few articles. Of saddlery there are several shops opened that have sold largely. Beer has been tried, but would not do; the Dutch is still preferred for the West Indies as cheaper; that of England has been sold at 90 livres the barique, of 250 French bottles, and some of it arrived so bad as not to be merchantable. Wine

has increased in its export to England, but not so much as was expected; before the treaty it was eight thousand tonneaux a year, and it has not risen to twelve thousand; however the course of exchange is against England  $\frac{1}{4}$ th, and wine, owing to the present failure of the crop, has increased in price 50 per cent. Brandy has also increased.

The English take only the two first qualities of wines, or, rather they are supposed to do so; for their merchants established here mix and work the wine sent in such a manner, that the real quality of it is unknown: this is the account given us. Those two first sorts are now at 20l. to 22l. a barique, which is two hundred and fifty French bottles, and two hundred and seventy English ones. The other qualities are sold from 15l. to 18l. port charges, cask and shipping included; freight to London is 50s. a ton, besides 15 per cent. primage, average, &c. The French duty is 28 livres the tonneau, which has been lowered to 5 livres 5s. from last October to the first of January next, a regulation which it is said will not take place longer.

**BEAUVAIS....**The opinion universal among the manufacturers here is, that the English fabrics are so superior in cheapness, from the wise policy of the encouragements given by government, that those of Beauvais, should they come in competition, must sink; so much of the fabrics here as are for the consumption of the lower people might perhaps stand by it, but not any others; and they think that the most mischievous war would not have been so injurious to France, as this most pernicious treaty.

**LILLE....**I no where met with more violence of sentiment, relative to this treaty, than here; the manufacturers will not speak of it with any patience; they wish for nothing but a war; they may be said to pray for one, as the only means of escaping that ideal ruin, which they are all sure must flow from the influx of English fabrics to rival their own. This opinion struck me as a most extraordinary infatuation; for in the examination which took place at the bars of our Houses of Lords and Commons, this is precisely the town whose fabrics were represented as dangerously rivalling our own, particularly the camblets of Norwich; and here we find exactly the counter part of those apprehensions. Norwich considers Lille as the most dreadful rival, and Lille regards Norwich as so formidable to her industry, that war and bloodshed would be preferable to such a competition. Such facts ought to be useful to a politician; he will regard these jealousies, wherever found, either as impertinence or knavery, and pay no attention whatever to the hopes, fears, jealousies, or alarms, which the love of monopoly always inspires, which are usually false, and always mischievous to the national interests, equally of every country.

**NOTES....**In conversation here on this treaty with some very respectable commercial gentlemen, they were loud against it; insisted that France sent no fabrics whatever to England in consequence of it, not to the amount of a single sol; some goes, and the same went before the treaty; and that England has not imported more wine or brandy than usual, or at least to a very small amount; we know at present that this was not correct.

**ROUEN....**The quantity of merchandise of all sorts that has been imported here from England since the treaty, is very considerable, especially Staffordshire hardware, and cotton fabrics, and several English houses have been established. They consider the treaty here as highly detrimental to all the manufactures of Normandie.

I am better satisfied with the real fact than if it were, as the Chamber of Commerce of Normandie imagined, much more in favour of England; for as the benefit is more likely to last, so the treaty is more likely to be renewed; and consequently peace between the two kingdoms to be more durable. The balance of the manufacturing account does not exceed 14 millions, which is very far short of the French ideas, and must,

in the nature of things, lessen. The 18 millions of raw materials and coals, instead of being an import hurtful to the interests of French industry, is beneficial to it; and they themselves wisely consider it as such, and lamented the old duties on the import of English coal, asserting, that there ought to be none at all. Here are 10 millions of imports, and a balance of eight in direct objects of agriculture, as corn and meat. If a people will manage their agriculture in such a preposterous manner, as not to be able to feed themselves, they should esteem themselves highly obliged to any neighbour that will do it for them. Raw materials, including drugs, with cattle, corn, and horses, very nearly account for the whole balance, great as it is, that is paid on the total to England; and as such objects are as much for the advantage of France to import, as for the benefit of England to export, the whole trade must, both in extent and balance, be deemed equally reciprocal, and of course equally tending to advance the prosperity of each kingdom. There is, however, a circumstance in which matters are very far from being reciprocal, and that is, in payments. The French are paid for their goods, whatever these may be, according to agreement; but that is very far from being the case with the complaints against the mode of dealing in France, not only in respect of payment, but also of want of confidence, since their goods, fairly executed, according to patterns agreed on, are seldom received without dispute or deduction: and while they cheerfully do justice to the punctuality of the Americans, Germans, &c. they put very little value on the French trade, speaking in general. It is the same with Birmingham, whose merchants and manufacturers assert strenuously, that the commercial treaty has been of *no* service to their town; the French having taken as largely their goods by contraband, before the treaty, as at present, through a different channel; with this change, that the Dutch, Germans, and Flemmings, with whom they dealt before, paid better than the French. These circumstances are great deductions from the apparent merit of the treaty, which cannot be fairly estimated, unless we could know the amount of our exports sent out clandestinely before it was concluded. The manufacturers are certainly the best judges; and they unite, with one voice, throughout the kingdom, either to condemn it, or at least to assert its having been a mere transfer from one channel to another, and not an increase. The benefit of it, however, as a political measure, which tends to establish a friendship and connection between the two countries, cannot be called in question with any propriety; for the mere chance of its being productive of peace, is of more consequence than ten such balances, as appears on the foot of the above mentioned account.

#### CHAP. XIX.....OF THE MANUFACTURES OF FRANCE.

PICARDIE.....*Abbeville*.....The famous manufacture of Vanrobais has been described in all dictionaries of commerce and similar works; I shall therefore only observe, that the buildings are very large, and all the conveniences seem to be as complete as expence could make them: the fabric of broad cloths is here carried on upon the account of the master of the establishment, from the back of the sheep to the last hand that is given. They assert, that all the wool used is Spanish, but this must be received with some degree of qualification. They say that one thousand five hundred hands are employed, of which two hundred and fifty are weavers; but they have experienced a great declension since the establishment of the fabric at Louviers, in Normandie. They have several spinning jennies, by which one girl does the business of forty-six spinners.

An establishment of this kind, with all the circumstances which every one knows attended it, is certainly a very noble monument of the true splendour of that celebrated

reign to which Mons. de Voltaire justly enough gave the title of *Age*; but I have great doubts whether it is possible to carry on a manufacture to the best advantage, by thus concentrating, in one establishment, all the various branches that are essential to the completion of the fabric. The division of labour is thus in some measure lost, and entirely so in respect to the master of each branch. The man whose fortune depends entirely on the labour of the spinner, is more likely to understand spinning in perfection, than he who is equally concerned in spinning and weaving; and it is perhaps the same with respect to dressing, milling, dyeing, &c. when each is a separate business each must be cheaper and better done. The appointment of commis and overseers lessens, but by no means gets rid of the difficulty. In viewing a manufacture therefore I am not so much struck with that great scale which speaks a royal foundation, as with the more diffusive and by much the more useful signs of industry and employment, which spread into every quarter of a city, raise entire streets of little comfortable houses, convert poor villages into little towns, and dirty cottages into neat habitations. How far it may be necessary when manufactures are first introduced into a country to proceed on the plan followed by Louis XIV, I shall not inquire, but when they are as well established as they are at present, and have long been in France, the more rivals in smaller undertakings, which these great establishments have to contend with, the better it will generally be found for the kingdom, always avoiding the contrary extreme, which is yet worse, that of spreading into the country and turning what ought to be farmers into manufacturers.

Besides fine cloths, they make at Abbeville carpets, tapestry, worsted stockings, barracans, a light stuff much worn by the clergy, minorques, and other similar goods. They have also a small fabric of cotton handkerchiefs.

AMIENS....Abounds with fabrics as much as Abbeville; they make cottons, camblets, calimancoes, minorques, coarse cloths; there is scarcely any wool worked here but that of Picardy and a little of Holland, none of England, or next to none; they would get it they say if they could, but they cannot. I examined their cotton stockings carefully, and found that 4 or 5 livres was the price of such as were equal to those I had brought from England, and which cost at London 2s. 6d.; this difference is surprising, and proves, if any thing can, the vast superiority of our cotton fabrics.

BRETEUIL....They have a manufacture here on a small scale of scythes and wood hooks, the former at 45s. the latter at 30s. the iron comes from St. Diziers, and the coals from Valenciennes. Nails are also made here for horse-shoes at 8s. the lb. but not by nailors who do nothing else.

ORLEANS....The manufactures are not inconsiderable, they make stockings of all kinds, and print linens; a fabric of woollen caps has been established here since Louis XIV's time, in which two houses are employed; the chief we viewed. It employs at home about three hundred working hands, and twelve to fifteen hundred others. The caps are entirely made of Spanish wool, three ounces of yarn make a cap; they are all for exportation, from Marseilles to Turkey and the coast of Africa, being worn under turbans; in dressing they extract the grease with urine, full and finish in the manner of cloth.

The sugar refinery is a considerable business, there are ten large and seventeen smaller houses engaged in it; the first employ each forty to forty-five workmen, the latter ten to twelve: one of the principal, which I viewed, makes 600,000lb. of sugar, and the rest in proportion. The best sugar is from Martinico, but they mix them together. Rum is never made from molasses, which is sold to the Dutch at 8s. the lb. the scum is squeezed, and the refuse is spread thick on meadows to kill moss, which it

does very effectually. The price of raw sugar is 30 to 45 livres per 100lb. The coal they burn is from the vicinity of Moulins, in the Bourbonnois. Trade in general is now brisk here.

**ROMORENTIN....**A fabric of common cloths for liveries and soldiers, carried on by private weavers, who procure the wool and work it up; they are at least one hundred in number, and make on an average twenty pieces each in a year; it is sent to Paris. At Vatan there are about twenty of the same weavers and three hundred spinners.

**CHATEAUROUX....**A fabric of cloth, which two years ago, before the failure of the master, gave employment to five hundred hands, boys included, and to one thousand five hundred to one thousand eight hundred spinners in this and the neighbouring provinces; it is a Manufacture Royale, like that at Abbeville, of Vanrobais, by which is to be understood an exemption for all the workmen employed within the walls from certain taxes, I believe *tailles*. Some gentlemen of the town keep at present one hundred hands at work in the house, and the spinners depending on that number, in order that the fabric might not be lost, nor the poor left entirely without employment; there is true and useful patriotism in this. The cloths that were made here were 1 to  $1\frac{1}{2}$  aulns broad, which sold at 8 livres to 23 livres the auln; they make also *ratteens*. In the town are about eighty private weavers, who make nearly the same cloths as at Romorentin, but better; sell from 8 livres to 18 livres the auln,  $1\frac{1}{4}$  broad; these private fabrics, which do not depend on any great establishment, are vastly preferable to concentrating the branches in one great inclosure; the right method of remedying such a failure as has happened here, is to endeavour by every means to increase the number of private undertakers. The cloths are all made of the wool of the country now 20 to 37s. the lb. it has been dearer for two years, and ten years ago was to be had for 15 to 20s. from the 24th of June it is sold at every market, and in large quantities; manufacturers come from Normandy and Picardy for twelve days together to buy wool, wash, and send it off.

At two leagues from Chateauroux are iron forges, which let at 140,000 livres a year (6125l.) belonging to the count d'Artois.

**LIMOGES....**The most considerable fabric here is that of druggets, the warp of which is of hemp thread, and the woof of wool, one hundred looms are employed by them. Siamoise stuffs are made of hemp and cotton, sold at 30 to 48s. an auln; there are about one thousand or one thousand one hundred cotton spinners in the Limosin, also various mixed stuffs of silk and cotton, and silk and thread, under many denominations, for gowns, coats, waistcoats, breeches, &c. from 4 to 6 livres the auln. Some stuffs, which they call *china*, are rather dearer; a gown selling for four louis, but of silk gauze only 2 louis; this fabric employs about twenty looms, worked each by three or four people, boys included. I took many specimens of these fabrics, but in general there is a great mixture of shew and finery with coarseness of materials and cheapness of price, not at all suitable to an English taste.

They have also a porcelain manufacture, purchased by the king two years ago, which works for Seve; it gives employment to about sixty hands; I bought a specimen, but nothing they make is cheap, and no wonder, if the king is the manufacturer.

They have in the generality of Limoges, which includes the Angoumois, seventy paper mills that manufacture all kinds; they are supposed to make every day to the quantity of 19 cuves, the contents of which vary according to the sort of paper. A cuve of 130lb. will make  $6\frac{1}{2}$  reams of large and fine paper, but double that quantity of other sorts; they calculate that a mill can work about two hundred days in a year, festivals and repairs excluded; this makes at a cuve a day 454,200lb. for a year's work

of a mill, and 31,794,000lb. for the whole generality, and they value it at 20s. the lb. which makes as many livres, or 1,390,987l. They consider the manufacture as greatly overloaded with an excise, which amounts to about  $\frac{1}{4}$ th part of the value, but they have an allowance for all they prove to be designed for exportation, in the nature of our drawbacks; the manufacture has increased notwithstanding the duty. They reckon here, and in all the paper mills of France, the cylinder for grinding the rags, which they call Dutch (and which we have had so long in England) as a new and great improvement. Each mill employs from twelve to twenty hands, including car- ters; they reckon that half the paper is exported, much to the Baltic, and some they say to England.

They have also in this generality forty iron forges, some of which employ one hundred people, one is a foundry for casting and boring cannon.

BRIVE.....A silk fabric has been established here about five and twenty years, silk alone is wrought in it, and also mixed with cotton, and gauzes of all kinds are made; they say they have discovered a manner of dyeing raw silk, with which they make plain gauzes  $\frac{3}{4}$ ths of an auln broad and 11 long; the price varies according as they are chinees (waved) or not; a piece white, striped or not, is 54 livres (2l. 7s. 3d.) coloured ones 60 livres (2l. 12s. 6d.) and the chinees 80 livres (3l. 10s. 0d.) they make also a thick shining stuff in imitation of Manchester, at 6 livres the auln, also silk and neck handkerchiefs of a German taste, sold chiefly in Germany and Auvergne. A merchant also at Baisle, in Switzerland, is so good a customer as to have taken one thousand dozen of them. They have sixty or eighty looms constantly at work in the town; the weaver having his loom in his house and supplied with the material from the manufactory, and paid by the piece; each loom employs five people, women and children included. They use only French silk, which though not so shining as the Italian, is they say, stronger, bears the preparation, and wears better.

They have also here a cotton mill and fabric which is but in its infancy, has only one combing machine, and three double ones for spinning; they say that this machine, with the assistance of fifteen people, does the work of eighty; this undertaking has been established and is carried on by Messrs. Mills and Clarke, the former an Englishman from Canterbury, the latter from Ireland, both induced by encouragements to settle in France.

SOUILLAC.....*Payrac*.....No manufactures whatever in the country.

CAHORS.....Some small manufactories among them, one of woollen cloth; some years ago it had near one thousand workmen, but the company disagreeing, a law-suit ensued, so that it decreased to one hundred and fifty; the spinners are chiefly in the town; work up both French and Spanish wool, but the latter not of the first quality. They shewed us however some cloth, made as they say, entirely of Spanish wool, at 3 livres 10s. the lb. which is not so good as their rattéens made with  $\frac{2}{3}$  wool of Navarre and Roussillon, and  $\frac{1}{3}$  Spanish; they make some cloths for the home consumption of the province, entirely with the wool of Navarre, an auln broad, at 11 livres the auln; rattéens  $\frac{4}{5}$  of an auln broad, at 22 livres the auln; a second sort of rattéens, made with French wool, an auln broad, 11 livres the auln.

CAUSSADE.....This country is full of peasant proprietors of land, who all abound very much with domestic manufactures; they work their wool into common cloths and camblets, and all the women and girls spin wool and hemp, of which they make linen; there are weavers that buy about two quintals of wool, pay for the spinning, weave it, and carry the cloth to market, and there are merchants that buy the superfluity for export.



**MONTAUBAN.....**The woollen manufacture here is of some consequence, consisting of common cloths, croisees, half an auln broad, and several sorts of stuffs; they give the epithet royale to one house, but in general the spinning and weaving are carried on both in the town and the country, not only on account of the master manufacturers, but also by private weavers, who make and carry their stuffs to market undressed; the people of the fabric I viewed assert, that they use only Spanish wool, but this is every where in France a common assertion by way of recommending their fabrics, and has been heard in those, known on much better authority to use none at all; another circumstance to be noted is, that the wool of Roussillon goes in common manufacturing language under the denomination of Spanish; I saw their raw wool, and am clear, that if it is Spanish, it is of a very inferior sort; the quality and the price of the cloths speak the same language; they dye the cloth and not the wool previously; they sell their broad cloths, which are  $\frac{4}{5}$ ths of an auln wide, at 17 livres the auln (14s. 10 $\frac{1}{2}$ d.) and the croisees at 5 livres 10s. Twelve hundred people are said to be employed by this fabric.

The silk manufacture is also considerable; they work up not only the silk of the environs, but of the upper country also; they make stockings and small stuffs, but the former the chief; it is executed like the woollen fabric, both by master manufacturers and by private looms; a stocking engine costs from 15 to 20 louis, and a workman can earn with it to 3 livres a day.

**TOULOUSE.....**Has a woollen and a silk fabric; in the first are worked light stuffs, and has about eighty looms, which are in the town; in the other stockings, stuffs, damasks, and other fabrics, worked in flowers; about eighty looms also.

**ST. MARTIN.....**There are here ten manufacturers' houses, one of which made last year seven hundred pieces of woollen stuffs, each six aulns long; on an average each house five hundred pieces, chiefly bays, says, and other stuffs, the chain of thread; some for home consumption, but chiefly for exportation to Spain. Their best is 4 livres 15s. the canne of eight palms, and ten palms to the auln, half an auln broad. Other stuffs 3 livres 15s. dye in all kinds of colours. There are plenty of spinners of both thread and wool; weavers and spinners are spread over the country, but the combers and carders are at home. They use some Spanish wool from the Navarre hills at 30s. the lb. this year 33s. but very dear.

**ST. GAUDENTZ.....**Manufactures several sorts of stuffs, both wool alone, and wool and thread mixed; the principal fabric is a light stuff called Cadis, the greater part of which is exported to Spain.

**BAGNERE DE LUCHON.....**At half a league from this place is a manufacture of cobalt; it is said, the only one in the whole kingdom, which was all supplied, before the establishment of this fabric, by a Saxon gentleman, from the works in Saxony; and what is now made here is used at home and exported as Saxon cobalt. The ore is brought from Spain at a very high price, from a mine in the Pyrenees, not more distant in a straight line than six leagues, but the road is so rocky that the ore is brought by the valley of Larboust, which takes up a day and a half. The ore is not found in veins, but in lumps (rogons) so that it is often lost and found again.

A remarkable circumstance, and hardly credible, is their employing ore also from Styria, which is shipped at Trieste for Bourdeaux, and brought by the Garonne to Toulouse, and hither by land, at the expence of 45s. the quintal. They use also some from Piedmont; of these different ores, that from Styria is the worst, and the Spanish the best; they cost at the manufactory, one with another, 300 livres to 360 livres the quintal: the Spanish ore is the first described by Mons. Fourcroy, the gray or ash coloured; they do not melt these ores separate but mixed together.

The process pursued in this manufactory would be tedious to ninety-nine hundredths of my readers, I shall therefore only give a few heads from the memoranda I made after having viewed it attentively: the reputation of the duc de la Rouchefoucauld, as an able chemist, united with his rank, induced the director of the fabric to explain the matter fully; I attended him in viewing the work: they first pound the ore into powder, which is placed in a sort of spoon in a furnace to roast, for the purpose of expelling the arsenic by sublimation; it is received in a canal or chimney, which winds horizontally; by an opening in the wall a man enters for gathering this arsenic; this is an operation very dangerous to the health, yet for 46s. to 3 liv. a day they get men to execute it, who for a preventative of the ill effects swallow some milk, and keep cloths to their mouths and noses dipped in milk, and kept constantly wetted. The cobalt remains after this roasting in a grayish black calx; bismuth is found mixed with it, which is found at the bottom of the spoon. They have another way also, which is that of fusing the cobalt, thus purged of its arsenic, in order to get the regulus; I saw some large pieces of regulus with bismuth adhering, which were in all probability procured in this method; hitherto they have not applied the bismuth to use, nor tried whether it would answer to send it to those places where it is worked.

Having thus obtained the calx of the cobalt, they mix it with pot-ash and roasted flints as a flux, in large crucibles, which are placed six together, in a large long furnace, the upper part of which is arched to an angle, a current of air passing; the furnace is heated with dry beech-wood billets. Some chemists assert, that there should be of flints three to one of the cobalt, but they use sixteen to one, which they say is the Saxon method, and these flints contain some small portion of cobalt: it requires a fierce fire of twelve hours to reduce the calx of cobalt to a glass; when this is nearly in a white fusion (as they term it) they take it out with iron ladles, and throw it into a vessel constantly supplied with fresh water for cooling, from which it is taken to a pounding mill and beat to powder, in which operation they almost always find some drops of regulus, which are taken out; when pounded it is carried to a kind of table three stories high, streams of water are turned on to it, while two men at each table stir it; this is for freeing the cobalt from impurities; it passes with the water into a large tub pierced at different heights, that the water may flow away and leave the cobalt at the bottom; but as this water is in some measure tinctured with this precious material, it is not suffered to run to waste; a large cistern is under the whole room into which it is received, and whence it is drawn off from time to time; the cobalt thus gained is of the worst quality.

The washed cobalt is carried to a mill, which grinds it under a stone, the powder is received in a large vessel of water, which is made by trituration to imbibe the tincture, and is hence drawn off four times into as many vessels, that the water may deposit the material. The powder thus gained is carried to the drying room, where it is dried in long shallow trays, and then reduced to a finer powder by sifting; in which state it is so fine that they water it with a gardener's rose to prevent its being blown away, in which state it is in order to pack into casks for sale.

The motion to the whole machinery is given by two undershot water wheels.

Vicinity to the Spanish mine, and cheapness of wood were the inducements to establish this fabric here; they now make pot-ash, which was formerly imported from the Baltic, and cost 40 liv. the quintal, but they can make it here for 12 liv.

NARBONNE.....A manufacture royale of silk stuffs, the master of which is a bankrupt: This is the second of these privileged establishments which I have found in the same situation; Chateauroux the former. It should seem that government never interferes by privileges but to do mischief.

**BEZIERS....**A small fabric of silk stockings.

**MONTPELLIER....**Considerable fabrics of blankets, silk handkerchiefs, verdigrise, and many other articles.

**NISMES....**This is one of the most considerable manufacturing places in France; they make a great variety of stuffs, in silk, cotton and thread, but the first is the great manufacture; these are said to maintain from ten to fifteen thousand hands; for the intelligence varied between those numbers. Silk stockings are said to employ two thousand; handkerchiefs are a considerable article, printed linens, &c.; in the last there are workmen that earn 7 or 800 liv. a year.

**GANGE....**The most noted manufacture of silk stockings in all France; they make them up to 36 liv. a pair.

**VIGAN....**Silk stockings, and silk and cotton vests.

**LODEVE....**The principal manufacture here is cloth for the uniforms of various regiments in the French army; six thousand men are thus employed. They make also silk stockings and vests of cotton, but no cloths for the Levant; sixty quintals of oil are consumed in the town every week in the year.

**BEG DE RIEUX....**The manufactures here are the famous cloths called Londrins, which are exported to the Levant; they are made of the wool of Roussillon and Narbonne; also fine cloths of a thicker staple, and silk stockings. The villages in the mountains are all employed in this manufacture.

**CARCASSONNE....**Londrins the great fabric here also; the master manufacturers give the materials to the weavers, who are paid by the picce, and thus the manufacture spreads into the country both spinning and weaving; they are made of Roussillon and Narbonne wool, which goes by the name of Spanish, forty-six inches wide, the l'aune eight paus. They have also established a small fabric of fine cloths, which they term a facon de Louviers, at ten liv. an auln, but not comparable to the original.

I should observe, that these Londrins, of which at all these towns I took patterns, are a very light, beautiful, well dyed, bright cloth, that have had, and deservedly, from quality and price, the greatest success in the Levant. I saw the wool they are made of, and should not have known it from a good specimen from the South Downs of Sussex.

**BAGNERE DE BIGORE...** They make here some stockings and woollen stuffs, but not to any amount.

**PAU....**A considerable manufacture of linen handkerchiefs, with red cotton borders, also of linen for shirts, table-cloths, and napkins; the flax is raised chiefly in the country around; the fabric is spread into the country in every direction; much exported to Spain and to America, by way of Bordeaux. The handkerchiefs are from 36 to 72 liv. the dozen, my specimen at 42s. each, and by the dozen at 42 liv. to 48 liv. the square 3 paus  $3\frac{3}{16}$ . The linen for shirts is of the same breadth, and the price is from 50s. to 6 liv. the auln. A table-cloth and twelve napkins they call a service, and costs from 36 to 150 liv. I examined all, and thought them on the whole very dear, for they make hardly any thing tolerably fine.

**ANSPAN....**The Pau linen manufacture is here also on a smaller scale.

**AIRE....**A small manufacture of Porcelain, or rather earthen-ware, a cup and saucer for 8s. also of linen for the table and shirts.

**LEITOUR....**There is here a tannery, which was twenty-five years ago not an inconsiderable manufacture, that is, before the excises on leather were laid, but now reduced to less than one fourth of what it was; at that time it used thirty-seven thousand quintals of bark, and dressed eighteen thousand skins, but now only four thousand. The

king's wood near the town, which is extensive, yields the bark, the price 40 to 50s. the quintal; their water-mill grinds one hundred quintals a day; the bark cakes for fuel sell at 6 liv. the thousand. They have one hundred and twenty tan pits, which give employment to about one hundred men. The master of the fabric complains bitterly of the tax, which is 3s. the pound on all sorts of leather, sheep skins excepted, and he is clear that it has destroyed the manufacture. It is paid only when the dressed hides are taken out of the warehouse for sale, by which means the less capital on account of the tax is necessary.

AGEN.....The chief manufacture here is one of sail-cloth, very much decreased since the war, which, while it lasted, gave it an extraordinary vigour: at that time 320 workmen were employed in the house; now it has only one hundred and fifty in winter. There are now eighteen to twenty combers doing twenty pound of hemp a day, for which they are paid 8 liv. the quintal; in the war there were forty of them; three hundred and sixty pound of hemp per diem is therefore the amount of the fabric. All hemp used is raised on the banks of the Garonne, and spun in the country at the rate of 7s. the pound for the best thread. We viewed an apartment with eighty-four looms (they have one hundred and sixty in the house) that make eleven sorts of sail-cloth for the royal navy, in general of twenty-two or twenty-four inches broad; the first is sold at 44s. the auln, the second at 48; to prepare the hemp for combing, they grind it under a cylindrical stone in a sort of cistern; it is then divided into two sorts for sails, and into a third for ropes. They have many stone cisterns for bleaching one hundred and fifty quintals of thread at a time, of which one man does the whole work by means of pumping the lixivium at once from the copper into all the cisterns. The weavers are paid 5½s. the auln on an average.

Besides this fabric of hemp they have one of cotton, which is stopped at present; one of printed linens, which is brisk, and another of serges and other woollen stuffs, which is carried on by private weavers in their own houses.

CHATEAURAUT.....They have a manufacture of cutlery here, in which there is one circumstance that appears rather singular, which is the fabric being carried on with success almost without a division of labour. Every house in several streets is a cutler's shop, with its little forge, tools, grinding-wheel, &c. and the man, with the assistance of his wife and children, makes knives, scissors, &c. &c. executing the whole process himself, which in a large fabric goes through so many hands. As a foreigner I paid more than the fair price for the specimens I bought, yet they were very cheap, vastly cheaper than I could have believed possible with a manufacture carried on in contradiction to a principle which I had erroneously conceived to be essential to cheapness; they make nails also. Fuel is no where cheap in France (unless it be in the forest of the Lyonnais) yet here are hundreds of little forges burning, to execute what one would perform at a third of the expence.

TOURS.....The principal manufacture in this city is that of silk; they make flowered damasks and plain stuffs; there is a large building called the Manufacture Royale, in which many workmen were once employed, but none at present, as it is found more advantageous to give the silk to the workmen, in order for their weaving it at their own houses, which seems an experiment that ascertains the benefit of these expensive establishments; the whole fabric has however declined exceedingly, and is at present at a very low ebb; nor are the men assured of constant employment, which is the worst circumstance that can attend any fabric. Prices of weaving vary of course with the patterns of flowered silks; one which I saw working, a very full pattern, was paid for at the rate of 7 liv. the auln, the price of the silk 38 liv. the auln, and to make the auln, employed

the man, his assistant, and his wife, two days, which earnings may be divided into 40s. a-day for the weaver, 20s. for his assistant, and 10s. for his wife, whose business was only to adjust the chain; the breadth  $\frac{3}{4}$  of an auln; the workmanship of this silk is therefore between  $\frac{1}{2}$  and  $\frac{1}{3}$  of the gross value. I saw others working plain silks, in which the women weavers earned 18 to 24s. a day, and men 30s. They have also a fabric of ribbons, of which I bought specimens, but they are beyond comparison dearer than the ribbons of Coventry. We were told that silk at Tours employed two thousand people, but I believe the number is much exaggerated.

They have some woollen fabrics of no great account.

They have also, as at Chateaurault, many cutlers, who make knives and scissors of a higher price and much better; the specimens I bought appear to be cheap. Nails are an article also which gives employment here; I found that a middling hand would make about one thousand per diem, for which number he was paid 25s. It is to be noted, that a day's work in all fabrics means fifteen or sixteen hours (except the time taken for meals) common labourer 10s. and food.

The woollen manufacture of common stuffs is, by some accounts given us, more considerable than that of silk.

AMBOISE..... There is a fabric of steel established here by the duke de Choiseul; in it are made axes, hoes, files, &c. They say that two hundred men are employed, but I saw no signs of more than one hundred; they work with charcoal, and also with coals from the vicinity of Nantes. They have also a small manufacture of buttons, another of woollen cloth for clothing the troops, which, however, did not take root; there is at present one of coarse woollen stuffs, for the use of the lower people: these fabrics shew how fostering and powerful is the hand of a prime minister, in fixing what without him would never be fixed at all; had this duke continued in power, Amboise would soon have become a considerable city.

BLOIS..... A fabric of very beautiful gloves, which employs about twenty-five hands; here is also the same cutlery as at Tours and Chateaurault; and they make liquorice cakes for coughs, &c. as at Pontefract.

BEAUVAIS..... This is one of the manufacturing towns of France that seems the most brisk and active in business. I viewed the tapestry fabric, of which I had seen some fine specimens in the palace at Fontainebleau; their finest works are in silk as well as in worsted; they employ one hundred and fifty hands, and have another fabric connected with this in La Marche.

I viewed the calico printing-house of Messrs. Garnierdans and Co. which is upon such a scale as to employ six hundred hands constantly; there is no difference between this fabric and similar ones in England, and all the patterns I saw were very common, seeming not to aim so much at elegance or nicety of execution, as at the dispatch of a large undertaking, yet Paris is their principal demand; they print a great quantity of Indian calicoes; their madder is from Alsace. There are three other manufactures in the town, and all four employ about one thousand eight hundred hands; but the chief fabric is the woollen, which employs seven or eight thousand hands in the town and the adjacent country. They make, under various denominations, coarse stuffs for the clothing of the country people, for men's jackets and women's petticoats, &c. a truly useful and important fabric, which works only French wool, and in general that of the country. There are also stocking engines at work.

ST. GOBIN..... The fabric of plate glass here is by far the greatest and most celebrated in Europe; the inclosure is great, and the buildings are on a vast scale; one thousand eight hundred men are employed on the works, and in the provision, &c. of wood.

I was so fortunate as to arrive about half an hour before they began to run; there is a vast furnace in the centre of the building containing the pots of melted metal, and on each side of it a row of ovens with small furnaces for casting. An immense table of cast copper, as I judge by my eye (for I did not care to measure any thing) twelve feet long and eight broad, by five inches thick, stands at the mouth of the annealing oven, heated by a furnace on each side of it. When every thing is ready for running the glass, a comis enters, the doors are bolted, and silence is proclaimed by one of the men striking an iron bar on the ground; if any person speaks but a word after this, he is fined heavily. The furnace, in which is the melted glass, is then opened, and the pots of eighteen inches diameter are drawn out; two men, receiving it upon a sort of barrow, wheel it to the table above-mentioned, where an iron crank suspended from a windlass is fixed, and hoisting the metal, is emptied on to the table. A great copper roller is pushed over it, moving on two strips or bars of iron or copper, the thickness of which determines that of the intended plate of glass, for the pot discharging its contents between them, and the roller brought gradually over it, which flattens by its great weight the metal to the thickness of those bars; the glass is then pushed forward from the table into the oven heated to receive it for annealing, or cooling gradually, to prevent cracking. The dexterity, coolness, freedom from confusion, with which every thing is done, was very pleasing.

The grinding house is great; the whole of that operation is performed by hand. The motive for establishing this manufacture here, in a situation by no means convenient for navigation, though the distance is not great, was that alone of the plenty of wood. It is in the midst of a great forest belonging to the duke of Orleans, hired by the company that carried on the manufacture. All the fuel employed is beech wood, to which circumstance they attribute the superiority of the French glass to that of England.

ST. QUINTIN.....They make here linen, cambric, and gauzes, fabrics that spread all over the country; for all common goods they use the flax of the country, but for fine ones that from Flanders.

CAMBRAY.....They make gauzes, cleres, and some fine cambrics, called batistes.

VALENCIENNES.....Laces are here and in all the villages around a very considerable manufacture; that of thirty to forty lines breadth, for gentlemen's ruffles, is from 100 to 216 livres (9l. 9s.) an auln, with all other prices lower; a pair of ruffles and a frill to 16 louis; the quantity for a lady's head-dress from 1000 livres to 2400 livres. The poor women who do this exquisite work do not earn more than 20s. a day, or at the utmost 30s. The fine cambrics are all woven in cellars for humidity of atmosphere.

LILLE.....This is one of the most manufacturing, commercial, and industrious towns in France; there is a manufacture royale of fine cloths made of Spanish wool. Three calico printers' houses, but not upon a very great scale. Their greatest trade is that of camblets, which employs many hands; they are made of the long combing wool of Holland, Germany, Flanders, and what they can get from England, this being the fabric which uses more English wool than any other in France. They have a cotton fabric of stuffs for linings, &c. another of blankets; also one of silk stuffs, which the proprietor refused to let me see, the only instance of the kind I met with in the course of the journey; one may fairly conclude that he had nothing to shew, instead of the secret he pretended to; add to these a fabric of porcelain.

ST. OMERs.....There is a manufacture of worsted stockings, also of a kind of stuff called pannes, but the quantity not considerable. Much wool is spun.

ARRAS....The only fabric of any consequence is that of coarse thread laces, which find a good market in England.

BEAUVAIL....A considerable manufacture of coarse hemp and linens, sacking, &c.

AUMALE....A fabric, of no great consequence, of coarse woollens for the wear of the common people.

ROUEN....The Manchester of France. One of the most commercial and manufacturing towns of the kingdom. They say, that at present the velours and cotton toiles are the most flourishing. The fabrics spread over all the country, they admit the velverets of England to be much cheaper, but assert their pasmentiers of silk and cotton mixed, to be cheaper than any similar fabric in England; they have also some woollens, but none fine, or deserving particular notice. Asserted here that spinning cotton employs 50,000 persons in Normandy.

HAVRE....Cotton 260 livres the quintal. The duty on the export of French cotton rather more than 2d. per lb.

PONT A DEMER....Viewed the manufacture royale of leather here, having letters to Monsieur Martin the director. It consists of a considerable tannery and curriery; there are ninety-six fats for tanning, and eighty workmen are employed. I saw eight or ten English curriers; there are forty of them.

The price of raw hides from the butcher is at present 10 to 12s. a lb.; a year ago only 6½, which was the price for three or four years past; the rise they attribute to an arret of the parliament, prohibiting the killing any cow calf, which has made the skins dear, and the high price of meat has had a yet greater effect.

Foreign hides from Buenos Ayres are now 18s. the lb. that were 10s.; they have many from Ireland, which would be the best, if it was not for the careless way of cutting them more than necessary in killing. The Irish are the largest hides.

The bundle of bark is 30lb. (28 to 32) and the price per one hundred bundles, or three thousand, is 150 livres, which is about 4l. 4s. a ton; a few years past it was at 80 livres; they bark all oak of ten years growth, preferring young to what is old. Some hides they dress without lime, in the Jersey way; they dress many hogs' hides, and also goats from Sweden. They complain of the excise on leather, assert that there were once forty tanners in this town, but now not twenty, the declension owing to the duty of 3s. per lb.

CAEN....They make a great deal of silk lace here, also cotton and worsted stockings.

CHERBOURG....Near this place is a considerable fabric of blown plate-glass, which Monsieur Depuy, the director, was so obliging as to shew me; about 350 workmen are employed, but before the American war there were 600; the works at Cherbourg have hurt it, as well as grubbing up the forest belonging to Monsieur. It is now sent to Paris to be polished.

BRETAGNE....Rennes....Some fabrics, but not of consideration; linen for ship-sails, hats, earthenware, dimities, siamoises, thread stockings: some years ago one of cotton, established by Pincjon, author of a pamphlet Commerce de la Bretagne, but it was not attended with any success, and died with him.

ST. BRIEUX....Received here some information concerning the linen fabric of Bretagne. The merchants and factors chiefly reside at St. Quintin and Loudeac, some at Pontivy and Uzelles; St. Maloes is said to export to the amount of ten millions. The thread is spun all over Bas Bretagne and bought up at markets, and woven into linen at those towns and their districts; the lowest price is 34 to 38s. the auln; the next 40 to 50s. and some, but little, is made so high as 5 livres. The greatest object in the

fabric is the bleaching to a great degree of whiteness, which the Spaniards seem only to regard; to do this the manufacturers are forced almost to rot it. Among other operations to which they subject it, is that of putting it in casks of sour milk for three or four months, but the linen that is only commonly bleached is strong and excellent; the flax is all produced in Bretagne.

**BELLE ISLE TO MORLAIX PONTON....** Much spinning of flax through all this country; the flax of their own raising; every farmer enough for the employment of the family; the thread sells at 30s. a lb. at Morlaix.

**MORLAIX....** Much linen exported; thread sells at 45s. the lb.; spinning is 12s. the lb. I was shewn some fine thread that cost 3 livres 10s. the lb. and which will make cloth of 4 livres 10s. the auln. The linen trade is now very dull, but flourished greatly in the war; the linens here are *toille de ménage*; that exported to Spain is here called *toille de leon*, and is whitened till rotten.

**NANTES....** Here I am assured that the linen fabric of Bretagne amounts to twenty-four millions.

Examine some of these linens that are for the Cadiz market; the finest of all is 4 livres 7s. the auln of Bretagne of 50 inches, and three fourths wide; it has eighty threads in an inch English: 3 livres 7s. the auln; 25½ French inches broad, seventy threads to the inch English; they are very white and much beaten.

A considerable fabric established near this city in an island of the Loire, for casting and boring cannon; the coals cost here 34 livres the 2000lb.; they come by the river from the neighbourhood, and they calculate that the new steam-engine, now erected, will consume 100 livres a day.

Viewed the cotton manufacture of Monsieur Pellontier, Bourcard and Co. the Prussian consul, which employs about two hundred hands; he spins (by jennies) weaves and prints the cloth, but the conductor of it says, that the Swiss fabrics of the same sort are one-third cheaper, owing to their employing much more machinery, and to their men working far better and harder. Price of the best St. Domingo cotton at present 180 livres to 200 livres per quintal.

**ANJOU....Angers....** All alive with stocking engines, and an infinity of spinning wheels; the stockings are mostly of thread, but some of wool; they have spinning jennies for cotton; a fabric of sail cloth, and some calico printing.

**MAINE....Le Mans....** Here are ctamines, linen, stockings, bleach grounds, &c. &c.

**NORMANDY....Alençon....** Great quantities of hemp spun and manufactured in all this country into table-linen, sheets, shirts, &c.

**GACE....** Much spinning of flax, which is brought from Flanders, the price 1 livre 16s. the lb. and sell it spun at 4 livres 10s. but varying much according to the fineness; a woman spins a pound in a week.

**ELBOEUF....** The fabrics here are chiefly cloths, and by far the greater part are of Spanish wool, a small proportion of that of Roussillon and Berri. The wools of Segovia and the Leonise are at 5 livres 12s. the lb. and 4 livres 10s. *poid de Viscount*. It is spun in the country for twelve leagues around; the price of spinning is from 10 to 13s. the lb. average 11s. for which they spin the fine Spanish to the length of 825 aulns of Paris; a good spinner will do a pound in a day, but that is beyond the medium; very few however demand two days. The carder has 6 to 8s. a lb.

Monsieur Grande has some jennies, by which a woman spins the work of eight.

**DARNETAL....** The chief fabrics here are cloths, a *façon d'Elbœuf*, *espagnolettes*, flannels, ratteens. Of these the principal are the *espagnolettes* of five eighths breadth,



and price 5 liv. 10s. to 9 liv. 10s. for men's waistcoats, ladies' habits, &c. The wool is in general from Spain and Berri, but not the Spanish of the first quality; the Berri is as good, or better than the Spanish for this fabric. The spinners are paid 14 to 16s. the lb. for which they spin it to the length of six hundred aulns. Carding is 2s. the pound, and no other than carding wool is used here. The weaver is also paid by the pound, at 15s. therefore the weaving and spinning is nearly the same price; many of all these hands are in the country. The master manufacturers here assert, that their fabrics are as good and as cheap as similar ones in England, but they sell none thither.

LOUVIERS.....Monsieur Decretot's fabrics of fine cloths at this place, are, I believe, the first in the world; I know none in England, nor any where else, that can be compared with them; the beauty and the great variety of his productions remind me more of the fertility of Mr. Wedgwood's inventions, than any other fabric I have seen in France. Monsieur Decretot brings out something new for every year, and even for every season.

The common cloths of this place are well known; but Mons. D. has now made some of the finest and most beautiful cloth that has ever yet been seen, of the pure undyed Peruvian, or Vigonia wool, if it may be so called, for it is not produced by a sheep; this rises to the vast price of 110 liv. the auln,  $\frac{4}{5}$ ths wide; the raw wool is 19 liv. 10s. the pound, or thrice as dear as the very finest Spanish: other fabrics he has made of the wool of the chamois from Persia. The finest cloth he makes of common wool unmixed, is of Spanish, at 6 liv. 4s. the pound, and the price 33 liv. the auln,  $\frac{4}{5}$ ths broad. Raye en soie marbre  $\frac{4}{5}$ ths broad, 32 liv. Caslorine raye en soie, same price and breadth. Of all these curious fabrics, as well as the wools they are made of, he very obligingly gave me specimens.

View the cotton mill here, which is the most considerable to be found in France. They spin to the length of forty thousand aulns per pound, machinery in this mill saves in labour in the proportion of three hands doing the work of eight. It is conducted by four Englishmen, from some of Mr. Arkwright's mills. This mill cost building 400,000 livres.

Near this town also is a great fabric of copper-plates, for bottoming the king's ships; the whole an English colony.

CHAMPAGNE.....*Rheims*.... There are about seven hundred master manufacturers here, and ten thousand persons in the town and the country about it, supported by the manufactures. The fabric is not at present flourishing, and the earnings of carders and spinners but one half what they were. The weavers are paid 12 liv. 10s. for a picce of 55 aulns, and  $\frac{1}{2}$  an auln broad.

They make here razeastors, maroes, flannels, burattes, the chain of almost every thing of the wool of Champagne; but the rest of Spanish, or that of Berri; and these fine carding wools are combed for most of the fabrics: they use besides these wools much from Bourgogne and Germany, and some from Rome, which are very bad, because the sheep are clipped twice a year, which destroys the texture of the wool. The woollens at Rheims amount to ten millions, and the trade of wine four or five millions. There are twenty-four thousand pieces of woollen stuffs annually stamped, of fifty aulns each, and at the price of 110 to 120 liv. each.

LUNEVILLE..... Here is a fabric of earthen-ware, that employs sixty to seventy hands who earn 20 to 30s. a day; but some painters to 24 liv. a week. Common plates by no means good, 3 liv. 10s. per dozen.

ISENHEIM to *Befort*..... Many fabrics in this country especially calico printing.

BOURGOGNE.....*Dijon*.....Many stocking engines, some spinning of cotton, and some coarse cloths made, but nothing of consequence, for the place does not subsist by manufactures.

MONT CENIS.....These are amongst the greatest iron works in France, and owe their present magnitude entirely to Mons. de Calonne; they were established by Mr. Wilkinson from England, in the same expedition into France, in which he fixed those on the Loire near Nantes. The iron mine is three leagues off, but those of coal on the spot. They cast and bore cannon on the greatest scale, having five steam engines at work, and a sixth building: they have iron roads for the waggons, make coak of coal, a l'Anglois, &c. &c. Here is also a pretty considerable crystal glass work, in which two Englishmen are still left. There is no navigation, as necessary as coals or iron; but the Charolois canal is within two leagues, and they hope it will come here.

AUTUN.....No manufacture.

BOURBONNOIS.....*Moulins*.....No fabric.

AUVERGNE.....*Riom*.....No fabric, except what cotton is spun, &c. in the general hospital.

CLERMONT.....In the mountains at Royau, &c. wool spun 40s. lb. the finest 50s. spinning 1lb. coarse wool 10s. fine ditto 12 to 16s.

MARSEILLES.....Price of cotton, 1789, St. Domingo, 130 livres the quintal.

Martinique,	120
Salonica,	95 to 100
Smyrna,	100 to 115
Cyprus,	100 to 105
Aere,	100 to 110

This place makes soap to the amount of 20 millions a year: the oil from Italy, the Levant, and Tunis.

Castile,	36 livres the quintal.
Blue,	36 $\frac{1}{2}$
White,	37

The trade of Marseilles to the colonies not near equal to that of Bourdeaux.

LYONS.....The import of raw silk into all France one million of lb. of 16 oz. The crop of all France the same, but not so good by  $\frac{1}{4}$  of the price. The price of good silk 25 to 30 livres. The fabric here  $\frac{3}{4}$  of all the kingdom, and its exports in manufactured goods the weight of one million of pounds. There are 12,000 looms, each employing five persons, or 60,000, who earn on an average 25s. a day. The men earn by wrought silks 45 to 50s. but on plain ones 30s. Of the fabric here  $\frac{2}{3}$  of the value is raw silk, and  $\frac{1}{3}$  labour. Throughout the kingdom in the hemp and flax fabrics  $\frac{2}{3}$  labour, and  $\frac{1}{3}$  raw material. In the last 20 years the manufacture here has augmented very little, if at all.

They have a prohibitory law against any loom being erected without the city to a certain distance; and at Amiens there is a prohibition against working woollen stuffs by lamp-light, for fear of greasing the stuffs, yet here the finest silks are thus wrought.

The advantageous situation of Lyons, in respect to its two great rivers, has no effect on the transport of its manufactures, for all go by land to Bayonne, Bourdeaux, and Strasbourg, &c. They have here an establishment of Genevois calico printers, to the number of six or seven hundred.

ST. ETIENNE EN FORET....The iron fabrics now very flourishing, coals almost for nothing, and the same at St. Chaumont; a great ribbon trade also; forty pieces are made at a time by a machine turned by one man.

The following details of French manufactures will explain several of them: they are extracted from the new Encyclopedie, in quarto, now publishing at Paris.

## MANUFACTURES OF PICARDY.

	Looms.	Pieces.	Price. liv.	Total Value. liv.
Camelot poil, - - - - -	350	3,000	380	1,140,000
Camelot mi soie, - - - - -	300	3,600	160	576,000
— laine, - - - - -	450	3,500	120	420,000
Baracans, &c. - - - - -	700	12,000	130	1,560,000
Prunelles soie, - - - - -	1,000	10,000	180	1,800,000
— laine, - - - - -	650	7,800	115	897,000
Panne poil, - - - - -	800	7,000	240	1,680,000
— laine, - - - - -	950	10,000	120	1,200,000
Velours, mocquettes, trippes damas, - - - - -	450	4,500	180	810,000
Alencons, etamines, vires, gazes, - - - - -	300	3,600	200	720,000
Serges, minorques, turquoises, &c. - - - - -	1,200	14,400	180	2,592,000
Tamises, duroys, grains d'orge, - - - - -	400	6,000	100	600,000
Serges d'Aumale, Londres, &c. - - - - -	2,000	16,000	100	1,600,000
— de Blicourt, Crevecœur, &c. - - - - -	1,500	24,000	15	625,000
Draperies fines, - - - - -	100	1,200	480	576,000
— communes, - - - - -	600	7,000	60	420,000
Velours de coton, toileries, &c. - - - - -	450	6,000	150	900,000
Totals.				
Etoffs de laine, - - - - -	12,200	139,600		18,116,000
Bas douzaines de paires, - - - - -	8,500	220,000	14	5,200,000
Toiles, - - - - -	4,300	60,000	50	3,000,000
	25,000			26,316,000

## WOOL CONSUMED.

FLEECE.		lb.		liv.	
Of the country,	- - - - -	3,220,000	at 22s.	3,520,000	
From Holland,	- - - - -	180,000	at 40s.	360,000	
— England,	- - - - -	200,000	at 32s.	320,000	
— Germany,	- - - - -	100,000	at 22s.	110,000	
		3,700,000		4,310,000	
SPUN.					
Turcoin,	- - - - -	60,000	8 livres 10s.	510,000	
Germany,	- - - - -	100,000	7 livres	700,000	
Poil de chevre,	- - - - -	220,000	5 livres 10s.	1,200,000	
Soie,	- - - - -	20,000	35 livres.	700,000	liv.
Spinning of 3,680,000lb.					7,420,000
— at 6 or 7s. the lb. of thread of all sorts at 9 livres the piece,					4,310,000
Weaving 150,000 pieces at 28 livres the piece, 12,000 looms making each 14 or 15 pieces, and gaining about 280 livres per annum,					1,350,000
Dyeing the materials spun and not spun,					3,420,000
Merchant's profits on raw materials and manufacturers,					190,000
Value of 150,000 pieces going from the hands of the manufacturer,					1,300,000
Drugs, colours, &c.					17,990,000
Nett profit,					500,000
					2,000,000
					20,490,000

## DRAPERIES FINES.

	livres.
Spanish wool 330 bales of 200lb. at 5 livres per lb.	330,000
Sixty-six lb. of wool in a piece of broad-cloth, 1000 pieces, and consume 66,000lb. of wool; the piece of 24 aulns at 25 livres, 600 livres, and for 1000,	600,000

## LINEN, THREAD, AND CORDAGE.

	livres.
Hemp for linen, 4, 5, or 600,000 raw, at 30 livres the 100,	1,350,000
Reduced to 3,000,000lb. at 7s. spinning,	1,050,000
Flax 2,000,000lb. at 40 livres the 100,	800,000
Reduced to 1,200,000lb at 10s. spinning,	600,000

## COTTON VELVETS.

	livres.
Cotton 40,000lb. at 48s.	96,000
Spinning,	96,000
Fabrication of 2,860 pieces at 14s.	60,000
Dyeing, &c.	82,000
Profits,	36,000
	370,000
	livres.
Weaving, 4,300 looms at 90 livres to 160 livres,	400,000
Seventy thousand pieces at 65 livres materials,	4,200,000
Hemp and labour on thread, pack-thread, and cordage,	2,000,000
	6,200,000

BONETERIE.

	livres.		livres.
Wool of the country, 800,000lb. at 25s. - - - -	1,000,000	Labour and profit, - - -	19,000,000
Holland, 250,000 at 40s. -	500,000		32,870,000
Flax, - 100,000 at 10s. -	50,000		
Cotton, - 2,500 at 40s. -	1,000	50,000 workmen at 140 liv. -	7,000,000
		50,000 women at 70 liv. -	3,500,000
Materials, - - - -	1,555,000	150,000 children at 40 liv. -	6,000,000
Labour, - - - -	3,125,000		16,500,000
Profit, - - - -	520,000		Profit 2,500,000
	5,200,000		19,000,000
RECAPITULATION.			
Total value of raw materials, -	13,870,000		

DRAPERIES OF THE GENERALITY OF ROUEN.

		Price per auln.	No. Pieces.	Value...liv.		
Elbæuf,	{	Draps, - - -	16 liv. 10s.	18,000	8,910,000	
		Royales, - - -	10 liv.	150	54,000	
		Calmoucs, - - -	16 liv.	80	38,400	
		Alpagas, - - -	9 liv.	100	36,000	
			18,330		9,038,400	
Louviers....	draps fins, - - -	24 liv.	4,440		3,196,800	
Rouen,	{	Draps, - - -	14 liv.	80	33,000	
		Ratines, - - -	12 liv.	120	51,840	
		Espagnolettes croisees, lisseees,	5 liv.	760	589,100	
		Flanelles, - - -	4 liv. 10s.	180	64,800	
			2,690	282,450		
			3,830		1,021,150	
Darnetal,	{	Draps, - - -	18 liv.	370	199,800	
		Ratines, - - -	12 liv. 10s.	380	171,000	
		Espagnolettes croisees, lisseees,	5 liv.	4,320	1,630,000	
		Flanelles, - - -	4 liv. 10s.	800	309,600	
			3 liv.	1,350	160,000	
			7,300		2,470,400	
					15,726,790	

The draperies of Darental may be taken on an average at 2,500,000 livres, blankets not included, which are 4 or 500,000 livres. If every thing is included, the lainages of the Generality will rise to 18,000,000 livres, and linens to the double.

MANUFACTURES OF CHAMPAGNE IN 1782, TAKEN BY MONS. TAILLARDAT, INSPECTOR OF THAT PROVINCE.

Places.	Denominations.	Price per auln.	No. Pieces.	Value.
Chalons.	Espagnolettes, - - -	3 liv. 10s.	1,800	226,800
Quippes.	Serges drapées, - - -	1 16	3,000	322,600
	Draps de Silesia, - - -	4 10	11,500	2,300,000
	Dauphins and Marocs, -	1 5 to 3 5	27,500	3,100,000
	Perpetuelles, - - -	3 12	40	7,000
	Droguets, ctamines, burats, voiles, - - -	5 5 to 3 5	22,000	2,800,000
Reims & Environs.	Imperialles flanelles, -	2 to 4 5	500	830,000
	Bluteaux, - - -	17 to 18 p.	3,960	67,600
	Couvertures, - - -	20 p.	30,000	600,000
	Toiles de Chanvre, -	1 4s.	2,300	110,000
	Dauphins and Marocs, ctamines, flanelles, serges, -	1 5 to 3 10	4,500	450,000
Rhetal & Environs.	Draps facon de Sedan, -	22 liv.	30	26,400
	Toiles de Chanvre, -	1 4	420	20,200
	Toiles de coton and basins, -	1 to 5 liv.	56,000	4,000,000
Troyes & Environs	Serges, frocs, &c. -	2 15 to 3 10	3,200	310,000
	Draps and ratines, -	6 to 10 10	550	122,400
	Espagnolettes, - - -	4 liv. 5s.	1,000	140,000
Chaumont, &c.	Droguets, - - -	1 10	1,500	100,000
Vancouleurs.	Siamoisés, toiles de coton, fil, &c. - - -	1 15 to 3 10	1,300	180,000
			171,100	15,713,000

BONETERIE EN COTON.

Looms....Troyes,	- - - - -	400
Arcys and Aube,	- - - - -	280
In thirty villages near ditto,	- - - - -	300
Vitry la Francois,	- - - - -	24
Vancouleurs,	- - - - -	30
Chalons,	- - - - -	12
		<hr/>
		1046

Each loom makes per annum one hundred dozen pairs of stockings or bonnets, worth one with another 24 livres, or 104,600 dozen, and 2,510,400 livres, of which two-thirds are labour and profit.

IN WOOL.

About twelve thousand dozen pairs of stockings and bonets at Chaumont, Vignory, Joinville, Vitry, and Chalons, at 50 livres the dozen, or 360,000 livres.\*

BONETERIE IN ALL FRANCE.

Boneteric of silk,	-	-	-	-	-	-	-	looms.
								17,500
Wool,	-	-	-	-	-	-	-	24,500
Cotton,	-	-	-	-	-	-	-	14,500
Thread,	-	-	-	-	-	-	-	7,500
Produce of which 55 to 60,000,000 livres,	-	-	-	-	-	-	-	<u>64,000</u>

LACE.

The laces they make at Valenciennes, employ about 3600 persons, and are an object of 400,000 livres, of which the flax is not more than  $\frac{1}{30}$ . The thread sells from 24 livres to 700 livres the pound. The lace-makers at Dieppe earn 7 or 8s. a day, a few 10 to 15s. There are eight or nine thousand point-makers at and about Alencon. At Argentan they work to 500,000 livres; and in all France about 1,200,000 livres.

SILK.

In 1780, there were in Lyons one thousand eight hundred to two thousand looms constantly employed on stockings, making one thousand five hundred pairs a day, at 9 livres, or 4,000,000 livres per annum for 450,000 pairs.

Raw material $\frac{1}{2}$ ,	-	-	livres.		In all France, in 1756....	Lyons,	looms.
Labour, -	-	-	2,000,000			Nismes,	3,000
Profit $\frac{1}{18}$ ,	-	-	1,600,000			Tours,	1,350
			400,000			Paris,	2,000
			<u>4,000,000</u>				<u>24,350</u>

Manufacture of Lyons in 1768, extracted from the register of the Capitation and Vingtiemes.

Merchants,	-	-	410		Ditto in 1788.		
Master workmen,	-	-	4,202		Looms employed,	-	9,335
Looms,	-	-	11,007		Ditto not employed,	-	5,442
						<u>14,777</u>	

Rent of their houses 811,667 livres. Total value of the fabric 60,000,000 livres, of which 18,000,000 livres labour. Weight of silk 2,000,000lb.

Silk and iron in the Forez of the Lyonnais.

\* Enc. Meth. Man and Art. t. i. 10.

The clincaillerie of St. Etienne 4,000,000lb. of iron, at 21 livres the 100, price wrought 60 livres the 100.

The manufacture of arms for export consumes 1,200,000lb. 60,000 muskets and pistols.

Ribbons amount to 9,000,000 livres.

#### WOOLLENS AT LODEVÉ IN LANGUEDOC.

	pieces.		livres.
Grisblancs for the troops, - - - -	6,000	at 6 liv. 10s.	624,000
Blues and reds, - - - -	2,000	at 9 liv. 10s.	304,000
Draps, - - - -	1,000	at 8 liv. 10s.	136,000
Pinchinats, - - - -	3,000	at 6 liv. -	288,000
Croisees, - - - -	300	at 9 liv. -	43,200
Tricots, - - - -	1,200	at 2 liv. 8s.	92,800
Ratines, - - - -	100	- - - -	12,000
	<u>13,600</u>		<u>1,500,000</u>

Total French exportation to the Levant 18,000,000 livres, of which 12,000,000 livres in draperies and bonets facon de Tunis.

#### CLERMONT.

##### Account of a bale of 20 half pieces of Londrins seconds.

Wool, 550 lb. at 38s. - - - -	1,045
Lisieres (list) - - - -	50
Oil, - - - -	36
Spinning, - - - -	270
Weaving, - - - -	150
Soap, - - - -	45
Dyeing, - - - -	120
Cocheueal, - - - -	198
Total including all other charges, - -	<u>1,914</u>

##### Account of 100 bales.

Wool, - - - -	550,000
Oil, soap, and drugs, - - - -	150,000
Carriage, commission, and profit, - - - -	110,000
Labour, - - - -	390,000
	<u>1,200,000</u>



WOOLLENS AT SEDAN.

						liv.	to	liv.
Wool,	-	-	-	-	-	376	to	476
Hair,	-	-	-	-	-	13	to	30
Oil,	-	-	-	-	-	12	to	14
Soap,	-	-	-	-	-	4	to	4 $\frac{1}{2}$
Linen,	-	-	-	-	-	3	to	3
Spinning,	-	-	-	-	-	60	to	90
Weaving,	-	-	-	-	-	34	to	53
Dyeing,	-	-	-	-	-	50	to	100

A PIECE OF BLACK SUPERFINE.

						liv.	s.	liv.	s.
Wool for the chain, 42 $\frac{3}{4}$ en surge, at 4 liv. 8s.	-	-	-	-	-	188	2	} 475	4
Ditto for the frame, 65 $\frac{1}{2}$ en surge, at 4 liv. 8s.	-	-	-	-	-	287	2		
Carriage of 103lb. wool,	-	-	-	-	-	-	-	5	8
Spinning,	-	-	-	-	-	-	-	87	18
Weaving 105 aulns, meas. de Brabant, at 10s.	-	-	-	-	-	-	-	52	10
Dyeing,	-	-	-	-	-	-	-	100	0
Wear and tear of implements,	-	-	-	-	-	-	-	14	0
House, clerks, &c.	-	-	-	-	-	-	-	14	0
								<hr/>	<hr/>
								749	0

42 $\frac{3}{4}$  aulns, at 23 liv. 10s. - - - 1004 liv. 12s.  
749 0

Manufacturer's profit, - - - 255 12

In 1767.

Looms,	-	-	-	-	-	713
Pieces,	-	-	-	-	-	3,556
Spanish wool,	-	-	-	-	-	864,105lb.
Wool or hair for selvages, &c.	-	-	-	-	-	133,751lb.
Oil,	-	-	-	-	-	161,158
of which olive,	-	-	-	-	-	144,373
— coleseed,	-	-	-	-	-	19,879
Linen for envelopes, 1,188 pieces of 28,550 aulns.						

Many interesting particulars concerning the fabrics of Normandie, are found in the Observations de la Chambre du Commerce de Normandie, sur le-Traite de Commerce entre la France & l'Angleterre.

## LINENS.

In the generality of Rouen are made, in an average year, 500,000 pieces, worth, as they pass from the hands of the manufacturer, 45 to 50,000,000 liv. of which two-thirds are labour and profits.

## WOOLENS.

The cloths and other stuffs of Louviers, d'Elbœuf, Rouen, Darnetal, Andley, Evreux, and other places in the generality of Rouen, may be estimated in a common year at 34,000 pieces, which are worth at the consumer's price about 20,000,000 liv. half of which is raw material, and half labour and profit.

## COTTON.

The boncterie en coton at Rouen, amounts to 18,000 dozen of pairs of stocking and caps, and as many more in the country, the value of the whole 1,600,000 liv. to 2,000,000 liv.  $\frac{2}{3}$ ds of which are labour and profit. The baues tamerie of cottons alone, employs in France 15,000 looms.

## SUNDRIES.

The other articles of manufacture in Rouen and the generality, such as ribbons, sundry woollens, tanneries, earthen-ware, plating, &c. will raise the preceding sums to 80 or 90,000,000 liv. in a common year, consequently these sundries amount to 16 or 18,000,000 liv. and half of all on an average is labour and profits.

Louviers fabricates annually 4400 pieces of cloth.

Elbœuf fabricates 18,000 pieces of cloths and stuffs.

Darnetal makes 7800 pieces of cloths, ratines, espagnolettes, and flannels, without including couvertures.

Vise makes eight thousand pieces of cloth, but the fabric is much fallen; for thirty years together it made twenty-six thousand pieces per annum.

Valognes and Cherbourg were once famous for their cloths, and fabricated to the amount of near four thousand pieces, at present they make three or four hundred.

Lisieux, and an hundred parishes in the environs, fabricates fifty or sixty thousand pieces woollen stuffs called frocs, flannels, &c.

## EARNINGS OF MANUFACTURERS.

1787.....PICARDIE.....*Montreuil*.....By stockings, 20s. a day.

*Abbeville*.....By cloths, &c. 25s.

*Amiens*.....Cloths, 18s. to 25s. to 40s.

*Breteuil*.....Iron, 30s.

ORLEANOIS.....*Orleans*....Woollen caps, men 26s. boys 7s. spinners 14s. carders 31s. sugar refiners 26s.

BERRY.....*Chateauroux*....Woollens, men 20s. boys 8s. spinners 8s.

LA MARCHE.....Women and girls employed in keeping cattle, spin wool and hemp; for thread of the latter they have 3s. the pound, for coarse, 6s. for fine; for wool 3 to 4s. the pound; they must work very hard in the fields to spin one pound of coarse thread

in a day; when they work for themselves they give their yarn and thread to a weaver, who makes the stuff at 5 or 6s. the auln.

**LIMOSIN....***Limoges....*Stuffs and china men 17s. boys 9s. weavers are paid 5 or 6s. the auln, and earn 15s. a day; in the porcelain fabric some earn 120 liv. a month.

*Brive....*Silks, gauzes, and cotton men 27s. boys 5s.

**GUIENNE....***Cahors....*Woollens, men 20s. spinners 8s.

*Montauban....*Silks, women 10s. woollens, men 25s. spinners 8s. combers 30s.

*St. Martori....*Woollen stuffs, men 24s. spinners 8s. women 8s.

*Bagnere de Luchon....*Cobalt, men 27s.

**LANGUEDOC....***Nismes....*Silks, men 20 to 40s. a man will make a pair of silk stockings in a day if he is a good hand, he is paid 40s. for them, out of which he must pay for the engine and oil for his lamp; the engine costs 4 to 500 liv. women also work at it, common earnings of either, by means of this tool, 30 to 35s.

*Gange....*Silk stockings, men 32s. and some particular hands, by making the finest stockings, up to 36 liv. the pair will earn 5 liv. a day.

*Lodeve....*Cloths, men 28s. silk stockings 35s. cotton 35s. some in cotton are said to earn even to 50s.

*Beg de Rieux....*Londrins, men 18s. silk stockings 35s.

**GUIENNE....***Pau....*Linen, men 24s. from 18 to 40s. they are paid 20s. for weaving a handkerchief.

*Navarens....*Flax, a pound before spinning sells for 30s. spinning it to a middling degree of fineness adds 30s. more, or 3 liv. in all, but much spinning improves it only 20s. a good hand will spin a pound a day, in common a woman earns 7 to 12s. weavers 15 to 30s. generally 20s.

*Bayonne....*Spinning flax, 10 to 11s. a day.

*Aire....*Linen 15 to 25s.

*Leitour....*Tannery 15 to 30s.

*Agen....*Hemp weavers 15 to 22s.

**TOURAINNE....***Tours....*Silk weavers, men 30s. boys 20s. women 21s. nailors 25s.

*Amboise....*Steel, men 36s. women 18s.

**ISLE OF FRANCE....***Beauvais....*Tapestry, men 40s. boys 5s. some to 100s. calico printers 10 liv. to 25 liv. a week, none under 10 liv. women pencillers 20s. a day, pattern drawers to 150 louis a year, several at 100, woollens 20 to 30s.

**PICARDIE....***St. Gobin....*Glass, men 20 to 40s.

*St. Quintin....*Linen, cambric men 20s. spinners 15s. and even to 20s.

*Cambray....*Gauzes, clerics, &c. 20s. in general, some 30, and a very few to 40s.

*Valenciennes....*Lace-makers 20 to 30s. for the finest.

*Lille....*Woollen stuffs 20 to 35s. many to 40s.

*St. Omers....*Stockings 22s. spinning wool, women 9s.

*Aire....*Spinning wool 9s. to 10s.

*Arass....*Laces, women earn 12 to 15s. a day, stockings 24s. to 30s.

*Beauval....*Weavers of linen 30s. spinners 3 pound, at 4s. per day, or 12s. if good hands.

*Aumale....*Weavers 22s. women spinners 7s.

*Rouen....*Weavers 30s. by the piece, that is 24 to 40s. spinners 8 to 12s.

*Yvetot....*The poor here, and the same at Rouen, buy their cotton, spin it, and then sell the yarn; at present they give 4 liv. 5s. per pound for the cotton, and when spun

it at 5 liv. 10s. to 5 liv. 15s. and 6 liv. and earn in general about 12s. a day; children begin at six or seven years old. Very little wool spun, as the whole country is employed on cotton.

*Havre*....The country people can buy their cotton at 300 liv. the quintal, which is to the quintal of Paris as 108 is to 100; at Rouen it is 106; they have 40s. a pound for spinning it, and a woman earns 16s. a day. I was here assured, that none of the cotton mills of France were on a great establishment, as I should find when I viewed them; much talked of only at a distance.

*Pont a de Mer*....In the tannery and curriery here the men earn from 24s. to 4 liv. a day.

*Caen*....Silk lace, 14s. women, some so high as 30.

*Bayeux*....Lace of silk and thread, women earn in common 10 to 12s. but some 20 to 24s.

*Cherbourg*....Blown plate glass, blowers 40 to 50s. lowest workmen 24s.

BRETAGNE....*Rennes*....Sundries, 25s. a day.

*St. Brieux*....Spinning wool 8s. to 20s. per pound.

*St. Quentin, Loudeac, &c*....Linen, weavers 9s. an auln, and do four in a day of common work, 30 to 36s. common wages, spinners 10 to 20s. but the latter very uncommon.

*Ponton*....Many spinners do not earn more than 5s. a day, 10 hours.

*Morlaix*....For spinning 12s. a pound; and do it in three days besides family business.

ANJOU....Weavers, 8s. per auln, and do 3 or 4 a day.

*Angers*....Weavers 30 to 35s. spinners 5 to 8s. more by wool than by cotton or flax, one pound of flax in a day for 6s.; one pound of fine cotton, three days to a week, and for 30s.

MAINE....*Guesceland*....Spinning hemp, do half a pound at 10s. the pound, but a very good spinner will do a pound.

NORMANDIE....*Alencon*....8s. a day by spinning hemp, and 10, and even to 12 and 15, but this is only for the finest of 56s. the auln.

*Gace*....Spinning flax 9s. a day, which is rather more than they gain by hemp.

*Elbœuf*....Spinning wool 5½ to 11s. weavers 30 to 35s.

*Darnetal*....Spinning wool 8 to 12s. a man carding 20 to 28s. weaving 24 to 30s.

*Louviers*....Spinning wool 12s. weavers 24 to 35s. and the highest wages earned 48s.

*La Roche Guyon*....Spinning cotton, good ones earn 12 and 15s. Spinning hemp 10 to 12s. the pound, and one pound in two days.

CHAMPAGNE....*Rheims*....For carding and spinning, are paid by the chain and gain 6s. a day, at present 12s. when the fabric was flourishing, a weaver that is a good hand, 20 to 25s. a day by the piece, but he has to pay a child, if he has none of his own, 3 or 4s. out of it.

BOURGOGNE....*Mont Cenis*....Forge men 30 to 40s.

AUVERGNE....*Clermont*....In the mountains.

VELLAY....*Le Puy*....Making lace, earn 4 to 8s. a day.

VIVARAIS....*Pradelles*....Ditto, 7 or 8s. and some up to 20s.

## EARNINGS.

Average earnings of all the fabrics, of the men 26s. Of the women 15s. Of spinners 9s. These earnings are, without any doubt, much under those of similar manufactures in England; where I should apprehend the men earn, upon an average 20d. a day or 40s.; the women 9d. or 18s. and spinners I have shewn (*Annals of Agriculture*, vol. ix.) to earn 6½ or 12½s. The vast superiority of English manufactures, taken in the gross, to those of France, united with this higher price of labour, is a subject of great political curiosity and importance; for it shews clearly, that it is not the nominal cheapness of labour that favours manufactures, which flourish most where labour is nominally the dearest; perhaps they flourish on this account, since labour is generally in reality the cheapest, where it is nominally the dearest; the quality of the work, the skill and dexterity of performance, come largely into the account; and these must, on an average, depend very much on the state of ease in which the workman lives. If he be well nourished and clothed, and his constitution kept in a state of vigour and activity, he will perform his work incomparably better than a man whose poverty allows but a scanty nourishment. There is doubtless great luxury amongst the manufacturing poor in England; there is little amongst those of France; this apparent evil has grown so regularly with the prosperity of English fabrics, that I am not too ready to consider it so great an evil, as to demand any laws or regulations to repress it, which have been injudiciously called for by some writers; inconveniences, indeed may flow from it, but they are so intimately connected with the sources of prosperity, that to touch them might be dangerous: the hidden benefit is concealed sometimes beneath the apparent evil; and by remedying the inconvenience, the advantage might be lost. It is thus sometimes in the natural body, and I believe often in the political.

It is a remarkable circumstance in the agriculture, or rather in the domestic œconomy of France, that the culture of hemp or flax, for home uses, pervades every part of the kingdom. It is a curious question how far this is beneficial or not to the general interests of the national prosperity. On the one hand, in favour of this system it may be urged, that national prosperity being nothing more than the united prosperity of single families, if any such article of œconomy be advantageous to individuals, it must be so to the nation at large; that it cannot fail of being beneficial to a poor man's family to have the women and children industriously employed on clothing the whole, rather than forced to buy such articles at an expence of money which they may not be able to procure. By means of industry, thus exerted, a poor family is rendered as independent as its situation admits. All of them are likewise warmer, and more comfortably clothed, as far as linen is concerned, than if it were bought; for whatever demands money, will be consumed with much more caution than if the result merely of labour. These arguments are unanswerable; yet there are others, on the contrary, that also deserve attention. If it be true, that national prosperity depends on individuals, and that whatever carries comfort into the cottage of the poor man, adds proportionably to the mass of national enjoyment, it must also be equally admitted, that whatever renders a people nationally flourishing and rich, reflects back on the lowest classes a large share of, and intimate connection in, such wealth and prosperity, consequently, if domestic manufactures of this sort be injurious to the great mass of national interests, in a state of combination, they must, in some measure, be individually so in a state of

separation. A modern society flourishes by the mutual exchange of the products of land for the manufactures of towns; a natural connection of one with the other; and it may be remarked, that in proportion as this exchange is rapid from a great consumption, in such proportion will a people generally flourish. If every family in the country have a patch of flax or hemp for its own supply of all the manufactures founded on those materials, this beneficial intercourse of the country with the town, is so far cut off, and no circulation takes place. If the practice be good in flax, it is good in wool; and every family should have a sufficient number of sheep, to clothe themselves in woollens; and if every little village have its little tanner, the same supposition may extend to leather. A patch of vines furnishes the beverage of the family; and thus, by simple domestic industry, all wants are supplied: and a poor family, as it would be improperly called, would have no occasion to resort to market for any thing to buy. But if it go thither for nothing to buy, it ought to go thither with nothing to sell; this part of the theory is absolutely necessary, for the town has the power of buying only in consequence of having that of selling; if the country buy nothing of the town, assuredly the town can buy nothing of the country. Thus it is, that in every combination on these subjects, a minute division of the soil into small properties always attacks the existence of towns, that is to say, of what Sir James Stewart calls the free hands of a society. A countryman living on his own little property, with his family industriously employed in manufacturing for all their own wants, without exchange, connection, or dependence on any one, offers, indeed, a spectacle of rural comfort, but of a species absolutely inconsistent with the prosperity of a modern society; and were France to consist of nothing else, the whole kingdom would become a prey to the first invader. Upon such a system all taxes must cease, and consequently all public force be annihilated. The whole routine of life would be as well carried on without, as with money, and he who has of necessity land and commodities only, could pay no taxes but in kind; in other words, could pay none at all. However plausible, therefore, the arguments may be in favour of these domestic manufactures, there are not wanted reasons that militate powerfully against them.

In a case of this kind a reference to fact is more valuable than reasoning. The poor in France abound very much with these fabrics, and are very miserable; the poor in England hardly know such a thing, and are very much at their ease; but in Wales, Scotland, Ireland, and some of our counties, most backward in point of agriculture, the system is found; and precisely in the poorest districts of the three kingdoms. It is with regret that I feel myself obliged to differ in opinion so often, on political subjects, from a man of such distinguished abilities as the count de Mirabeau; but upon this subject he gives an opinion decisively in favour of these scattered domestic manufactures, advancing the following strange assertion; *Les manufactures reunies, les enterprizes de quelques particuliers qui soldent des ouvriers au jour la journee pour travailler a leur compte ne feront jamais un objet digne l'attention des gouvernemens.\** If there be truth in this idea, the fabrics established in towns, in which a master manufacturer employs the poor, are good for nothing. Those of Lyons, Rouen, Louviers, Elbœuf, Carcassonne; Manchester, Birmingham, Sheffield, &c. are of no account, and do not confer national prosperity. It would be wasting the reader's time to refute formally such opinions. The facts are too notorious, and the arguments too obvious to dwell upon.

\* De la Monarchie, Prussienne, tom. 3. p. 109.

## OF THE INFLUENCE OF MANUFACTURES ON AGRICULTURE.

*NORMANDIE....Rouen to Barentin....*A noble soil and full of manufactures, but the most execrable husbandry I have yet seen; every field a bed of weeds and couch.

*Yvetot....*A noble tract of land; richer or deeper loams hardly to be seen, but all miserably cultivated; an exception to the common case in France, where fine soils are usually well cultivated: the crops in this country are a perfect contrast to the soil.

*Havre....*This whole country, from Rouen, the Pays de Caux, is a region more of manufactures than agriculture. The fabric is what the great population of this district depends on, their farms being but a secondary object. The number of small properties, and consequently population, is very great, which is the reason for the price and rental of land through this country, being vastly out of proportion to the products. Landlords also divide their farms according to the demand, as the rise of rent tempts it; but he often finds himself depending for the rent of his land, on the prosperity of a fabric. The whole country forms a curious spectacle; a vast fabric, and an immense employment, and population having been absolutely mischievous to agriculture. This has been the result throughout the Pays de Caux, the soil of which may be ranked among the finest in France. Had it been a miserably poor, rocky, or barren territory, the result would have been beneficial, for the fabric would have covered such a district with cultivation. But the farmers of the Pays de Caux are not only manufacturers, but have an inclination also for trade; the large ones engage in commercial speculations at Havre, particularly in the cotton trade, and some even in that of the West Indies. This is a most pernicious and mischievous circumstance; the improvement of their cultivation being never the object or result of their growing rich, but merely the engaging more largely in trade or manufacture. If they get a share in an American adventure, no matter whether thistles and docks cover their fields.

*BRETAGNE....St. Brioux....*Meeting here with a linen merchant, and some other well-instructed persons, I demanded information concerning the state of husbandry in the central parts of the province, and particularly the districts in which the great linen manufacture (one of the most considerable in Europe) is carried on. All I had seen of the province was such a wretched and almost deserted waste, that I supposed the other parts much better. I was informed, that the whole province was alike, except the bishopric of St. Pol. de Leon; that where the linen fabric was chiefly established, there husbandry was most neglected, from the people depending on their linen alone; that this state of things could not be helped, as it was impossible to attend both to their fabric and their land; and the former being found of the most importance, the latter was left quite neglected; and that the landes in the linen parts of the province, were enormous.

*L'Orient....*Here, in conversation concerning the wastes of Bretagne, I was again assured, that the landes were of very great extent in the linen country of Pontivy, Loudeac, Moncontour, and St. Quintin; and that what is cultivated is as rough as any I have seen; for the weavers are amongst the very worst farmers in the province.

*Auvergnac....*A person intimately acquainted with every part of the province, informed me, that the linen fabric in Bretagne is almost always found amidst bad agriculture, which he attributed to their always sowing hemp or flax on their best lands, and neglecting corn; but where corn is found, as about this place, they depend on it, and are not equally solicitous for hemp and flax.

*Elbœuf to Rouen....A desert.*

M. l'abbé Raynal remitted 1200 livres to the Royal Society of Agriculture at Paris, to be given as a prize on the subject of the following question, *Une agriculture florissante influe-telle plus sur la prosperite des manufactures, que la'croissement des manufactures sur la prosperite, de l'agriculture?* How the writers, who contended for the prize, will decide the question, I shall not inquire; but the facts, which I have here noted, seem to weigh materially towards enabling us to examine it. I take France to have possessed, from 1650 to 1750, the most flourishing manufactures in Europe: they were so considerable, and some of them remain yet so important, as to enable us to appeal merely to facts for an answer to such a question, so far as the example of that kingdom is concerned. That century of prosperous fabrics, what did it effect for agriculture? I may very securely reply, nothing. Whatever accounts I received of the comparison between the former and the present state of their cultivation, were in favour of the latter; yet, supposing it as good in 1750 as at present, I hesitate not to assert, that if such immense fabrics, encouraged almost exclusively for a century, could create no better husbandry than I met with in France, we may very safely conclude, that manufactures may flourish greatly, without shedding much influence in favour of agriculture. Such is the conclusion which forces itself upon one from the general view of the kingdom; but let us examine it more in detail. The greatest fabrics in France are the cottons and woollens of Normandie, the woollens of Picardy and Champagne, the linens of Bretagne, and the silks and hardware of the Lyonnais. Now, if manufactures be the true encouragement of agriculture, the vicinity of those great fabrics ought to be the best cultivated districts in the kingdom. I have visited all those manufactures, and remarked the attendant culture, which is unexceptionably so execrable, that one would be much more inclined to think there was something pestiferous to agriculture in the neighbourhood of a manufacture, than to look up to it as a mean of encouragement. Considering the fertility of the soil, which is great, Picardy and Normandie are among the worst cultivated countries I have seen. The immense fabrics of Abbeville and Amiens have not caused the inclosure of a single field, or the banishment of fallows from a single acre. Go from Elbœuf to Rouen, if you would view a desert: and the Pays de Caux, possessing one of the richest soils in the world, with manufactures in every hut and cottage, presents one continued scene of weeds, filth, and beggary; a soil so villainously managed, that if it were not of an inexhaustible fertility, it would long ago have been utterly ruined. The agriculture of Champagne is miserable, even to a proverb; I saw there great and flourishing manufactures, and cultivation in ruins around them. Let us pass into Bretagne, which affords but one spectacle, that of a dreary, desolate waste; dark as ling, sombre as broom can make it. You find yourself in the midst of one of the greatest linen manufactures in Europe, and, throwing your eye around the country, can scarcely believe the inhabitants are fed by agriculture; if they subsisted by the chase of wild animals, their country might be as well cultivated. From hence cross the kingdom to Lyons; all the world knows the immense fabrics found there; and those of St. Etienne among the most flourishing in the kingdom: *De toutes les provinces de France, says M. Roland de la Platiere, le Lyonois est le plus miserable.\** What I saw of it gave me little reason to question the assertion. The remark of another French writer makes the experiment double: *L'Artois est un de provinces les plus riches du royaume. C'est un verite incontestable; elle ne possede point de manufactures.†* I will not presume to as-

\* Journal Physique, tom. xxxvi. p. 342.

† Memoire sur cette question, Est-il utile en Artois de diviser les fermes, par M. Delegorguè, 1786. p. 23.



sert, that the agriculture of certain districts is bad because they abound with manufactures, though I believe it to be very much the case in the Pays de Caux; I merely state the facts, which I clearly know, because they came within my own eye; the fabrics are the greatest in the kingdom, and certainly the agriculture is amongst the worst. In my tour through Ireland, the journal of which is before the public, I examined, with attention, the vast linen manufacture which spreads all over the north of that kingdom. I there found the same spectacle that Bretagne offers; husbandry so miserably, so contemptibly bad, that I have shewn, by calculation, the whole province converted into a sheep-walk, and feeding but two sheep per acre, would yield, in wool only, a greater value than the whole amount of the linen fabric;\* a circumstance I attribute entirely to the manufacture spreading into the country, instead of being confined to towns. Wherever the linen manufacture spreads there tillage is very bad, said that attentive observer the lord chief baron Forster.† The earl of Tyrone has an estate, in the county of Derry, amidst manufactures, and another in that of Waterford, where there are none; and he assured me, that if the Derry land were in Waterford, or absolutely freed from fabrics, he should clear full one third more money from it.‡ If we pass into England, we shall find something similar, though not in an equal degree; the manufacturing parts of the kingdom being among the worst cultivated. You must not go for agriculture to Yorkshire, Lancashire, Warwickshire, or Gloucestershire, which are full of fabrics, but to Kent, where there is not the trace of a fabric; to Berkshire, Hertfordshire, and Suffolk, where there are scarcely any; Norwich is an exception, being the only great manufacture in the kingdom in a thoroughly well cultivated district, which must very much be attributed to the fabric being kept remarkably within the city, and spreading (spinning excepted) not much into the country; a circumstance that deserves attention, as it confirms strongly the preceding observations. But the two counties of Kent and Lancaster are expressly to the purpose, because they form a double experiment; Lancaster is the most manufacturing province in England, and amongst the worst cultivated: Kent has not the shadow of a manufacture, and is perhaps the best cultivated. Italy will furnish instances more to the purpose, than any yet cited. The richest and most flourishing countries in Europe, in proportion to their extent, are probably Piedmont and the Milanese. All the signs of prosperity are there met with; populousness well employed and well supported; a great export without; a thriving consumption within; magnificent roads; numerous and wealthy towns; circulation active; interest of money low; and the price of labour high. In a word you can name no circumstance that shall prove Manchester, Birmingham, Rouen, and Lyons to be in a prosperous state, that is found diffused throughout the whole of these countries, to what is all this prosperity to be ascribed? Certainly not to manufactures, because they possess hardly the trace of a fabric; there are a few of no consideration at Milan; and there are in Piedmont the silk mills, to give the first hand to that product; but on the whole, to an amount so very trifling, that both countries must be considered as without fabrics. They are equally without commerce, being excluded from the sea; and though there is a navigable river that passes through both these territories, yet no use is made of it, for there are five sovereigns between Piedmont and its mouth, all of whom lay duties on the transit of every sort of merchandize. As these two countries do not owe their riches to manufactures or commerce, so undoubtedly they are not indebted for them to

\* A Tour in Ireland, 2d. edit. octavo, vol. ii. p. 304.

† Ib. vol. i. p. 515.

‡ Ib. vol. i. p. 123.

any peculiar felicity in their governments; both are despotisms; and the despot\* of Milan makes that country a beast of burthen to Germany; the revenues are remitted to Vienna; and the clothes, even for the troops paid by Milan, come from Germany. The origin and the support of all the wealth of these countries, are to be found in AGRICULTURE ALONE, which is carried to such perfection as to prove, that it is equal to the sole support of a modern and most flourishing society: to keep that society in a state of great wealth; and to enable the government to be, in proportion to their extent, doubly more powerful than either France or England. Piedmont supports a regal court, and pays thirty thousand men. The same extent of country, or number of people, does not effect the half of this in any other dominion of Europe. But are these territories really without manufactures? no: nor is any country in the world; it is not possible to find a people totally exempt from them. The present inquiry demands no such exemption: it is only necessary to shew, that the manufactures found in the Milanese and in Piedmont are such as arise absolutely in consequence of agriculture; that it is agriculture which supports and nourishes them; and that, on the contrary, these manufactures are so far from doing any thing politically for agriculture, that they occasion the exposing of it to restrictions and monopolies; for the government in these countries have been bitten by the same madness of commerce that has infested other kingdoms; and have attempted, by such means, to raise these trifling fabrics into foreign export. Happily they have never been able to do it; for there is reason to imagine, that success would have suggested other restrictions unfavourable to the great foundation of all their prosperity. Thus the instances produced are express to the purpose; as they exhibit two opulent states, supported by agriculture alone, and possessing no other manufactures or commerce, than what every country must possess that enjoys a flourishing cultivation; for it is not to be expected that such great results are to be found attending common exertions only. On the contrary, those that have converted part of these noble territories into a garden, have been great and exemplary. The canals, for mere irrigation, are greater works than many in England for the purposes of navigation and the infinite attention that is given to the perpetual deviation of the waters, is a spectacle of equal merit and curiosity. Hence the following facts cannot be controverted:

I. That the agriculture of France, after a century of exclusive and successful attention to manufactures, was in a wretched state.

II. That the manufacturing districts in France and England are the worst cultivated.

III. That the best cultivation in England, and some of the best in France, must be looked for where no manufactures are to be found.

IV. That when the fabrics spread into all the cottages of a country, as in France and Ireland, such a circumstance is absolutely destructive of agriculture: spinning only excepted, which is almost universal in every country.

V. That agriculture alone, when thoroughly improved, is equal to the establishment and support of great national wealth, power and felicity.

And from these facts, the following corollaries are clearly deducible:

I. That the best method of improving agriculture is not by establishing manufactures and commerce, because they may be established in great extent and perfection, and yet agriculture may remain in a miserable state.

\* The expression has nothing too harsh, when applied to the late emperor, in whose reign I visited the Milanese; it is not applicable to the wise and benignant Leopold, who has given ample grounds to induce a belief, that he will prove a blessing to every country that is happy enough to be governed by him.

II. That the establishment of a flourishing agriculture inevitably occasions the possession of such manufactures and commerce as are equal to the support of numerous and flourishing towns; and to whatever is necessary to form a great and potent society. The lesson to governments is deducible in few words: first, secure prosperity to agriculture, by equal taxation,\* and by absolute liberty† of cultivation and sale.‡ Secondly, do no more to encourage manufactures and commerce than by letting them alone, a policy exclusive of every idea of monopoly. We may safely affirm, and our assertions are founded on unquestionable facts, that any country will attain the utmost prosperity of which its government is capable, that steadily pursues this conduct.

CHAP. XX....OF THE TAXATION OF FRANCE.

THE difficulty of understanding the details of the finances of France, induced me to attempt disentangling their confusion, by reducing them to such heads as are common in our own revenue. The particulars indeed are too long to insert, but the subject of taxation is of too much importance to be passed over absolutely in silence.

TAXES ON LAND UNDER THE OLD GOVERNMENT.

	French money.	English money.
Vingtiemes, - - - -	55,565,264 liv.	£. 2,430,980
Taille, - - - -	81,000,000	3,543,750
Local impositions, - - - -	1,800,000	78,750
Capitation, - - - -	22,000,000	962,500
Decimes, - - - -	10,600,000	463,750
Sundries, - - - -	600,000	26,250
	<hr/>	<hr/>
	171,565,264	7,505,980
	<hr/>	<hr/>

The calculation of the committee of imposition,§ in the National Assembly is this:

Vingtiemes, - - - -	55,565,264 liv.
Decimes, - - - -	10,000,000
Other impositions, - - - -	23,844,016
Taille, - - - -	73,816,179
Capitation, - - - -	6,133,274
Tythes, - - - -	110,000,000
Half the gabelle, - - - -	30,000,000
Half the excise on leather,	4,500,000

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313,858,733 Or, £.13,740,112 sterling.

It is sufficiently evident that this is an inflated account in several articles, as the committee had some design in view. Upon the principles of the economists, they proposed a land-tax of three hundred millions for the service of the year 1791; and that

\* There is no equality but in those on consumption, and tythes also incompatible.

† Liberty of cultivation implies an unlimited power of inclosure; the privilege of cultivating any plant the farmer pleases without shackle or restraint.

‡ An unbounded freedom of export. § Report du Comite de l'Imposition. Pieces Just. No. 1.

proposition was made under the assertion that the nation paid a greater land-tax under the old government. The reasoning, however, is erroneous; and to direct 110,000,000, the amount of tythes (which the Assembly had expressly abolished without condition) to be made good by a land-tax, is an oppression for no better reason than its having existed before: to bring salt and leather into the account is another exaggeration; why not include the duties on wine, by parity of reasoning? A farmer who has no vineyard of his own must buy it, and he cannot buy without paying aides; but are those taxes therefore to be reckoned? Certainly not; nor any others on consumption, which are clearly in a different class, and not to be included in such a detail.

## TAXES ON CONSUMPTION.

	French money.	English money.
Salt, - - - - -	58,560,000 liv.	£.2,562,000
Wine and brandy, &c. - - - - -	56,250,181	2,460,444
Tobacco, - - - - -	27,000,000	1,181,205
Leather, - - - - -	5,850,008	255,937
Paper and cards, - - - - -	1,081,509	47,315
Starch and powder, - - - - -	758,049	33,164
Iron, - - - - -	980,000	42,875
Oil, - - - - -	763,000	33,381
Glass, - - - - -	150,000	6,562
Soap, - - - - -	838,971	36,704
Linen and stuffs, - - - - -	150,000	6,562
Octrois, Entrees, &c. - - - - -	57,561,552	2,518,317
Cattle, - - - - -	630,000	27,562
Customs, - - - - -	23,440,000	1,025,500
Tolls, - - - - -	5,000,000	218,750
Stamps, - - - - -	20,244,473	885,695
Local duties, - - - - -	1,133,162	49,575
	<hr/>	<hr/>
	260,390,905	11,391,548
	<hr/>	<hr/>

It merits the reader's attention, that of this long list nothing is retained under the new government but the customs and stamps.

## GENERAL REVENUE.

	French money.	English money.
Taxes on land, - - - - -	171,565,264 liv.	£.7,505,980
Domaines, - - - - -	9,900,000	433,125
Consumption, - - - - -	260,390,905	11,391,548
Personal, - - - - -	44,240,000	1,935,500
Monopolies, - - - - -	28,513,774	1,247,496
Sundries, including the Pays de Etat,	12,580,000	550,375
Taxes not received on account of go- vernment, - - - - -	95,900,000	4,195,625
	<hr/>	<hr/>
Collection, - - - - -	623,089,943	27,259,649
	57,665,000	2,522,843
	<hr/>	<hr/>
Total, - - - - -	680,754,943	29,782,492
	<hr/>	<hr/>

Such was the revenue, at the entire command of Louis XVI. And such were the consequences of the funding system, that it had power to strike a palsy into the receipt of so enormous an income, even in the hands of the master of 250,000 bayonets, and twenty-five millions of subjects. Sovereigns ought to contemplate these effects of that PUBLIC CREDIT, upon which the banking, money-changing, and stock-broking writers, with Necker at their head, have delivered such panegyrics! A system that never entered a country, but to destroy or to annihilate prosperity: it has spread ruin or debility in Spain, Holland, Genoa, Venice, and France: it threatens speedily the extinction of the power, and the overthrow of the constitution of England: it has weakened and almost destroyed Europe, except one country, saved by the splendid talents of a single sovereign. It is impossible to contemplate such a revenue and population, united with variety of natural advantages possessed by France, without blessing the goodness of Providence, that a prince like Frederic II, did not fill the throne of Louis XV. Such a penetrating mind would have seen, in perspective, the mischief of public credit in France, as clearly as he did in Prussia; he would have strangled the monster for ever, and would have thereby established a power irresistible by all his neighbours; and the nations of Europe would have lain in ruins around him.

CHANGES IN THE REVENUE, OCCASIONED BY THE REVOLUTION.

The general statement, by the first minister of the finances, from the first May, 1789, to April 30, 1790, compared with the receipt for 1788, will give the defalcation that has taken place, and the additions that are carried to account.

	1789.	1790.
1. Fermes generales, - - -	150,107,000 liv.	126,895,086 liv.
2. Regie generale des aides, - - -	50,220,000	31,501,988
3. Regie des domaines, - - -	50,000,000	49,644,573
4. Ferme des postes, - - -	12,000,000	10,958,754
5. Ferme des messageries, - - -	1,100,000	661,162
6. Ferme de Sceau and Poissy, - - -	630,000	780,000
7. Ferme des affinages, - - -	120,000	
8. Abonnement de la Flandre, - - -	823,000	822,219
9. Loterie, - - -	14,000,000	12,710,855
10. Revenus casuels, - - -	3,000,000	1,157,447
11. Mare d'or, - - -	1,500,000	760,889
12. Saltpetre, - - -	6,800,000	303,184
13. Recette generale, - - -	157,035,890	27,238,524
14. Pays d'Etats, - - -	24,556,000	23,848,261
15. Capitations and vintiemes abonnees, -	575,000	1,213,505
16. Impositions aux fortifications, -	575,000	676,399
17. Benefice des monnoies, - - -	500,000	824,301
18. Droits attribues a la caisse du commerce,	636,355	305,418
19. Forges royale, - - -	80,000	401,702
20. Interets, l'Amerique, - - -	1,600,000	
21. Debets des comptables, - - -		2,291,860
Carried forward, -	469,858,245	292,996,127

	1789.	1790.
Brought forward,	469,858,245 liv.	292,996,127 liv.
22. Parties non reclamees a l'hotel de Ville,	<hr/>	240,262
23. Petits recouvrements, - - -	<hr/>	<hr/>
24. Quinze vingt, - - - - -	180,000	257,000
	<hr/>	<hr/>
	470,038,245	293,493,389
25. Plate carried to the mint, - - -	- - -	14,256,040
26. Dons patriotique, - - - - -	- - -	361,587
27. Contribution patriotiques,* - - -	- - -	9,721,085
	<hr/>	<hr/>
		317,832,101

The vast defalcation is, therefore, 176,544,856 liv. (7,723,837l.) the sum which 1790 falls short of 1789.

1791....The Committee of Imposts have calculated the sums wanted for the year 1791, and they propose to raise them in the following manner : †

Land-tax (contribution fonciere) - - -	287,000,000 liv.
Tax on personal property (contribution mobiliare)	60,000,000
Stamps (droit d'enregistrement) - - -	50,246,478
Other stamps, - - - - -	20,764,800
Patents (stamps) - - - - -	20,182,030
Lotteries, - - - - -	10,000,000
Customs, - - - - -	20,700,000
Powder, saltpetre, marc d'or, and affinages,	1,000,000
Mortgages, - - - - -	5,375,000
Posts and stage-coaches, - - - - -	12,000,000
Contribution patriotique, - - - - -	34,562,000
Domaines, - - - - -	15,000,000
Salt works, - - - - -	3,000,000
Interest from Americans, &c. - - - - -	4,000,000
Sale of salt and tobacco in the warehouses of the farmers general, - - - - -	29,169,462
	<hr/>
	572,999,770 Or, L. 25,068,750

It appears, by the Memoires presentes a l'Assemblee Nationale au nom du Com. des Finances, par M. de Montesquiou, September 9, 1791, 4to. that the revenue in 1790 produced only 253,091,000 liv. which was made up by anticipations and assignats.

\* It deserves attention, that this contribution patriotique is mentioned as a resource of 35,000,000 livres for the year 1791, by the committee of imposition. Rapport 6 Decembre, 1790, sur les moyens de pouvoir aux despenses pour 1791, p. 5.

† Rapport fait le 6 Decembre, 1790, 8vo. p. 6. Rapport fait le 19 February, 1781, 8vo. p. 7.

## INTEREST OF DEBTS.

The extreme variation of statement that these exhibit, may prove to us how exceedingly difficult it is to gain any clear and precise idea of French finances, for these estimations of interest do not proceed from equal variations in fact, but more from the modes in which accounts are drawn up; anticipations vary considerably, and remboursements are sometimes paid and sometimes not. It will however be proper to inquire into the amount of the debt, according to the latest statements. The following is the account of the Committee of Finances:

	Capitals.	Interest.
Rents viageres (life annuities) - - -	1,018,233,460 liv.	101,823,846 liv.
Rentes perpetuelles....Rentes constituees,	94,912,340	4,745,617
Rentes payees a l'hotel de		
ville, - - -	2,422,987,301	52,735,856
Dettes liquidees, -	12,351,643	544,114
Gages and traitemens,	2,603,210	93,645
Communantes, -	3,066,240	153,312
Indemnites, - - -	27,306,840	1,365,342
Emprunts, Pays d'Etats,	126,964,734	6,276,087
	<hr/>	<hr/>
	*3,708,425,768	167,737,819
Dette exigible,	†1,878,816,534	92,133,239
	<hr/>	<hr/>
	‡5,587,242,302	259,871,058
	<hr/>	<hr/>
Or sterling, - - -	£. 244,442,099	£. 11,369,357

The sum total of these interests, however, do not agree with those above-mentioned under the year 1790, of 371,306,938 livres, which seems to be owing to many remboursements of that year, for sums very lately advanced on the plate carried to the mint on the don patriotique, and on various other receipts. I must again remark, that clear accounts are not to be looked for in the complex mountain of French finances.

Assignats to the amount of 400,000,000 had then been issued; but the committee does not include them in the preceding account.

Since the above was written I have received the Appercu des Recettes & Depenses de l'Annee 1791, by the finance minister, M. Duffresnc, who gives the account of the expences necessary to be incurred in 1791, according to the decrees of the assembly, and they are as follows:

\* The Committee state, that this debt, by leaving the annuities to extinguish themselves, and by buying in the perpetual funds, at twenty years purchase, the whole would be extinguished with the sum of 1,321,191,817 livres. *Etat de la Dette Publique.* 4to. 1790. p. 8.

† Mons. de Montesquiou, in the memoir presented September 9, 1791, makes the dette exigible amount to 2,300,000,000 liv. p. 58. He makes the whole debt 3,400,000,000 liv. to which add 1,800,000,000 of assignats, and this is 5,200,000,000 livres; but 215,000,000 livres of assignats have been burnt. p. 46.

‡ I have read Mons. Arnould (*De la Balance du Commerce, 1791*) who makes the debt 4,152,000,000 livres; but not giving his authorities satisfactorily, I must adhere to the above-mentioned statement.

To the ecclesiastics, for the expence of public worship,		70,000,000 liv.
Pensions to the religious of the convents and monasteries suppressed,		70,000,000
Justice,		12,000,000
Directories of departments and districts,		9,360,000
Civil list, pensions, salaries, bureaux, academies, &c.		67,041,363
All other payments, of which interest of debts,	192,265,000	
Paris,	9,323,800	
War department and marine,	134,432	
	<hr/>	360,770,500
		<hr/>
		589,171,863 or, £. 25,776,274
		<hr/>

To procure an account equally clear of the real receipts for 1790, would be a more interesting object, for this end I consulted *Etat des Recettes et Depenses pendant l'Annee 1790, 4to. 1791*, but it is in vain, the receipts are no longer thrown into such a form as to permit a clear distinction between the product of taxes and the receipt, by funding and assignats; the receipt is given in two divisions; first, for the four first months of the year; and secondly, for the eight last; and the heads in the two accounts not being the same, to calculate them would be attended with very little certainty.

By the *Memoires sur les Finances presentes*, 9th September, 1791, 4to. some points receive more light than in any preceding account. It appears that the national estates sold have produced 964,733,114 livres; this is a curious fact; but the idea, that the remainder will produce enough to make this sum 3,500,090,000 livres is by no means certain; indeed it is of a complexion too dubious to be admitted; and of those actually sold, the receipt only to the amount of 735,054,754 livres is positively ascertained: and this vast sum, in the whole probably not less than forty millions sterling, must, without doubt, contribute very greatly, even beyond all calculation, to give security to the new government, as it interests the most closely an immense number of persons, with all their connections and dependencies, to support that system, by which alone this great property can be rendered safe. If to this be added the whole *Tiers Etat* of the kingdom, that is ninety in one hundred of the total, it must be apparent, that the hopes of a counter revolution must rest on external force, inadequate to the conquest of such a kingdom as France, unless all possible advantages towards favouring the attempt be united and aided by a well connected insurrection of those who are discontented.

The assembly decreed, that the general expence of the year should be	livres.	584,700,000
And for the departments,		56,300,000
		<hr/>
Total,		641,000,000



Brought forward,	641,000,000
Of which the Caisse del Extraordinaire was to furnish in lieu of domaines received,	60,000,000
	<hr/>
	581,000,000
Deduct expence of receipt of 56,300,000 included,	8,000,000
	<hr/>
Wanting by taxes,	573,000,000
But the expence of collection and management adds a fur- ther burthen to the people of	26,292,500

I have drawn up this budget as nearly to the truth as I can, from the three reports of the committee of imposts, of December 6, 1790, February 19, and March 15, 1791, which reports are not free from confusion, owing to decrees of the assembly, which were changeable and various. The entrees were positively voted for twenty-five millions, and the vote scarcely passed, when the Fauxbourg St. Antoine voted their abolition; and it was no question, who was to be obeyed, the national assembly of France, or the Fauxbourgs of Paris. The assembly instantly gave way and abolished the entrees. Other duties also varied much from changeable votes, so that there is a necessary disagreement between the three reports in almost every article, but in this account I have guided myself by the sums last proposed.

#### OF THE FUNDING SYSTEM.

It appears, from the preceding accounts, that France, under the old government, pursued the ruinous system of mortgaging its revenues, as regularly as any other country, whose greater freedom might be supposed to offer more temptations to the practice. This system, however, almost unaided by any other cause, has overturned that government, by means of the most extraordinary revolution upon record. If Louis XIV, amidst the splendour of his reign and career of his conquests, could possibly have foreseen that the second sovereign in descent from him would be led captive by his subjects, on account of the debts he was then contracting, he would cither have rejected with horror the system he adopted, or have manifested the most entire want of those feelings which ought to dwell in the breast of a great and ambitious monarch. But after this memorable example to other countries, it remains a subject of infinite curiosity, to see how far the infatuated and blind spirit of funding will now be pursued. Every hour, after the great event in France, will make it more and more critical, and will inevitably involve in its train new revolutions, perhaps of a complexion more dangerous to established families, than any thing we have seen in France. If peace is preserved in that kingdom, the debt will extinguish itself, being in a great proportion annuities for lives; but were not this the case, and should new wars add to the national burthens, the people, almost emancipated as they have been from taxation, will be brought back to it with great difficulty; and other assemblies, feeling their power better established, will not pay the same attention to the public creditors which the present has done; and the event might be similar to what will happen in England. No government will ever think of committing a deliberate act of bankruptcy; but when taxes are pushed to such a height that the people will no longer pay them, they are ripe for sedition; presently feel their own power; and the event may be easily conjectured. What is the conclusion that follows? That the funding system, or rather the wars which occasion it, are so fatal and pestilential, that at all events they ought to be avoided;

but that if unhappily they cannot, they should be supported by annual taxes (never by loans) which implies a war of defence at home; a renunciation of all exterior dominion; and the absolute annihilation of that commercial system of policy on which conquests, colonics, and debts have been so fatally erected.

OF THE AMOUNT OF SPECIE IN FRANCE.

The writings of Mons. Necker, will assist in the register of the French mint, which proves satisfactorily the quantity of money coined in France; it must, however, be sufficiently obvious, that from this quantity it is mere conjecture to attempt to ascertain, at any period, the actual quantity of specie remaining in the kingdom.

Coined in France from 1726 to 1780.	Gold,	-	-	957,200,000 liv.
	Silver,	-	-	1,489,500,000
				<hr/>
				2,446,700,000
In 1781, 82, and 83,	-	-	-	52,300,000
				<hr/>
				2,499,000,000
				<hr/>
And existing in 1784,	-	-	-	2,200,000,000

And he makes the increase of specie, in fifteen years, from 1763 to 1777, in France, equal to the increase of all the rest of Europe. From the inquiries of M. Claviere\* and M. Arnould,† it appears that the gold and silver currency of France, at the assembly of the states, was two milliards. (87,500,000l.) Whatever authority Mons. Necker placed in the supposed balance of the French trade, of above three millions sterling per annum, was assumed on very insufficient grounds. The marquis de Cassaux has proved the facts, which Mons. Necker deduced from that balance, to have never existed but in his own imagination.‡ The importance also, which, in the tenth chapter of the same book, that writer assigns to the possession of great quantities of gold and silver; the political conduct he expressly recommends to procure those metals, as selling much merchandise to other nations, and buying little; studying to effect this by shackling trade with duties upon export and import; and by the acquisition of colonies: the whole of this system betrays no inconsiderable degree of littleness; it is worthy of the counting-house alone; and manifests none of the views of a great statesman, nor even the abilities of an able politician: one is sure to meet, in Mons. Necker's productions, with an eloquent display of narrow ideas, and never the great reach of real talents, nor the masterly views of decisive genius. His ministry, and his publications, shew the equable orderly arrangement of a mind well regulated for little pursuits; but lost amidst the great events of a new system, bursting into efficiency amidst the whirlwind of a revolution.

The total currency, of both gold and silver, in Great Britain, may probably not be less than forty millions sterling. But no comparison can be made between the two kingdoms, because the great mass of England's circulating currency is in paper; whereas in France all, or nearly all, was in coin, till assignats were issued. It is probably a

\* Opinion d'un Creancier de l'Etat. † De la Bal. du Com. tom. ii. p. 206.

‡ Mons. de Calonne's recoinage, of 1785, has proved that Mons. Necker, even upon a subject more peculiarly his own, as a banker, is not so correct as one would imagine, when he ventures either to calculate or to conjecture. It is with difficulty he allows 300 millions for the export and melting of louis, which appear to have been 650,000,000 livres. He states the gold coinage (including the silver of the years 1781, 82, and 83) at 1,009,500,000 livres, instead of which, it was, by Mons. Calonne's account, 1,300,000,000 livres.

just observation of Mr. Hume, that the circulation of paper tends strongly to banish coin. Every kingdom must have, proportioned to its industry, a circulation of something; and if it have no paper, that circulation, so proportioned to its industry, will be in coin: the creation of so much paper supplies the place of it; and consequently keeps it from flowing into any country, where it is demanded by the offer of valuable equivalents. But, on the other hand, it has been urged, that paper, supplying the circulation as well and more conveniently than the metals, allows the latter to be sent profitably out of the kingdom, not to be lost, but beneficially as merchandise, and that an annual benefit is made by this, as well as by all other trades. If this argument be good, and in all probability there is some truth in it, France, by keeping so enormous a capital at home as 90 millions sterling, to answer purposes which, in England, are fulfilled with less than half, by means of paper, loses the profit which might be made on 45 millions, were that sum employed as it is employed in England. There is yet another explanation of the great paper currency of England, which has also much truth in it, and especially in the present moment. It may be said, that paper has been so largely coined in England, because the balance of its transactions with foreigners has not brought in the metals as fast as its industry has demanded a circulating representative; its industry has increased faster than its money; and I believe this to have been very much the case since the American war, in which period the progress of prosperity, in this kingdom, has been of an unexampled rapidity. In such a circumstance, the circulation of paper, instead of lessening the quantity of specie, will increase it, by facilitating the operations of commerce. Another evil, of a worse tendency, perhaps, is the disposition to hoard, when the currency is all in the precious metals. Mons. Necker states, as an undoubted fact, that vast sums of gold are hoarded in France; and circumstances came to light on Mons. de Calonne's re-coinage, which proved the same fact. The ordinary circulation of Paris does not exceed from 80 to 100,000,000 liv. as we learn from the same minister;\* a fact which also unites with the immensity of the total specie of France, to shew that perhaps the great mass of it is hoarded. It must be sufficiently obvious, that this practice depends much on a want of confidence in the government, and on the erroneous conduct of not encouraging investments in the national industry; but it tends strongly to give France a greater mass of the precious metals than is demanded by her industry.

Two considerable proofs exist in Europe, that a country will always attract such a share of the precious metals as is proportioned to its industry, if not prevented by circulating paper. These are Prussia and Modena. The king of Prussia's treasure, calculated as it is at 15 millions sterling, is thrice as much as the whole circulating specie of his dominions. In all probability, had that treasure not been withdrawn from circulation, the specie would not at this moment have been one dollar greater than it is at present; and for this plain reason, that there appears no want of currency in those dominions; the degree of industry there demanding specie from all its neighbours, has acquired it as fast as the king has accumulated his treasure, but had no treasure been formed, the same demand would not have taken place, and consequently no such influx of money. Modena, as I once before observed, in proportion to its extent and riches, affords a similar instance; yet the duke's hoard is supposed, on pretty good grounds, to exceed very much all the circulating specie of his duchy; and I made particular inquiries at Modena, whether a want of it were perceptible? I was assured of the contrary, and that their currency was fully equal to the demands of their industry and money-exchanges. From these instances, we may, without hesitation, pronounce, that the specie of England is kept vastly

\* De l'Etat de la France, p. 80.

below its natural measure, by the immensity of our paper circulation. There is little importance in possessing great quantities of specie, if not in a national hoard: the case of England nearly permits us to question it altogether. For neither in the domestic circulation, nor in foreign transactions, has France been able to effect any thing by means of her money, which we have not been able to command equally well, perhaps better, with our paper. A wise government should therefore be solicitous for the industrious and productive employment of her people; if she secure that essential point, she may safely leave the metals to find their own level, without paying any regard whether her circulation be in paper or gold. Nor is there danger of paper being too much multiplied, as long as the acceptance of it is voluntary; for it would not be multiplied, if it were not demanded; and if it be demanded, it ought to be multiplied. With paper, forced by government on the people, the case is far different: from the circumstance of its being forced there is the clearest proof that it is not demanded, and consequently ought not to be issued: force, in such a case, is fraud; and a public fraud ought never to be practised, but in the last extremity of distress. The assignats issued by the national assembly are of this complexion; the step, however dangerous, might possibly be necessary to secure the new constitution; but I shall not hesitate a moment in declaring, that an avowed bankruptcy would, in other respects, have been a much wiser measure, and attended probably with fewer and less evils. Of thirty-four commercial cities, that presented addresses upon the project of assignats, seven only were for them.\* The scheme met with equal opposition from rank,† literature,‡ and commerce.§ The prognostics, however, of an enormous discount were not verified so much as might have been expected. M. Decretot, in September 1790, mentions them with 400 millions only in circulation, being at ten per cent. discount at Bourdeaux: and M. de Condorcet 6 per cent. at Paris; thence they both concluded, that the discount would be enormous, if a greater issue of them took place; yet in May 1791, after many hundred millions more had been issued, they were only at from seven to ten per cent. discount.|| And another circumstance equally mistaken, was the expectation of an enormous rise of all common prices; which did not happen, for corn rather fell in its value; a remarkable experiment, that deserves to be remembered. The *marquis de Condorcet* supposed, that wheat would rise from 24 to 36 *liv. the septier*, perhaps in one day.¶ The assignats amounted, on the dissolution of the first assembly, to 1,800,000,000 *liv.*

#### WHAT CONSTITUTES THE MERIT OF A TAX.

Many writings have appeared of late in France, on the subject of taxation, and many speeches have been delivered in the national assembly concerning the principles that ought to govern the statesmen who possess the power of deciding in questions of such importance. It is much to be regretted, that the members, who have made the greatest figure in that assembly, have, in these inquiries, rather adopted the opinions of a certain class of philosophers, who made a considerable noise in France twenty or thirty years ago, than taken the pains seriously to inform themselves well of the facts that ought to be examined upon the subject. It is not for a traveller to go to the bottom of such in-

\* *De l'Etat de la France*, par M. de Calonne, octavo, 1790, p. 82.

† *Opinion de M. de la Rouchefoucauld, sur l'Assignats monnoi.* octavo.

‡ *Sur la Proposition d'acquitter les dettes en Assignats*, par M. Condorcet, octavo, p. 14.

§ *Opinion de M. Decretot sur l'Assignats*, octavo, p. 8.

|| It became greater since; but owing to foreign causes.

¶ *Sur la Proposition d'acquitter les dettes en Assignats*, par M. Condorcet, p. 21.

tricate inquiries, which would demand long details, and a very minute examination; but the question is, in the present moment, of such importance to France, that a rapid coup d'œil cannot but have its use. The following circumstances are those which I conceive form all the merit of taxation:

1. Equality.
2. Facility of payment.
3. Encouragement of industry.
4. Ease of collection.
5. Difficulty of too great extension.

The first essential point is equality. It is absolutely necessary, that every individual in the society contribute to the wants of the state, in proportion to his ability, provided such contribution does not impede the progress of his industry.\* Every writer, and every opinion upon the subject agree in this; but the difficulty is, how to ascertain the ability. Taxes on property, and taxes on consumption, seem to have this merit; they will, however, be found to vary prodigiously; for long experience, in all countries, has proved the infinite difficulty of ascertaining property, and the tyranny that is necessary to be practised in order to be tolerably exact. For this reason, all land-taxes, under an appearance of equality, are cruelly unequal: if levied on the gross produce in kind, they are ten times heavier on poor land than on rich; and the value taken by the state, bears no proportion to the expence which effected the production. If levied on the rent, the ease of frauds makes them universal and perpetual; and if, to avoid these, the leases are registered and taxed, this prevents leases, and destroys agriculture. If lands are valued by a cadastre, the expence is enormous,† and the merit is gone in a few years, by variations impossible to correct; till at last the only merit of the tax is its inequality, which is now the case in the Milanese, Piedmont, Savoy, and England; where an attempt to make the land-taxes equal would ruin the husbandry, and produce infinite oppression. Land-taxes, so far from being equal, are so much the reverse, that it is the nominal, and not the real property, that bears the tax; for mortgages escape though

\* Some little obscurity, that hangs over this definition, should be removed; by ability, must not be understood either capital or income, but that superlucration, as Davenant called it, which melts in consumption. Suppose a manufacturer makes a profit of 2000l. a year, living upon 500l. and annually investing 1500l. in his business, it is sufficiently obvious, upon just principles, that the state cannot lay the 1500l. under contribution by taxes. The 500l. is the only income exposed; but when the manufacturer dies, and his son turns gentleman, the whole income is made to contribute. It must be obvious, however, that excises on a manufacturer's fabric are not taxes on him, but on the idle consumer, for he draws them completely back. In like manner, if a landlord farm his own estate, and expend the income in improvements, living on but a small portion of the profit, it is sufficiently clear, that the taxes ought not to affect one shilling of his expenditure on his land; they can reach, with propriety, the expences of his living only; if they touch any other part of his expenditure, they deprive him of those tools that are working the business of the state. A man paying, therefore, according to his ability, must be understood in a restrained sense. The preposterous nature of land-taxes is seen in this distinction, that an idle worthless dissipator is taxed exactly in the same degree as his industrious neighbour, who is converting a desert into a garden.

† Yet the nobility of Lyons and Artois, and the Tiers of Troyes, demand a general cadastre of all France, Cahier. p. 17....Artois, p. 18....Troyes, p. 7....The committee of imposition recommends one also. Rapport, p. 8....To make the cadastre of Limosin cost 2,592,000 livres (113,355l. 15s.) and the whole kingdom would cost at the same rate, 82,044,000 liv. (3,628,800l.) requiring the employment of 3072 engineers during 18 years. Essai d'un Methode generale a etendre les connoissances des Voyageurs, par Mons. Meunier, 1779, 8vo. tom. i. p. 199. The king of Sardinia's cadastre is said to have cost 8s. the arpent, Administration Prov. Le Trone, tom. ii. p. 236. The cahiers demand a cadastre in the language of the œconomistes, as if it were to be done as soon as imagined, and to cost only a trifle; and this operation, which would take eighteen years to execute, is advised by M. le Trone to be repeated every nine!

amounting to three-fourths of the property; and if, to avoid this cruelty, the proprietor be allowed, as in the case of the vingtiemes in France, to tax the mortgagee, either the regulation is evaded by private agreements, or money is no longer lent for the most useful of all purposes. Lastly, land is visible, and cannot be concealed; whereas fortunes in money are invisible, and will ever slip away from taxation of every kind, except from those on consumption. Thus land taxes, viewed in what light soever, are totally unequal, oppressive, and ruinous. On the contrary, taxes upon consumption are, of all others, the most equal, and the most fair; for they are studiously and correctly proportioned to the quantity of every man's consumption,\* which may with truth generally be supposed to be commensurate to his income; at least it may be asserted safely, that there is no other method, equally sure of estimating income, as by that of consumption. There are, it is true, misers who possess much, and consume little; but it is utterly impossible to reach such men in taxation, without tyranny: nor is it of much consequence, for a succession of misers is not to be expected, and the more the father saved, the more the son consumes: so that upon the revolution of a given period, the thing balances itself, and the state loses nothing. But there is also the greatest justness in the equality of these taxes for they measure themselves by a man's voluntary expences; if he spend his income advantageously to the national industry and improvement, he pays very light, or no taxes; but if he consume largely and luxuriously, his contribution to the state rises with his expences; advantages possessed by no other species of tax. Equality reigns so completely in these taxes, that from the poor man, who, consuming nothing, pays nothing; to the next class, which, consuming little, pays little; and to the most wealthy, which, consuming much, pays much, all is regulated on the most perfect scale of contribution. It is needless to observe, that excises and customs equally possess this advantage; that stamps have the same, and even greater; and that entrees and octrois have a like merit, so far as cities are concerned, but are inferior in not being equally laid on all persons, wherever they may reside: a benefit in the eyes of those who think towns an evil. It must be sufficiently obvious, that all personal taxes are, to the highest degree unequal, from the impossibility of varying them properly with the conditions of life: monopolies are equal or not, in proportion to the whole society being equally subjected to them; the post-office is one of the best of taxes, and the most equal.

2. *Facility of payment*....In this great point, there is only one sort of tax which has real merit, namely, that on consumption. Here the tax is blended with the price of the commodity, and the consumer pays without knowing it. He knows the price of a bottle of wine or brandy, a pack of cards, a coach-wheel, a pound of candles, tea, snuff, or salt; and he buys as he can afford; it is the same to him, whether the sum he pays be the original expence of production, the dealer's profit, or the national tax; he has

\* The objection of the committee of imposts, that the product of such taxes is uncertain, is one of the surest proofs of their merit. Would you have a certain tax from an uncertain income? To demand it is tyranny, *Rapport du Comite de l'Imposition concernant les Lois Constitutionnelles des Finances*, 20th December, 1790. 8vo. p. 19. I know of no objections to taxes on consumption, that do not bear in a greater degree on those upon property. It is said, that excises raise the prices of manufactures, and impede foreign trade and domestic consumption, which has certainly truth in it; but it is also true, that England is, in spite of them, the most manufacturing and commercial nation upon earth, even with many very bad excises, and which ought to be changed; they are said to affect the consumption of the poor particularly, which is merely objecting to the abuse, and not to the nature of the tax; certainly the height to which taxation of every kind is carried in England, is cruel, shameful, and tyrannical. Moderate excises, properly laid, would have no other ill effects than such as flow of necessity from the nature of all taxation; as to immoderate taxes, and improperly laid, they must be mischievous, whether on property or on consumption.

nothing to do with calculating them separately, and pays them blended in the price. His ease of paying the tax is great also, by the time of demanding it, which is just at the moment when he may be thought disposed to consume, because he can afford it, which is certainly the case with the great mass of mankind. Taxes on property, and especially on land, are much inferior in this respect. So far as they are advanced by the tenant, and drawn back when he reckons with the landlord, they are easy to the latter: but they are exactly, in the same proportion, burthensome to the tenant, who has to advance, out of his own pocket, another man's tax, which is palpably unjust. We do not feel this much in England, because the tenantry are commonly rich enough not to regard it; but in other countries, where they are poor, it is a great oppression. At the time also of demanding the tax from the landlord, who farms his own estate, his ease is never consulted; he has to pay the tax, not because he has sold his produce, for he must pay, though his land should not produce a single farthing; not because he buys, and thereby shews that he can afford it, but merely because he possesses, which by no means proves an ability to pay at all: nay, he pays without possessing more than the name, while another receives the profit; all which shews, that land-taxes are grossly deficient in this essential requisite. It is fair, however, to admit, that a land-tax, paid in kind, like tythes gathered, are easy of payment; enormous as other objections are to them, in this respect they have merit. But no state, in modern ages, can take taxes in kind; and if let, and consequently made an engine of private and personal pique or resentment, they become one of the most horrible and detestable oppressions, fit to be endured by slaves only. Personal taxes are as bad; a man's having a head, or being born to a title, is no proof that he is able to pay a tax, which is demanded of him, at a time that marks neither receipt nor payment.

3. *Encouragement of industry....* Taxes may be laid in such a manner as to discourage and oppress industry, or, on the contrary, to be in this respect harmless; and under this head, is to be included the investment of capital. If any branch of national industry be overloaded with duties, the profits arising from it will be so much lessened, that men will not invest their capitals in employments thus injuriously treated. The first object to be considered is, what branch of human exertions and industry is nationally most beneficial? The writers and statesmen\* of all nations (how much soever they blunder practically) are theoretically agreed upon this point. There is no question, that agriculture is, of all other employments, the most important; and a country will be prosperous, in proportion to the capitals invested in that pursuit. This decides the merit of land-taxes; in the degree they take place, the profit of possessing land is diminished, and consequently capitals are banished. If a land-tax be equally assessed, a man's improvements are taxed, which he will calculate before he lays out his money, and never invest it in a manner that lays him directly open to the operation of such duties. Thus the lands of such a country will be in the hands of men who have no other capital; and experience uniformly tells us, how important it is to the welfare of agriculture, to have land in rich hands. Taxes upon consumption, may be made utterly destructive of any branch of industry by injudicious methods of laying them; or by carrying them to too great a height; but in this case, the duty fails so much in its produce, that the government suffers as much as the employment. The tax upon leather, in France, was ruinous; the same tax in England is levied without difficulty. The inconvenience of excises chiefly flows from the necessity of larger capitals being in the hands of manufacturers, to enable them, not to pay, but to advance the tax, which they draw back in the price of the commodity; the real payment being thus thrown, as it always ought to be, on the consumer. This

\* Except Colbert, Mons. Necker, and Mr. Pitt.

circumstance gives a vast superiority to taxes on consumption, over those on land. The industrious man, who invests his capital in land, cannot draw back his taxes by raising the price of his cattle and corn, and thus make the consumers pay them; it is sufficiently evident, that this is impossible, whereas all taxes on consumption are completely drawn back in the price of the goods; unless the merchant or manufacturer consumes himself, in which case he pays, as he ought to do, the tax. Personal taxes, with respect to the not discouraging of industry, and the investment of capital, are very imperfect; and monopolies (except the post-office) absolutely ruinous, for they are prohibitions on every sort of industry which the state chooses to reserve to itself. The coinage is mischievous or not, in proportion to its fidelity.

4. *Ease of collection*....In this respect, land and house-taxes have a manifest and clear superiority; for the property is impossible to be concealed, and the collection is as cheap as it is easy; and this small merit (of most trifling import compared with the magnitude of the evils that attend them) has been the motive for recurring to them so much in every country. Excises and customs are difficult and expensive to levy. Stamps, however, have great merit; in the British revenue, 1,329,905*l.* is raised at the expence of 51,691*l.* Personal taxes are cheaply collected, which is their only merit: monopolies are every where expensive, a fresh reason for rejecting them.

5. *Difficulty of too great extension*....There is some merit in a tax rectifying its own excess, which is the case with those on consumption; for if they be carried to an extreme, they fall off in their produce, by encouraging smuggling and fraud. But those on property cannot be evaded, and therefore may be extended to a most oppressive and ruinous excess. The general corollary to be drawn on this subject is this, that the best taxes are those on consumption; and the worst those on property.

#### ON THE PROPOSITION OF THE ŒCONOMISTES FOR AN UNION OF ALL TAXES ON LAND.

If the preceding ideas have any thing of truth in them, this system must be grossly false and mischievous. I know not whether Mr. Locke were the original father of the doctrine, that all taxes, laid in any manner whatsoever, fall ultimately on land; but whoever started or supported it, contributed towards the establishment of one of the most dangerous absurdities that ever disgraced common sense. To enter largely into a refutation of the maxim would be useless, as Sir James Stuart in his "*Principles of Political Œconomy*," has, with great force of reasoning, laid it in the dust. It was upon this false and vicious theory that the œconomistes proposed to absorb all the imposts of France in a single land-tax. Grant the erroneous datum, that every tax whatever, on consumption or otherwise, is really borne by the land, and their conclusion is just, that it would be better and cheaper to lay on the imposition directly, in the first instance, than indirectly and circuitously: but the original idea being absolutely mistaken, the conclusion falls of course. "*Mais que pretendez vous done obtenir par cette regle si menacante & si dispendieuse? De l'argent. Et surquoi prenez vous cet argent? Sur des productions. Et d'ou viennent ces productions? De la terre. Allez donc plutot puiser a la source, & demandez un partage regulier, fixe & proportionnel du produit net du territoire.*"\* What a series of gross errors is found in this short passage; almost as many as there are words. The contrary is the fact; for these taxes are not raised on productions; and these objects do not arise from the land; and by laying land-taxes you do not dig at the source, unless you could impose land-taxes in foreign countries as well as your own. What

\* Le Trone, tom. i. p. 323.



trifling is it to repeat, again and again, the same jargon of ideas, without saying one word of the powerful refutation which the above-noted British writer has poured on the whole system? Let the national assembly lay twenty-seven vingtiemes in a varying land-tax, and then let the ruined kingdom come to these visionaries for the balm of their nouvelle science, their physiocratie, and their tableau œconomique! The noblesse of Guienne give it as their opinion, that an impost en nature sur les fruits, that is to say, a tythe is the best tax.\* The clergy of Chalons ask the same thing, and that it may absorb all others; † but the nobility of the same place declare expressly against it. ‡ The abbe Raynal, with all his ingenuity, falls into the common error, § and calls a cadastre une belle institution. Mons. de Mirabeau || has entered at large into a defence of this system, by shewing that there are great inconveniences in taxes on consumption; this every one must grant: I know of but two taxes that are free from inconveniences, the post-office and turnpikes; all others abound with them; but to dwell on the inconveniences of excises, without shewing that they exceed those of land-taxes, is absurd: you had in France taxes on consumption to the amount of 260,000,000; we have them in England to a greater amount; the only question really to the purpose is this; Can you bear an additional land-tax to that amount, in consequence of the benefit that would result from taking off the taxes on consumption? Mons. Necker has answered this question, with relation to France, in a manner that ought to shut the mouths of the œconomistes for ever; and in England there can be but one opinion: we are able to bear the taxes as they are laid at present; but if they were all absorbed on land, agriculture would receive at one stroke its mortal wound, and the nation would sink into utter ruin. We know, from experience, that the landed interest cannot possibly draw back their taxes; this truth, founded on incontrovertible facts, is decisive; and if they cannot draw them back, how is the rental of twenty millions to bear land-taxes to the amount of seventeen millions? And of what account is the mystical jargon of a new dialect, ¶ relying on theory alone, when opposed to the innumerable facts which the present state of every country in Europe exhibits? This circumstance of drawing back a tax, which, with all well imagined duties on consumption, is universally effected, but is absolutely impracticable with land-taxes, is the great hinge on which this inquiry really turns. When Mons. Necker shews, that if the œconomical ideas were realized, there must be TWENTY-EIGHT VINGTIEMES raised in France; and when it is considered, that in England the rental of the kingdom is but a fifth\*\* more than the taxes of it, we possess in both cases the clearest and most explicit proofs that there would be an utter impossibility to commute the present taxes in either country, unless it were at the same time proved, that landlords could, in the price of their products, draw back some enormous taxes, the mere advance of which would be an intolerable burthen. But as it is manifest, from facts equally explicit, that no land tax can be drawn back: that the product of land taxed at 4s. in the pound sells precisely at the same price as that of land taxed at no more than 4d. and that prices never vary in the least in England from the land-tax being at 1s. or 4s. in the pound; nor in France when land pays one or three vingtiemes; when we are in possession, I say, of facts so decisive, there is the clearest ground to conclude, that the idea is visionary; that such an extension of land-taxes is utterly

\* Cahier de la Noblesse de Guienne, p. 20. † Cahier du Clerge de Chalons sur Marne, p. 11.

‡ Cahier, p. 11. § Etab. des Europ. quarto, tom. iv. p. 640.

|| De la Mon. Pruss. tom. iv. p. 53.

¶ The writings of the œconomistes scritti in un certo dialetto mistico.— Impost secondo l'ordine della natura, duodecimo, 171, p. 15.

\*\* Including poor rates and tythes, taxes exceed the rental.

impracticable ; and that every attempt towards the execution of these plans must be immediately pernicious to agriculture, and ultimately ruinous to every interest in the state.

Relative to the utter impossibility of extending land-taxes in England to such a degree as to include all others, I have it in my power to refer to an instance of our taxation most correctly given. I have inserted in the "Annals of Agriculture," No. 86, an account of all the taxes I pay for my estate in Suffolk ; and in that account it appears, that the tract of land which pays me net 229l. 12s. 7d. pays to the burthens of the public 219l. 18s. 5d. Deducting from fifteen millions and a half (the net revenue of Great Britain) those taxes which enter into that sum of 219l. 18s. 5d. there remains ten millions and a half ; and as the present land-tax, at two millions, burthens me 40l. a year, an additional one of ten millions and a half would consequently lay the further burthen of five and a half times as much, or 220l. that is to say, it would leave me the net receipt of 9l. for the whole clear income of my estate ! Perhaps the œconomistes never received, directly from facts, so convincing a proof as this instance offers, of the utter impracticability of their preposterous schemes. Yet these are the principles, sorry I am to remark, that seem at present to govern the national assembly in matters of finance. To their honour, however, greatly to their honour, they do not seem inclined to go all the lengths which some of their members wish for : " *puisque l'interet bien entendu de ces trois grandes sources de la prosperite des nations, appuye des noms imposans de Quesnay, de Turgot, de Gournay, de Mirabeau le pere, de la Riviere, de Condorcet de Schmidt, & de Leopald, & developpe de nouveau dans ces derniers momens avec une logique si vigoureuse par M. Farcet n'a pa sencore persuade cette arbitraire inconsequente & despotique reine du monde qu'on appelle l'opinion.*"\* One cannot but smile at the figure the great Leopald makes ; he is put in the rear, I suppose, because he never realized, in any one instance, the land-tax of the œconomistes, much to his credit.

The mischievous, and indeed infamous abuses in the collection of the gabelles, droits d'aides, and droits de traites, &c. have certainly been in a great measure the origin of that prejudice, so general in France against taxes on consumption : the cruelties practised in the collection, have been falsely supposed to flow, of necessity, from the nature of the taxes ; but we know from long experience, the contrary in England ; and that excises, to a vast amount, may be raised without any such cruelties, as have been commonly practised by the old government in France. I am very far from contending that these taxes in England are free from abuses ; and I am sensible, that there are cases in which the dealers in excised commodities feel themselves hardly dealt by ; and that liberty is attacked in their operation : but every one must also be sensible, that land-taxes are not free from objections equally strong. When the collector demands sums that are out of the power of the individual to pay, and seizes, by distress, the goods and chattels, to sell them, perhaps, for half their value ; when we see the people stopping up their windows, denying themselves the enjoyment even of light itself, and submitting to live in dampness and in darkness rather than pay a cruel tax on the property of houses ; when such hardships occur, it surely will not be thought, that it is duties on consumption only, that open to such abuses ; every sort of tax, except the post-office, is a heavy evil, and the only inquiry is, of so many evils, which is least ?

The smallness of the properties in land, is another insuperable objection to land-taxes in France : if fairly laid to the real value, on the possession of a few acres, they become the source of great misery ; the man whose land gives him barely the necessa-

\* De quelques ameliorations dans la perception de l'impot, par M. Dupont, p. 7.

ries of life, has nothing to spare for direct taxes; he must depend for paying them on some other employment, at best precarious; in a kingdom where population goes so much beyond employment, and where numbers starve from inability of maintenance. If, to avoid these evils, exemptions from the tax are given them, these small properties, the parent and origin, at best, of such multiplied distress, receive a direct encouragement, than which a more cruel policy could not be embraced. The only measure that would remedy both evils, is to prohibit the division of landed property into portions, below the ability of paying duties; or else to reject land-taxes altogether. A gross evil of these direct imposts is, that of moneyed men, or capitalists, escaping all taxation: none but duties on consumption affect them. In countries where land-taxes abound, these men will never become proprietors, for the simplest reason, because these taxes reduce the profit of possessing land below the profit of other investments. They live upon the interest of money in the public funds; and the clearest principles of justice, call for a system of taxation that shall bring these men within its sphere; this is only to be done by taxes on consumption; by excises, customs, stamps, duties, &c.; and is a powerful reason for multiplying such taxes, instead of those on land. Under the regimen of land-taxes, all foreigners residing in a kingdom absolutely escape taxation; but with duties on consumption they are made to contribute equally with the natives; in such a kingdom as France, which always did, and ever will, attract many strangers, this is an object of some consequence. But, perhaps, the greatest objection to taxes upon land is, their preventing all improvements in agriculture, if they are equal; and, if unequal, carrying with them the greatest principle of injustice, by being defective in the first requisite of all taxation. The greatest friend to this species of imposition, acknowledges the necessity of being equal. It is this that induces the abbe Raynal to call a cadastre, une belle institution; and a late writer declares, *Il n'est point de Pays ou il ne soit necessaire d'inventorier tout le territoire dans le plus grand detail d'enregistrer chaque portion, d'en connoitre les mutations d'en evaluer le revenu & ou si l'on desire de perpetuer l'imposition egale & proportionelle il ne soit indispensable de suivre la progression du revenue*:\* and this method he explains afterwards, by asserting the absolute necessity of having a new valuation every nine years; and he finds fault† with the king of Sardinia's cadastre because the valuation has never been renewed. Another of these politicians observes, that the excellency of a tythe, as a mode of taxation, is, that if improvements are extended, or lands cultivated with more care, the revenue of the state increases with it.‡ In the same spirit, many of the cahiers demanded the suppression of all duties on consumption.§ I could multiply such sentiments almost to fill a volume, if I were to go back to consult the deluge of writings which infested France five and twenty years ago, but I quote only some living authors, who hold these pernicious doctrines at present, and whose writings are received with submission by the national assembly, adopted, and in part carried into execution.

Thus would these writers reject the only advantage found in the land-taxes of Milan, Piedmont, and England, that of permanence: they call for valuations of every improvement the moment it is effected in order to tax it, to what amount? To that of absorbing all the imposts of a modern state, to the amount of twenty-seven vingtiemes in France; and to that of a rental of twenty millions paying seventeen in England! To reason upon such extravagance would be an idle waste of time; but I shall not dis-

\* *Le Trone Ad. Prov. tom. i. pref. xiv.*

† *Ibid p. 235.*

‡ *Plan d'Admin. des Finances, par M. Malport. 1787, p. 34.*

§ *Noblesse de Lyon. p. 16. Bugey, p. 28. Troyes Tiers Etat, art. 13. Etampes, art. 33. Nimes, p. 44. There is not a tax existing in France, which is not demanded in some cahier to be suppressed.*

miss the subject without remarking, that if the national assembly adopts the tax recommended by their committee, of three hundred millions, and should, upon these principles, make it a variable one, though never rising in its amount above that sum, the mere mutation of easing a wretched, poor, slovenly farmer, and loading proportionally an improving one, will absolutely prohibit all ameliorations of the national agriculture: and if they shall draw these variations to the profit of the state, by increasing the total sum proportionably to such improvements, they will still prevent them, as no man will invest his capital in any industrious employment in which the state taxes his profits.

Duties on consumption do not affect the industrious, they fall principally on the idle consumer, where they ought to fall, and consequently manufacturers and merchants, as we have ample experience in England, are not deterred from investing their capitals in employments subjected to those taxes, for their profits absolutely escape the tax, till by a voluntary consumption they class themselves (in spending those profits) among the non-industrious; then they not only advance the tax, but really pay it, as it is right they should; but with land taxes the case is totally different, because they cannot be drawn back; an industrious manufacturer calculates the profits his capital will yield him under the pressure of taxes on consumption; he estimates the advance only of the tax, charging upon his goods the interest of that advance, and thus the tax is to him merely inconvenience in requiring a larger capital; but an industrious farmer, calculating in like manner, the profit of his capital invested under the pressure of land-taxes, finds, in a moment, that with him it is not merely advancing the tax, but actually paying and bearing it; it comes then immediately upon him as a deduction from his profit; and if it is proportional and equal, not a shilling of that profit escapes. What is the self-evident consequence? Most clearly that he will not make such an investment but turn his money to other employments that will pay him better: and can it be necessary at this time of day, to point out the mischief of turning capitals from agriculture to any other employment; or, which is the same thing, preventing their being invested in it?

As I have mentioned several writers in favour of land-taxes, in terms of that condemnation, absolutely necessary by a friend of agriculture, it is no more than justice to observe, that France contains some others, whose writings are free from this great objection. Mons. Necker, in his treatise on the administration of the finances, gives the preference to taxes on consumption, and shews the utter impossibility of a land-tax absorbing all others. The marquis de Cassaux\* also has attempted, with much force of reason to prove, that the land-taxes of France and England ought to be converted into duties on consumption. And some of the best writers of that vast collection, in which the physioeratical science originated, are of the same opinion. Proportional imposts, on the consumption of commodities are the most just, the most productive, and the least burthensome to a people, because paid daily and imperceptibly.† And the nobility of Quercy have, in their cahier, a passage which does honour to their good sense: Considerant que l'impot indirect a l'inappreciable avantage d'une perception imperceptible & spontanee: que le contribuable ne la paye qu' au moment au il en a les moyens: qu'il frappe sur les capitalistes dont le genre de fortune echappe a toute autre impot: que la mesure des consommations etant en general celle des richesses il atteint par sa nature a une justesse de repartition d'ont l'impot direct n'est pas susceptible.‡ These are sterling and wise principles, in few words, developed in the most striking features.

\* *Mechanisme des Societies*, 8vo. 1785. p. 222.

† *Encyclop.* folio. t. viii. p. 602.

‡ Page 6.

## OF SIMPLICITY IN TAXATION.

So many of the cahiers of France unite with the œconomistes, in calling for the utmost simplicity in taxation, by means of one only and uniform proportional impost on land, that it merits a short inquiry, how far this theory of simplicity is, in itself, deserving of the ideas entertained of it. There can be no doubt of the advantage of a cheap collection attending this or any plan of simplicity; but there are reasons for thinking that this benefit would be purchased at an expence a thousand times greater than it is worth.

I do not love recurring to, or depending altogether on reasoning, when facts are at hand on which we can build our conclusions: the taxes of England are infinitely various; much more so than in France, especially in the articles of excises and stamps; our taxes are also very great; in proportion to the population of the kingdom, much more than double those of France; yet, with this vast burthen, they are borne by the people with much more ease than the French nation bears less than the half. This is to be attributed not to one cause only, but to many; but amongst those causes, I believe, will be found this great variety of points on which they bear. The mere circumstance of taxes being very numerous, in order to raise a given sum, is a considerable step towards equality in the burthen falling on the people; if I was to define a good system of taxation, it should be that of bearing lightly on an infinite number of points, heavily on none. In other words, that simplicity in taxation is the greatest additional weight that can be given to taxes, and ought, in every country, to be most sedulously avoided. By a system of simplicity in taxation, let it be exerted in whatever method, whether on land, on persons, or on consumption, there will always be classes of the people much lighter taxed than other classes; and this inequality will throw an oppressive burthen on those who are most exposed to the operation of whatever tax is chosen. No one is a greater enemy than I am to land-taxes; but such is the advantage of an extremely various system, that I would not contend for taking them entirely off in any country. A land-tax of 6d. 9d. or perhaps 1s. in the pound, but permanent, would be so light a burthen, that it might be borne, without the mischief of impeding agriculture. Taxes on windows are amongst the very worst that can be laid; but as far as 3d. each, might not be liable to much objection. Unfortunately for France, the favourite idea there is the very contrary one, that of simplicity. It would have been wise not absolutely to suppress any one of their taxes, not even the gabelle itself: removing the abuses that flow from farming a revenue, introducing into the receipt the mildness of a free government, and changing entirely the mode of collection, would have removed the chief objections to those taxes which have been abolished, and have saved the enormous evil, now necessary, of loading land. This subject is a fruitful one, worthy the attention of able pens expressly employed on it, the rapid sketches which can alone be given by a traveller will allow of mere hints.

## CHAP. XXI...ON THE REVOLUTION OF FRANCE.

THE gross infamy which attended lettres de cachet and the Bastile, during the whole reign of Louis XV, made them esteemed in England, by people not well informed, as the most prominent features of the despotism of France. They were certainly carried to an excess hardly credible; to the length of being sold with blanks, to be filled up with names at the pleasure of the purchaser; who was thus able, in the gratification of pri-

vatic revenge, to tear a man from the bosom of his family, and bury him in a dungeon, where he would exist forgotten, and die unknown!\* But such excesses could not be common in any country; and they were reduced almost to nothing from the accession of the present king. The great mass of the people, by which I mean the lower and middle ranks, could suffer very little from such engines, and as few of them are objects of jealousy, had there been nothing else to complain of, it is not probable they would ever have been brought to take arms. The abuses attending the levy of taxes were heavy and universal. The kingdom was parcelled into generalities, with an intendant at the head of each, into whose hands the whole power of the crown was delegated for every thing except the military authority; but particularly for all affairs of finance. The generalities were subdivided into elections, at the head of which was a sub-delegate, appointed by the intendant. The rolls of the taille, capitation, vingtiemes, and other taxes, were distributed among districts, parishes, and individuals, at the pleasure of the intendant, who could exempt, change, add, or diminish at pleasure. Such an enormous power, constantly acting, and from which no man was free, must, in the nature of things, degenerate in many cases, into absolute tyranny. It must be obvious, that the friends, acquaintances, and dependents of the intendant, and of all his sub-delegates, and the friends of these friends, to a long chain of dependence, might be favoured in taxation at the expence of their miserable neighbours; and that nobleman, in favour at court, to whose protection the intendant himself would naturally look up, could find little difficulty in throwing much of the weight of their taxes on others, without a similar support. Instances, and even gross ones, have been reported to me in many parts of the kingdom, that made me shudder at the oppression to which numbers must have been condemned, by the undue favours granted to such crooked influence. But, without recurring to such cases, what must have been the state of the poor people paying heavy taxes, from which the nobility and clergy were exempted? A cruel aggravation of their misery, to see those who could best afford to pay, exempted because able! The inrollments for the militia, which the cahiers call an injustice without example,† were another dreadful scourge on the peasantry; and, as married men were exempted from it, occasioned in some degree that mischievous population, which brought beings into the world, in order for little else than to be starved. The corvees, or police of the roads, were annually the ruin of many hundreds of farmers; more than three hundred were reduced to beggary in filling up one vale in Loraine: all these oppressions fell on

\* An anecdote, which I have from an authority to be depended on, will explain the profligacy of government, in respect to these arbitrary imprisonments. Lord Albermarle, when ambassador in France, about the year 1753, negotiating the fixing of the limits of the American colonies, which, three years after, produced the war, calling one day on the minister for foreign affairs, was introduced for a few minutes, into his cabinet, while he finished a short conversation in the apartment in which he usually received those who conferred with him. As his lordship walked backwards and forwards, in a very small room (a French cabinet is never a large one) he could not help seeing a paper lying on the table, written in a large legible hand, and containing a list of the prisoners in the Bastile, in which the first name was Gordon. When the minister entered, lord Albermarle apologized for his involuntary remarking the paper; the other replied that it was not of the least consequence, for they made no secret of the names. Lord A. then said, that he had seen the name of Gordon first in the list, and he begged to know, as in all probability the person of this name was a British subject, on what account he had been put into the Bastile. The minister told him that he knew nothing of the matter, but would make the proper inquiries. The next time he saw lord Albermarle, he informed him, that, on inquiring into the case of Gordon, he could find no person who could give the least information; on which he had had Gordon himself interrogated, who solemnly affirmed, that he had not the smallest knowledge, or even suspicion, of the cause of his imprisonment, but that he had been confined 30 years; however, added the minister, I ordered him to be immediately released, and he is now at large. Such a case wants no comment.

† Nob. Briey, p. 6. &c. &c.



of other circumstances; for, in speaking of the preservation of the game in these capitaineries, it must be observed, that by game must be understood whole droves of wild boars, and herds of deer not confined by any wall or pale, but wandering at pleasure over the whole country, to the destruction of crops; and to the peopling of the gallies by the wretched peasants, who presumed to kill them, in order to save that food which was to support their helpless children. The game in the capitainerie of Montceau, in four parishes only, did mischief to the amount of 184,263 livres per annum.\* No wonder then that we should find the people asking, "Nous demandons a grand cris la destruction de capitaineries & celle de toute sorte de gibier."† And what are we to think of demanding as a favour, the permission, "De nettoyer ses grains de faucher les pres artificiels, & d'enlever ses chanmes sans egard pour la perdrix ou tout autre gibier."‡ Now an English reader will scarcely understand it without being told, that there were numerous edicts for preserving the game which prohibited weeding and hoeing, lest the young partridges should be disturbed; steeping seed, lest it should injure the game; manuring with night soil, lest the flavour of the partridges should be injured by feeding on the corn so produced; mowing hay, &c. before a certain time, so late as to spoil many crops; and taking away the stubble, which would deprive the birds of shelter. The tyranny exercised in these capitaineries, which extended over four hundred leagues of country, was so great, that many cahiers demanded the utter suppression of them.§ Such were the exertions of arbitrary power which the lower orders felt directly from the royal authority; but, heavy as they were, it is a question whether the others, suffered circuitously through the nobility and the clergy, were not yet more oppressive? Nothing can exceed the complaints made in the cahiers under this head. They speak of the dispensation of justice in the manerial courts, as comprising every species of despotism; the districts indeterminate, appeals endless, irreconcilable to liberty and prosperity, and irrevocably proscribed in the opinion of the public,|| augmenting litigations, favouring every species of chicane, ruining the parties not only by enormous expences on the most petty objects, but by a dreadful loss of time. The judges commonly ignorant pretenders, who hold their courts in cabarets, and are absolutely dependent on the seigneurs.¶ Nothing can exceed the force of expression used in painting the oppressions of the seigneurs, in consequence of their feudal powers. They are "vexations qui sont le plus grand fleau des peuple.\*\* Esclavage affligent.†† Ce regime desastreux.‡‡ That the feudalite be for ever abolished. The countryman is tyrannically enslaved by it. Fixed and heavy rents; vexatious processes to secure them; appreciated unjustly to augment them: rents, solidaires, and reventables; rents, cheantes, and levantes; fumages. Fines at every change of the property, in the direct as well as collateral line; feudal redemption (retraite;) fines on sale, to the 8th and even the 6th penny; redemptions (rachats) injurious in their origin, and still more so in their extension; banalite of the mill,§§ of the oven, and of the wine and cyder-press; corvees by custom; corvees by usage of the fief; corvees established by unjust decrees; corvees ar-

\* Cahier du tiers etat de Maux, p. 49. † De Montes and Meulan, p. 38.

‡ Ibid. p. 40. Also, Nob. & Tier Etat de Perone, p. 42. De Trois ordres de Montfort, p. 28.

§ Clerge de Provins & Montereau, p. 35. Clerge de Paris, p. 25. Clerge de Mantes & Meulan, p. 45, 46. Clerge de Laon, p. 11. Nob. de Nemours, p. 17. Nob. de Paris, p. 22. Nob. d'Arras, p. 29.

|| Rennes, art. 12.

¶ Nevernois, art. 43.

\*\* Tier Etat de Vannes, p. 24.

†† T. Etat Clermont Ferrand, p. 52.

‡‡ T. Etat Auxerre, art. 6.

§§ By this horrible law, the people are bound to grind their corn at the mill of the seigneur only; to press their grapes at his press only; and to bake their bread in his oven; by which means the bread is often spoiled, and more especially wine, since in Champagne those grapes which, pressed immediately, would make white wine, will, by waiting for the press, which often happens, make red wine only.



bitrary, and even fantastical; servitudes; prestations, extravagant and burthensome; collections by assessments incollectible; *avcux*, minus, impuniessemens; litigations ruinous and without end; the rod of seigncural finance for ever shaken over our heads; vexation, ruin, outrage, violence, and destructive servitude, under which the peasants, almost on a level with Polish slaves, can never but be miserable, vile, and oppressed.\* They demand also, that the use of hand-mills be free; and hope that posterity, if possible, may be ignorant that feudal tyranny in Bretagne, armed with the judicial power, has not blushed even in these times at breaking hand-mills, and of selling annually to the miserable the faculty of bruising between two stones a measure of buck-wheat or barley.† The very terms of these complaints are unknown in England, and consequently untranslatable; they have probably arisen long since the feudal system ceased in this kingdom. What are these tortures of the peasantry in Bretagne, which they call *chevanches*, *quintaines*, *soule*, *saut de poison*, *baiser de mariees*; *chansons*; *transporte d'œuf un charette*; *silence des grenouilles*;‡ *corvee a misericorde*; *milods*; *leide*; *couponage*; *cartelage*; *borage*; *fouage*; *marechaussee*; *ban vin*; *ban d'aout*; *trous-ses*; *gelineage*; *civerage*; *taillabilite*; *vingtain*; *sterlage*; *bordelage*; *minage*; *ban de vendanges*; *droit d'accapte*.§ In passing through many of the French provinces, I was struck with the various and heavy complaints of the farmers and little proprietors of the feudal grievances, with the weight of which their industry was burthened; but I could not then conceive the multiplicity of the shackles which kept them poor and depressed. I understood it better afterwards, from the conversation and complaints of some grand seigneurs, as the revolution advanced; and I then learned, that the principal rental of many estates consisted in services and feudal tenures; by the baneful influence of which, the industry of the people was almost exterminated. In regard to the oppressions of the clergy as to tythes, I must do that body a justice, to which a claim cannot be laid in England. Though the ecclesiastical tenth was levied in France more severely than usual in Italy, yet was it never exacted with such horrid greediness as is at present the disgrace of England. When taken in kind, no such thing was known in any part of France, where I made inquiries, as a tenth: it was always a twelfth, or a thirteenth, or even a twentieth of the produce. And in no part of the kingdom did a new article of culture pay any thing: thus turnips, cabbages, clover, chicoree, potatoes, &c. &c. paid nothing. In many parts, meadows were exempted. Silk worms nothing. Olives in some places paid; in more they did not. Cows nothing. Lambs from the 12th to the 21st. Wool nothing. Such mildness in the levy of this odious tax, is absolutely unknown in England. But mild as it was, the burden to people groaning under so many other oppressions, united to render their situation so bad, that no change could be for the worse.¶ But these were not all the evils with which the people struggled. The administration of justice was partial, venal, infamous. I have, in conversation with many very sensible men, in different parts of the kingdom, met with something of content with their government, in all other respects than this; but upon the question of expecting justice to be really and fairly administered, every one confessed there was

\* *Tiers Etat Rennes*, p. 159.

† *Rennes*, p. 57.

‡ This is a curious article: when the lady of the seigneur lies in, the people are obliged to beat the waters in marshy districts, to keep the frogs silent, that she may not be disturbed; this duty, a very oppressive one, is commuted into a pecuniary fine.

§ *Resume des cahiers*, tom. iii. p. 316, 317.

¶ They have found since how erroneous this opinion was, and that great as their evils were, they have been aggravated into a more exterminating despotism under the fictitious names of liberty and equality.

no such thing to be looked for. The conduct of the parliaments was profligate and atrocious. Upon almost every cause that came before them, interest was openly made with the judges; and woe betided the man who, in a cause to support, had no means of conciliating favour, either by the beauty of a handsome wife, or by other methods. It has been said, by many writers, that property was as secure under the old government of France as it is in England; and the assertion might possibly be true, as far as any violence from the king, his ministers, or the great, was concerned: but for all that mass of property, which comes in every country to be litigated in courts of justice, there was not even the shadow of security, unless the parties were totally and equally unknown, and totally and equally honest; in every other case, he who had the best interest with the judges, was sure to be the winner. To reflecting minds, the cruelty and abominable practice attending such courts are sufficiently apparent. There was also a circumstance in the constitution of these parliaments, but little known in England, and which, under such a government as that of France, must be considered as very singular. They had the power, and were in the constant practice of issuing decrees, without the consent of the crown, and which had the force of laws through the whole of their jurisdiction; and of all other laws, these were sure to be the best obeyed; for as all infringements of them were brought before sovereign courts, composed of the same persons who had enacted these laws (a horrible system of tyranny!) they were certain of being punished with the last severity. It must appear strange, in a government so despotic in some respects as that of France, to see the parliaments in every part of the kingdom making laws without the king's consent, and even in defiance of his authority. The English, whom I met in France in 1789, were surprised to see some of these bodies issuing arrets against the export of corn out of the provinces subject to their jurisdiction, into the neighbouring provinces, at the same time that the king, through the organ of so popular a minister as Mons. Necker, was decreeing an absolutely free transport of corn throughout the kingdom, and even at the requisition of the national assembly itself. But this was nothing new; it was their common practice. The parliament of Rouen past an arret against killing of calves; it was a preposterous one, and opposed by administration, but it had its full force; and had a butcher dared to offend against it, he would have found, by the rigour of his punishment, who was his master. Inoculation was favoured by the court in Louis Fifteenth's time; but the parliament of Paris passed an arret against it, much more effective in prohibiting, than the favour of the court in encouraging that practice. Instances are innumerable, and I may remark, that the bigotry, ignorance, false principles, and tyranny of these bodies were generally conspicuous; and that the court (taxation excepted) never had a dispute with a parliament, but the parliament was sure to be wrong. Their constitution, in respect to the administration of justice, was so truly rotten, that the members sat as judges, even in causes of private property, in which they were themselves the parties, and have, in this capacity, been guilty of oppressions and cruelties, which the crown has rarely dared to attempt.

It is impossible to justify the excesses of the people on their taking up arms: they were certainly guilty of cruelties; it is idle to deny the facts, for they have been proved too clearly to admit of a doubt. But is it really the people to whom we are to impute the whole? Or to their oppressors, who had kept them so long in a state of bondage? He who chooses to be served by slaves, and by ill-treated slaves, must know that he holds both his property and life by a tenure far different from those who prefer the service of well-treated freemen; and he who dines to the music of groaning sufferers, must not, in the moment of insurrection, complain that his daughters are ra-

vished, and then destroyed; and that his sons throats are cut. When such evils happen, they surely are more imputable to the tyranny of the master, than to the cruelty of the servant. The analogy holds with the French peasants; the murder of a seigneur, or a chatcau in flames, is recorded in every newspaper; the rank of the person who suffers, attracts notice; but where do we find the register of that seigneur's oppressions of his peasantry, and his exactions of feudal services, from those whose children were dying around them for want of bread? Where do we find the minutes that assigned these starving wretches to some vile petty-fogger, to be fleeced by impositions, and a mockery of justice, in the seigneurial courts? Who gives us the awards of the intendant and his sub-delegates, which took off the taxes of a man of fashion, and laid them with accumulated weight on the poor, who were so unfortunate as to be his neighbours? Who has dwelt sufficiently upon explaining all the ramifications of despotism, regal, aristocratical, and ecclesiastical, pervading the whole mass of the people; reaching, like a circulating fluid, the most distant capillary tubes of poverty and wretchedness? In these cases the sufferers are too ignoble to be known; and the mass too indiscriminate to be pitied. But should a philosopher feel and reason thus? should he mistake the cause for the effect? and giving all his pity to the few, feel no compassion for the many, because they suffer in his eyes not individually, but by millions? The excesses of the people cannot, I repeat, be justified; it would undoubtedly have done them credit, both as men and christians, if they had possessed their new acquired power with moderation. But let it be remembered, that the populace in no country ever use power with moderation; excess is inherent in their aggregate constitution: and as every government in the world knows, that violence infallibly attends power in such hands, it is doubly bound in common sense, and for common safety, so to conduct itself, that the people may not find an interest in public confusions. They will always suffer much and long, before they are effectually roused; nothing, therefore, can kindle the flame, but such oppressions of some classes or order in the society, as give able men the opportunity of seconding the general mass; discontent will soon diffuse itself around; and if the government take not warning in time, it is alone answerable for all the burnings, and plunderings, and devastation, and blood that follow. The true judgment to be formed of the French revolution, must surely be gained from an attentive consideration of the evils of the old government: when these are well understood; and when the extent and universality of the oppression under which the people groaned; oppression which bore upon them from every quarter, it will scarcely be attempted to be urged, that a revolution was not absolutely necessary to the welfare of the kingdom. Not one opposing voice\* can, with reason, be raised against this assertion; abuses ought certainly to be corrected, and corrected effectually: this could not be done without the establishment of a new form of government; whether the

\* Many opposing voices have been raised; but so little to their credit, that I leave the passage as it was written long ago. The abuses that are rooted in all the old governments of Europe, give such numbers of men a direct interest in supporting, cherishing, and defending abuses, that no wonder advocates for tyranny, of every species, are found in every country, and almost in every company. What a mass of people, in every part of England, are some way or other interested in the present representation of the people, tythes, charters, corporations, monopolies, and taxation! and not merely to the things themselves, but to all the abuses attending them: and how many are there who derive their profit to their consideration in life, not merely from such institutions, but from the evils they engender! The great mass of the people, however, is free from such influence, and will be enlightened by degrees; assuredly they will find out, in every country of Europe, that by combinations, on the principles of liberty and property, aimed equally against regal, aristocratical, and mobbish tyranny, they will be able to resist, successfully, that variety of combination, which, on principles of plunder and despotism, is every where at work to enslave them.

form that has been adopted were the best, is another question absolutely distinct. But that the above-mentioned detail of enormities practised on the people required some great change is sufficiently apparent; and I cannot better conclude such a list of detestable oppressions, than in the words of the Tiers Etat of Nivernois, who hailed the approaching day of liberty, with an eloquence worthy of the subject.

Les plaintes du peuple se sont long-temps perdues dans l'espace immense qui le sépare du trône; cette classe la plus nombreuse & la plus intéressante de la société; cette classe qui mérite les premiers soins du gouvernement, puisqu' elle alimente toutes les autres; cette classe à laquelle on doit & les arts nécessaires à la vie, & ceux qui en embellissent le cours; cette classe enfin qui en recueillent moins a toujours payé davantage; peut-elle après tant de siècles d'oppression & de misère compter aujourd'hui sur un sort plus heureux? Ce seroit pour ainsi dire blasphémer l'autorité tutélaire sous laquelle nous vivons que d'en douter un seul moment. Un respect aveugle pour les abus établis ou pour la violence ou par la superstition, une ignorance profonde des conditions du pacte social, voilà ce qui a perpétué jusqu'à nous la servitude dans laquelle ont gémé nos pères. Un jour plus pure est près d'éclorre: le roi a manifesté le désir de trouver des sujets capables de lui dire la vérité; une de ses loix l'édit de création des assemblés provinciales du moi de Juin 1787, annonce que le vœu le plus pressant de son cœur sera toujours celui qui tendra au soulagement & au bonheur de ses peuples: une autre loi qui a retenti du centre du Royaume à ses dernières extrémités nous a promis la restitution de tous nos droits, dont nous n'avions perdu, & dont nous pouvions perdre que l'exercice, puisque le fond de ces mêmes droits est inaliénable & imprescriptible. Osons donc secouer le joug des anciennes erreurs: osons dire tout ce qui est vrai, tout ce qui est utile; osons réclamer les droits essentielles & primitifs de l'homme: la raison, l'équité, l'opinion générale, la bien faisance connue de notre auguste souverain tout concour à assurer le succès de nos doléances.

Having seen the propriety, or rather the necessity, of some change in the government, let us next briefly inquire into the effects of the revolution on the principal interests in the kingdom.

In respect to all the honours, power, and profit derived to the nobility from the feudal system, which was of an extent in France beyond any thing known in England since the revolution, or long parliament in 1640, all is laid in the dust, without a rag or remnant being spared: \* the importance of these, both in influence and revenue, was so great, that the result is all but ruin to numbers. However, as these properties were real tyrannies; as they rendered the possession of one spot of land ruinous to all around it, and equally subversive of agriculture, and the common rights of mankind, the utter destruction brought on all this species of property, does not ill deserve the epithet they are so fond of in France: it is a real regeneration of the people to the privileges of human nature. No man of common feelings can regret the fall of that

\* It is to be observed, that the orders of knighthood were at first preserved; when the national assembly, with a forbearance that did them honour, refused to abolish those orders, because personal, of merit, and not hereditary, they were guilty of one gross error. They ought immediately to have addressed the king, to institute a new order of knighthood...KNIGHTS OF THE PLOUGH. There are doubtless little souls that will smile at this, and think a thistle, a garter, or an eagle more significant, and more honourable; I say nothing of orders, that exceed common sense and common chronology, such as St. Esprit, St. Andrew, and St. Patrick, leaving to such as venerate most what they least understand. But that prince, who should first institute this order of rural merit, will reap no vulgar honour: Leopold, whose twenty years of steady and well earned Tuscan fame gives him a good right to do it with propriety, might, as emperor, institute it with most effect. In him, such an action would have in it nothing of affectation. But I had rather that the Plough had thus been honoured by a free assembly. It would have been a trait, that marked the philosophy of a new age, and a new system.

abominable system, which made a whole parish slaves to the lord of the manor. But the effects of the revolution have gone much farther; and have been attended with consequences not equally justifiable. The rents of land, which are as legal under the new government, as they were under the old, are no longer paid with regularity. I have been lately informed (August 1791) on authority not to be doubted, that associations among tenantry, to a great amount and extent, have been formed, even within fifty miles of Paris, for the non-payment of rent; saying, in direct terms, we are strong enough to detain the rent, and you are not strong enough to enforce the payment. In a country where such things are possible, property of every kind, it must be allowed, is in a dubious situation. Very evil consequences will result from this; arrears will accumulate too great for landlords to lose, or for the peasants to pay, who will not easily be brought to relish that order and legal government, which must necessarily secure these arrears to their right owners. In addition to all the rest, by the new system of taxation, there is laid a land-tax of three hundred millions, or not to exceed 4s. in the pound; but, under the old government, their vingtiemes did not amount to the seventh part of such an impost. In whatever light, therefore, the ease of French landlords is viewed, it will appear, that they have suffered immensely by the revolution. That many of them deserved it, cannot, however, be doubted, since we see their cahiers demanding steadily, that all their feudal right should be confirmed: \* that the carrying of arms should be strictly prohibited to every body but noblemen: † that the infamous arrangements of the militia should remain on its old footing: ‡ that breaking up wastes, and inclosing commons, should be prohibited: § that the nobility alone should be eligible to enter into the army, church, &c.: || that lettres de cachet should continue: ¶ that the press should not be free: \*\* and in fine, that there should be no free corn trade. ††

To the clergy, the revolution has been yet more fatal. One word will dispatch this inquiry. The revolution was a decided benefit to all the lower clergy of the kingdom; but it was destructive of all the rest. It is not easy to know what they lost on the one hand, or what the national account will gain on the other. Mons. Necker calculates their revenue at 130,000,000 livres, of which only 42,500,000 livres were in the hands of the cures of the kingdom. Their wealth has been much exaggerated: a late writer says, they possessed half the kingdom. †† Their number was as little known as their revenue; one writer makes them 400,000; §§ another 81,400; |||| a third 80,000. ¶¶

\* Evreux, p. 32. Bourbonnois, p. 14. Artois, p. 22. Bazas, p. 8. Nivernois, p. 7. Poitou, p. 13. Saintonge, p. 5. Orleans, p. 19. Chaumont, p. 7.

† Vermaudois, p. 41. Quesnoy, p. 19. Sens, p. 25. Evreux, p. 36. Sesanne, p. 17. Bar sur Seine, p. 6. Beauvais, p. 13. Bugey, p. 34. Clermont Ferrand, p. 11.

‡ Limoges, p. 36. § Cambrai, p. 19. Pont a Mousson, p. 38.

|| Lyon, p. 13. Touraine, p. 31. Angaumois, p. 13. Auxerre, p. 13. The author of the Historical Sketch of the French Revolution, octavo, 1792, says, p. 68. "the worst enemies of nobility have not yet brought to light any cahier, in which the nobles insisted on their exclusive right to military preferments." In the same page this gentleman says, it is impossible for any Englishman to study four or five hundred cahiers. It is evident, however, from this mistake, how necessary it is to examine them before writing on the revolution. ¶ Vermaudois, p. 23. Chalons-sur Marne, p. 6. Gien, p. 9.

\*\* Crepy, p. 10. †† St. Quetin, p. 9. ‡‡ De l'Autorite de Montesquieu dans la revolution presente, octavo, 1789. p. 61. §§ Etats Generaux convoques, par Louis XVI, par M. Target, prem. suite, p. 7.

|||| Qu'est ce que le Tiers Etat, 3d edit. par M. l'Abbe Sieyes, octavo, p. 51.

¶¶ Bibliotheque de l'homme publique, par M. Condorcet, &c. tom. iii.

The clergy in France have been supposed, by many persons in England, to merit their fate from their peculiar profligacy. But the idea is not accurate: that so large a body of men, possessed of very great revenues, should be free from vice, would be improbable, or rather impossible; but they preserved, what is not always preserved in England, an exterior decency of behaviour. One did not find among them poachers or fox-hunters, who, having spent the morning in scampering after hounds, dedicate the evening to the bottle, and reel from inebriety to the pulpit. Such advertisements were never seen in France as I have heard of in England: Wanted, a curacy in a good sporting country, where the duty is light, and the neighbourhood convivial. The proper exercise for a country clergyman is the employment of agriculture; which demands strength and activity, and which, vigorously followed, will fatigue enough to give ease its best relish. A sportsman parson may be, as he often is England, a good sort of a man, and an honest fellow; but certainly this pursuit, and the resorting to obscene comedies, and kicking their heels in the jig of an assembly, are not the occupations for which we can suppose tythes were given.\* Whoever will give an attention to the demands of the clergy in their cahiers, will see, that there was, on many topics, an ill spirit in that body. They maintain, for instance, that the liberty of the press ought rather to be restrained than extended: † that the laws against it should be renewed and executed: ‡ that admission into religious orders should be, as formerly, at sixteen years of age: § that lettres de cachet are useful, and even necessary. ¶ They solicit to prohibit all division of commons; †† to revoke the edict allowing inclosures; \*\* that the export of corn be not allowed; ‡‡ and that public granaries be established. †††

The ill effects of the revolution have been felt more severely by the manufacturers of the kingdom, than by any other class of the people. The rivalry of the English fabrics in 1787 and 1788, was strong and successful; and the confusions that followed in all parts of the kingdom, had the effect of lessening the incomes of so many landlords, clergy, and men in public employments; and such numbers fled from the kingdom, that the general mass of the consumption of national fabrics sunk perhaps three-fourths. The men, whose incomes were untouched, lessening their consumption greatly, from an apprehension of the unsettled state of things: the prospects of a civil war, suggested to every man, that his safety, perhaps his future bread, depended on the money which he could hoard. The inevitable consequence, was turning absolutely out of employment immense numbers of workmen. I have, in the diary of the journey, noticed the infinite misery to which I was witness at Lyons, Abbeville, Amiens, &c. and by intelligence I understood that it was still worse at Rouen: the fact could not be otherwise. This effect, which was absolute death, by starving many thousands of families, was a result, that in my opinion might have been avoided. It flowed only from carrying things to extremities; from driving the nobility out of the kingdom, and seizing, instead of regulation, the whole regal authority. These violences were not necessary to liberty; they even destroyed true liberty, by giving

\* Nothing appears so scandalous to all the clergy of Europe, as their brethren in England dancing at public assemblies; and a bishop's wife engaged in the same amusement, seems to them as preposterous as a bishop, in his lawn sleeves, following the same diversion, would to us. Probably both are wrong.

† Saintonge, p. 24. Limoges, p. 6, &c.

§ Saintonge, p. 26. Montargis, p. 10.

\*\* Metz, p. 11. †† Rouen, p. 24.

‡ Lyon, p. 13. Dourdon, p. 5.

¶ Limoges, p. 22.

¶ Troyes, p. 11.

‡‡ Laon, p. 11. Dourdon, p. 17.

the government of the kingdom, in too great a degree, to Paris, and to the populace of every town.

The effect of the revolution, to the small proprietors of the kingdom, must according to the common nature of events, be in the end remarkably happy; and had the new government adopted any principles of taxation, except those of the *œconomistes*, establishing at the same time an absolute freedom in the business of inclosure, and in the police of corn, the result would probably have been advantageous, even at this recent period. The committee of imposts\* mention (and I doubt not their accuracy) the prosperity of agriculture, in the same page in which they lament the depression of every other branch of the national industry. Upon a moderate calculation, there remained, in the hands of the classes depending on land, on the account of taxes in the years 1789 and 1790, at least 300,000,000 livres; the execution of corvees was as lax as the payment of taxes. To this we are to add two years tythe, which I cannot estimate at less than 300,000,000 livres more. The abolition of all feudal rents, and payments of every sort, during those two years, could not be less than 100,000,000 liv. including services. But all these articles, great as they were, amounting to near 800,000,000 livres were less than the immense sums that came into the hands of the farmers by the high price of corn throughout the year 1789; a price arising almost entirely from Mons. Necker's fine operations in the corn trade, as it has been proved at large; it is true there is a deduction to be made on account of the unavoidable diminution of consumption in every article of land produce, not essentially necessary to life: every object of luxury, or tending to it, is lessened greatly. But after this discount is allowed, the balance, in favour of the little proprietor farmers, must be very great. The benefit of such a sum, being added as it is to the capital of industry, needs no explanation. Their agriculture must be invigorated by such wealth, by the freedom enjoyed by its professors, by the destruction of its innumerable shackles; and even by the distresses of other employments, occasioning new and great investments of capital in land: and these leading facts will appear in a clearer light, when the prodigious division of landed property in France is well considered: probably half perhaps two-thirds, of the kingdom are in possession of little proprietors, who paid quit-rents, and feudal duties, for the spots they farmed. Such men are placed at once in comparative affluence; and as ease is thus acquired by at least half the kingdom, it must not be set down as a point of trifling importance. Should France escape a civil war, she will, in the prosperity of these men, find a resource which politicians at a distance do not calculate. With renters the case is certainly different; for, beyond all doubt, landlords will, sooner or later, avail themselves of these circumstances, by advancing their rents; acting in this respect as in every other country is common; but they will find it impossible to deprive the tenantry of a vast advantage, necessarily flowing from their emancipation.

The confusion which has since arisen in the finances, owing almost entirely to the mode of taxation adopted by the assembly, has had the effect of continuing to the present moment (1791) a freedom from all impost to the little proprietors, which, however dreadful its general effects on the national affairs, has tended strongly to enrich this class.

The effects of the revolution, not on any particular class of cultivators, but on agriculture in general, is with me, I must confess, very questionable; I see no benefits flowing particularly to agriculture (liberty applies equally to all classes, and is not yet

\* Rapport le 6 Decembre 1790, sur les moyens de pourvoir aux depenses pour 1791, p. 4.

sufficiently established for the protection of property) except the case of tythes; but I see the rise of many evils; restrictions and prohibitions on the trade of corn; a varying land-tax; and impeded inclosures, are mischiefs on principle, that may have a generative faculty; and will prove infinite draw-backs from the prosperity which certainly was attainable. It is to be hoped, that the good sense of the assembly will reverse this system by degrees; for, if it is not reversed, AGRICULTURE CANNOT FLOURISH.

The effect of the revolution, on the public revenue, is one great point on which Mons. de Calonne lays considerable stress; and it has been since urged in France, that the ruin of 30,000 families, thrown absolutely out of employment, and consequently out of bread, in the collection of the taxes on salt and tobacco only, has had a powerful influence in spreading universal distress and misery. The public revenue sunk, in one year, 175 millions: this was not a loss of that sum: the people to whom assignats were paid on that account lost no more than the discount; the loss, therefore, to the people to whom that revenue was paid, could amount to no more than from 5 to 10 per cent.\* But was it a loss to the miserable subjects who formerly paid those taxes; and who paid them by the sweat of their brows, at the expence of the bread out of their children's mouths, assessed with tyranny, and levied in blood? Do they feel a loss in having 175 millions in their pockets in 1789, more than they had in 1788? and in possessing another 175 millions more in 1790, and the inheritance in future? Is not such a change ease, wealth, life, and animation, to those classes who, while the pens of political satirists slander all innovations, are every moment reviving, by inheriting from that revolution something which the old government assuredly did not give? The revenue of the clergy may be called the revenue of the public: those to whom the difference between the present payment of one hundred and forty millions and the old tythes are a deduction of all revenue, are, beyond doubt, in great distress; but what say the farmers throughout the kingdom, from whom the detestable burthen of those taxes was extorted? Do not they find their culture lightened, their industry freed, their products their own? Go to the aristocratical politician at Paris, or at London, and you hear only of the ruin of France; go to the cottage of the metayer, or the house of the farmer, and demand of him what the result has been, there will be but one voice from Calais to Bayonne. If tythes were to be at one stroke abolished in England,† no doubt the clergy would suffer, but would not the agriculture of the kingdom, with every man dependent on it, rise with a vigour never before experienced.

#### FUTURE EFFECTS.

It would betray no inconsiderable presumption to attempt to predict what will be the event of the revolution now passing in France; I am not so imprudent. But there are considerations that may be offered to the attention of those who love to speculate on future events better than I do. There are three apparent benefits in an aristocracy

\* Since this was written, assignats fell, in Dec. 1791, and Jan. 1792, to 34 to 38 per cent. paid in silver, and 42 to 50 paid in gold, arising from great emissions; from the quantity of private paper issued; from forged ones being common; and from the prospect of a war.

† It is an error in France to suppose, that the revenue of the church is small in England. The royal Society of Agriculture at Paris states that revenue at 210,000*l.* it cannot be stated at less than five millions sterling. Mem présente par la S. R. d'Ag. a l'Assemblée Nationale 1789, p. 52. One of the greatest and wisest men we have in England persists in asserting it to be much less than two millions. From very numerous inquiries, which I am still pursuing, I have reason to believe this opinion to be founded on insufficient data.



forming the part of a constitution; first, the fixed, consolidated, and hereditary importance of the great nobility, is for the most part a bar to the dangerous pretensions, and illegal views, of a victorious and highly popular king, president, or leader. Assemblies, so elected, as to be swayed absolutely by the opinion of the people, would frequently, under such a prince, be ready to grant him much more than a well constituted, aristocratic senate. Secondly, such popular assemblies as I have just described, are sometimes led to adopt decisions too hastily, and too imprudently; and particularly in the case of wars with neighbouring nations; in the free countries, we have known the commonality have been too apt to call lightly for them. An aristocracy, not unduly influenced by the crown, stands like a rock against such phrenzies, and hath a direct interest in the encouragement and support of peaceable maxims. The remark is applicable to many other subjects, in which mature deliberation is wanted to ballast the impetuosity of the people. I always suppose the aristocratic body well constituted upon the basis of a sufficient property, and at the same time no unlimited power in the crown, to throw all the property of the kingdom into the same scale, which is the case in England. Thirdly, whatever benefits may arise from the existence of an executive power, distinct from the legislative, must absolutely depend on some intermediate and independent body between the people and the executive power. Every one must grant, that if there be no such body, the people are enabled, when they please, to annihilate the executive authority, and assign it, as in the case of the long parliament, to committees of their own representatives; or, which is the same thing, they may appear as they did at Versailles, armed before the king, and insist on his consent to any propositions they bring him; in these cases, the seeming advantages derived from a distinct executive power are lost. And it must be obvious, that in such a constitution as the present one of France, the kingly office can be put down as easily and as readily, as a secretary can be reprimanded for a false entry in the journals. If a constitution be good, all great changes in it should be esteemed a matter of great difficulty and hazard: it is in bad ones only that alterations should not be looked upon in a formidable light.

That these circumstances may prove advantages in an aristocratical portion of a legislature, there is reason to believe; the inquiry is, whether they be counter-balanced by possible or probable evils. May there not come within this description, the danger of an aristocracy uniting with the crown against the people? that is to say, influencing, by weight of property and power, a great mass of the people dependent, against the rest of the people who are independent? Do we not see this to be very much the case in England at this moment? To what other part of our constitution is it imputable that we have been infamously involved in perpetual wars, from which none reap any benefit but that tribe of vermin which thrive most when a nation most declines; contractors, victuallers, pay-masters, stock-jobbers, and money-scrivners: a set by whom ministers are surrounded; and in favour of whom whole classes amongst the people are beggared and ruined. Those who will assert a constitution can be good\* which suffers these things, ought at least to agree, that such an one as would not suffer them would be much better. †

\* It ought not to be allowed even tolerable, for this plain reason, such public extravagance engenders taxes to an amount that will sooner or later force the people into resistance, which is always the destruction of a constitution; and surely that must be admitted bad, which carries to the most careless eye the seeds of its own destruction. Two hundred and forty millions of public debt in a century is in a ratio impossible to be supported; and therefore evidently ruinous.

† "The direct power of the king of England," says Mr. Burke, "is considerable. His indirect is great indeed. When was it that a king of England wanted wherewithal to make him respected, courted,

If an aristocracy hath thus its advantages and disadvantages, it is natural to inquire, whether the French nation be likely to establish something of a senate, that shall have the advantages without evils. If there should be none, no popular representatives will ever be brought, with the consent of their constituents, to give up a power in their own possession and enjoyment. It is experience alone, and long experience, that can satisfy the doubts which every one must entertain on this subject. What can we know, experimentally, of a government which has not stood the brunt of unsuccessful and of successful wars? The English constitution has stood this test, and has been found deficient; or rather, as far as this test can decide any thing, has been proved worthless; since, in a single century, it has involved the nation in a debt of so vast\* a magnitude, that every blessing which might otherwise have been perpetuated is put to the stake; so that if the nation do not make some change in its constitution, it is much to be dreaded that the constitution will ruin the nation. Where practice and experience have so utterly failed, it would be vain to reason from theory: and especially on a subject on which a very able writer has seen his own prediction so totally erroneous: "In the monarchical states of Europe, it is highly improbable that any form of properly equal government should be established for many ages; the people, in general, and especially in France, being proud of their monarchs, even when they are oppressed by them."†

In regard to the future consequences of this singular revolution, as an example to other nations, there can be no doubt but the spirit which has produced it, will sooner or later spread throughout Europe, according to the different degrees of illumination amongst the common people; and it will prove either mischievous or beneficial, in proportion to the previous steps taken by government. It is unquestionably the subject of all others the most interesting to every class, and even to every individual of a modern state; the great line of division, into which the people divides, is, 1st, those that have property; and, 2d, others that have none. The events that have taken place in France, in many respects have been subversive of property; and have been effected by the lower people, in direct opposition to the nominal legislature; yet their constitution began its establishment with a much greater degree of regularity, by a formal election of representatives, than there is any probability of seeing in other countries. Revolutions will there be blown up from riotous mobs, from the military called out to quell them, but refusing obedience and joining the insurgents. Such a flame, spreading rapidly through a country, must prove hostile, and more fatal to property, than any thing that has prevailed in France. The probability of such events, every one must allow to be not inconsiderable; the ruin that must attend them cannot be doubted; for they would tend to produce not a national assembly, and a free constitution, but an universal anarchy and confusion. The first attempt towards a democracy in England would be the com-

or perhaps even feared in every state in Europe?" It is in such passages as these, that this elegant writer lays himself open to the attacks formidable, because just, of men who have not an hundredth part of his talents. Who questions, or can question, the power of a prince that in less than a century has expended above 1000 millions, and involved his people in a debt of 240? The point in debate is not the existence of power, but its excess. What is the constitution that generates or allows of such expences? The very mischief complained of is here wrought into a merit, and brought in argument to prove that exaggerated power is salutary.

\* This debt, and our enormous taxation, are the best answer the national assembly gives to those who would have had the English government, with all its faults on its head, adopted in France; nor was it without reason said by a popular writer, that a government, formed like the English, obtains more revenue than it could do, either by direct despotism, or in a full state of freedom.

† Dr. Priestly's Lectures on Hist. quarto, 1788, p. 3. 317.

mon people demanding an admission and voice in the vestries, and voting to themselves whatever rates they thought proper to appropriate ; which, in fact, would be an Agrarian law. Can there be so much supineness in the present governments of Europe, as to suppose, that old principles and maxims will avail any longer ? Can such ignorance of the human heart, and such blindness to the natural course of events be found, as the plan of rejecting all innovations, lest they should lead to greater ? There is no government to be found, that does not depend, in the last resort, on a military power ; and if that fail them, is not the consequence easily seen ? A new policy must either be adopted, or all governments we know will be swept from their very foundations. This policy must consist, first, in making it the interest, as much as possible, of every class in the state except those absolutely without property,\* to support the established government ; and also to render it as palatable, as the security of property will allow, even to these ; farther than this none can look, for it is so directly the interest of the people, without property, to divide with those who have it, that no government can be established which shall give the poor an equal interest in it with the rich ; † the visible tangible interest of the poor (if I may use the expressions) and not the ultimate and remote, which they will never voluntarily regard, is a pure democracy, and a consequent division of property the sure path to anarchy and despotism. The means of making a government respected and beloved are, in England, obvious ; taxes must be immensely reduced ; assessments on malt, leather, candles, soap, salt, and windows, must be abolished or lightened ; the funding system, the parent of taxation, annihilated for ever, by taxing the interest of the public debt ; the constitution that admits a debt carries in its vitals the seeds of its destruction ; tythes ‡ and tests abolished ; the representation of parliament reformed, and its duration shortened ; not to give the people, without property, a predominancy, but to prevent that corruption in which our debts and taxes have originated ; the utter destruction of all monopolies, and, among them, of all charters and corporations ; game made property, and belonging to the possessor of one acre, as much

\* The representation of mere population is as gross a violation of sense, reason, and theory, as it is found pernicious in practice ; it gives to ignorance to govern knowledge ; to uncultivated intellect the lead of intelligence ; to savage force the guide of law and justice ; and to folly the governance of wisdom. Knowledge, intelligence, information, learning, and wisdom, ought to govern nations ; and these are all found to reside most in the middle classes of mankind ; weakened by the habits and prejudices of the great, and stifled by the ignorance of the vulgar.

† Those who have not attended much to French affairs, might easily mistake the representation of territory and contribution in the French constitution, as something similar to what I contend for ; but nothing is more remote : the number chosen is of little consequence, while persons without property are the electors. Yet Mr. Christie says, vol. i. p. 196, that property is a base on which representation ought to be founded ; and it is plain he thinks that property is represented, though the representatives of the property are elected by men that do not possess a shilling ! It is not that the proprietors of property should have voices in the election proportioned to their property, but that men who have a direct interest in the plunder or division of property should be kept at a distance from power. Here lies the great difficulty of modern legislation, to secure property, and at the same time to secure freedom to those that have no property. In England there is much of this effected for the small portion of every man's income that is left to him after public plunder is satiated (the poor, the parson, and the king take 50 to 60 per cent. of every man's rent) but the rest is secure. In America the poor, the parson, and the king take nothing (or next to nothing) and the whole is secure. In France ALL seems to be at the mercy of the populace.

‡ The exaction of tythes is so absurd and tyrannical an attack on the property of mankind, that it is almost impossible for them to continue in any country in the world half a century longer. To pay a man by force 1000l. a year, for doing by deputy what would be much better done for 100l. is too gross an imposition to be endured. To levy that 1000l. in the most pernicious method that can wound both property and liberty, are circumstances congenial to the tenth century, but not to the eighteenth. Italy, France, and America, have set noble examples for the imitation of mankind ; and those countries that do not follow them, will soon be as inferior in cultivation as they are in policy.

as to him who has a thousand: and, lastly, the laws, both criminal and civil, to be thoroughly reformed. These circumstances include the great evils of the British constitution; if they be remedied, it may enjoy even a Venetian longevity; but if they be allowed, like cancerous humours to prey on the nobler parts of the political system, this boasted fabric may not exist even twenty years. To guard property effectually, and to give permanency to the new system, the militia laws ought all to be repealed. When we see, as in all the monarchies of Europe, the government only armed, despotism is established. When those who have property alone are armed, how secure the people from oppression? When those who have no property are armed, how prevent their seizing the property of others? Perhaps the best method of guarding against these contrary evils, is to embody, in a national militia, all who have property; and, at the same time to allow arms (unembodied) to all citizens indiscriminately: we see in the case of Berne, that the people being armed, keeps an aristocracy in such order, that great oppressions are unknown. An army was always dangerous; and in the probable state of Europe it may be doubly so; discipline preserved, it cemented despotism; undisciplined, it may unite with the people of no property, and produce anarchy and ruin. There seems to be no sufficient guard upon it, but a national militia, formed of every man that possesses a certain degree of property, rank and file as well as officers.\* Such a force in this island, would probably amount to above one hundred thousand men; and would be amply sufficient for repressing all those riots, whose object might be, immediately or ultimately, the democratic mischief of transferring property.† This for a free government: despotic ones, that would wish to escape destruc-

\* The late riots at Birmingham ought to convince every man, who looks to the preservation of peace, that a militia of property is absolutely necessary; had it existed at that town, no such infamous transactions could have taken place, to the disgrace of the age and nation. Those riots may convince us how insecure our property really is in England, and how very imperfect that Political System, which could, twice in ten years, see two of the greatest towns in England at the mercy of a vile mob. The military must, in relation to the greater part of the kingdom, be always at a distance; but a militia is on the spot, and easy to be collected, by previous regulations, at a moment's warning.

† The class of writers who wish to spread the taste of revolutions, and make them every where the order of the day, affect to confound the governments of France and America, as if established on the same principles; if so, it is a remarkable fact that the result should, to appearance, turn out so differently; but a little examination will convince us, that there is scarcely any thing in common between those governments, except the general principle of being free. In France, the populace are electors, and to so low a degree that the exclusions are of little account; and the qualifications for a seat in the provincial assemblies, and in the national one, are so low that the whole chain may be completed, from the first elector to the legislator, without a single link of what merits the name of property. The very reverse is the case in America, there is not a single state in which voters must not have a qualification of property; in Massachusetts and New Hampshire, a freehold of 3l. a year, or other estate of 6l. value; Connecticut is a country of substantial freeholders, and the old government remains; in New York, electors of the senate must have a property of 100l. free from debts; and those of the assembly, freeholds of 40s. a year, rated and paying taxes; in Pennsylvania, payment of taxes is necessary; in Maryland, the possession of 50 acres of land, or other estate worth 30l.; in Virginia, 25 cultivated acres, with a house on it; in North Carolina, for the senate 50 acres, and for the assembly payment of taxes; and in all the states there are qualifications much more considerable, necessary for being eligible to be elected. In general it should be remembered, that taxes being so very few, the qualification of paying them excludes vastly more voters than a similar regulation in Europe. In constituting the legislatures also, the states all have two houses except Pennsylvania. And congress itself meets in the same form. Thus a ready explanation is found of that order and regularity, and security of property, which strikes every eye in America; a contrast to the spectacle which France has exhibited, where confusion of every sort has operated, in which property is very far from safe; in which the populace legislate and then execute, not laws of their representatives, but of their own ambulatory wills; in which, at this moment (March 1792) they are a scene of anarchy, with every sign of a civil war commencing. These two great experiments as far as they have gone, ought to pour conviction in every mind, that order and property never can be safe if the right of

tion, must emancipate their subjects, because no military conformation can long secure the obedience of ill treated slaves; and while such governments are giving to their people a constitution worth preserving, they should, by an absolute renunciation of all the views of conquest, make a small army as efficient for good purposes, as a large force for ambitious ones; this new-modelled military should consist, rank and file, of men interested in the preservation of property and order: were this army to consist merely of nobility, it would form a military aristocracy, as dangerous to the prince as to the people; it should be composed, indiscriminately, of individuals, drawn from all classes, but possessing a given property. A good government, thus supported, may be durable: bad ones will be shivered to pieces by the new spirit that ferments in Europe.

The candid reader will, I trust, see, that in whatever I have ventured to advance on so critical a subject as this great and unexampled revolution, I have assigned the merit I think due to it, which is the destruction of the old government, and not the establishment of the new. All that I saw, and much that I heard in France, gave me the clearest conviction, that a change was necessary for the happiness of the people, a change that should limit the royal authority; that should restrain the feudal tyranny of the nobility; that should reduce the church to the level of good citizens; that should correct the abuses of finance; that should give purity to the administration of justice; and that should place the people in a state of ease, and give them weight enough to secure this blessing. Thus far I must suppose every friend of mankind agreed. But whether, in order to effect thus much, all France were to be overthrown, ranks annihilated, property attacked, the monarchy abolished, and the king and royal family trampled upon; and, above all the rest, the whole effect of the revolution, good or bad, put on the issue of a conduct which, to speak in the mildest language, made a civil war probable; this is a question absolutely distinct. In my private opinion, these extremities were not necessary; France might have been free without violence; a necessitous court, a weak ministry, and a timid prince, could have refused nothing to the demands of the states, essential to public happiness, the power of the purse would have done all that ought to have been done. The weight of the commons would have been predominant; but it would have had checks and a controul, without which power is not constitution, but tyranny. While, however, I thus venture to think that the revolution might have been accomplished upon better principles, because probably more durable ones, I do not therefore assign the first national assembly in the gross to that total condemnation they have received from some very intemperate pens, and for this plain reason,

election is personal, instead of being attached to property; and whenever propositions for the reformation of our representation shall be seriously considered, which is certainly necessary, nothing ought to be in contemplation but taking power from the crown and the aristocracy, not to give it to the mob, but to the middle classes of moderate fortune. The proprietor of an estate of 50l. a year is as much interested in the preservation of order and of property, as the possessor of fifty thousand; but the people without property have a direct and positive interest in public confusion, and the consequent division of that property, of which they are destitute. Hence the necessity, a pressing one in the present moment, of a militia rank and file, of property; the essential counterpoise to assemblies in ale-house kitchens, clubbing their pence to have the Rights of Man read to them, by which should be understood (in Europe, not in America) the right to plunder. Let the state of France at present be coolly considered, and it will be found to originate absolutely in population, without property being represented; it exhibits scenes such as can never take place in America. See the national assembly of a great empire, at the crisis of its fate, listening to the harangues of the Paris populace, the female populace of St. Antoine, and the president formally answering and flattering them! Will such spectacles ever be seen in the American congress? Can that be a well constituted government, in which the most precious moments are so consumed? The place of assembling (Paris) is alone sufficient to endanger the constitution.

because it is certain that they have not done much which was not called for by the people.

Before the revolution is condemned in the gross, it should be considered what extent of liberty was demanded by the three orders in their cahiers; and this in particular is necessary, since those very cahiers are quoted to shew the mischievous proceedings of the national assembly. Here are a few of the ameliorations demanded; to have the trial by jury, and the habeas corpus of England; \* to deliberate by head, and not by order, demanded by the nobility themselves; † to declare all taxes illegal and suppressed; but to grant them anew for a year; ‡ to abolish for ever the capitaineries; § to establish a caisse nationale separee inaccessible a toute influence du pouvoir executif; || that all the intendants should be suppressed; || that no treaties of commerce should be made but with the consent of the states: ¶ that the orders of begging monks be suppressed: \*\* that all monks be suppressed, and their goods and estates sold: †† that tythes be for ever suppressed; ‡‡ that all feudal rights, duties, payments, and services, be abolished: §§ that salaries (traitement pecuniare) be paid to the deputies; |||| that the permanence of the national assembly is a necessary part of its existence: ¶¶ that the Bastile be demolished: \*\*\* that the duties of aides, on wine, brandy, tobacco, salt, leather, paper, iron, oil, and soap, be suppressed: ††† that the apanages be abolished; ‡‡‡ that the domaines of the king be alienated: §§§ that the king's studs (haras) be suppressed; |||| that the pay of the soldiers be augmented; ¶¶¶ that the kingdom be divided into districts, and the elections proportioned to population and to contributions; \*\*\*\* that all citizens paying a determinate quota of taxes vote in the parochial assemblies: †††† that it is indispensable in the states-general to consult the Rights of Man; ‡‡‡‡ that the deputies shall accept of no place, pension, grace, or favour. §§§§

From this detail of the instructions given by the nation, I will not assert that every thing which the national assembly has decreed is justifiable; but it may be very fairly concluded, that much the greater part of their arrears, and many that have been the most violently arraigned, are here expressly demanded. To reply that these demands are not those of the nation at large, but of particular bodies only, is very wide from the argument; especially as the most virulent enemies of the revolution, and particularly Messieurs Burke and de Calonne, have from these cahiers, deduced such conclusions as

- \* Nob. Auxois, p. 23. Artois, p. 13. T. Etat de Peronne, p. 15. Nob. Dauphine, p. 119.  
 † Nob. Touraine, p. 4. Nob. Senlis, p. 46. Nob. Pays de Labour, p. 3. Nob. Quesnoy, p. 6. Nob. Sens, p. 3. Nob. Thimerais, p. 3. Clerge du Bourbonnois, p. 6. Clerge du Bas Limosin, p. 10.  
 ‡ Too numerous to quote, of both nobility and tiers. § Many; nobility as well as tiers.  
 || Nob. Sezanne, p. 14. T. Etat Metz, p. 42. T. Etat d'Auvergne, p. 9. T. Etat de Riom, p. 23.  
 ¶ Nob. Nivernois, p. 25. \*\* Nob. Bas Limosin, p. 32. †† T. Etat du Haut Vivarais, p. 18. Nob. Rheims, p. 16. Nob. Auxerre, p. 41. ‡‡ Nob. Toulon, p. 18. §§ Too many to quote.  
 ||| Nob. Nomery en Lorain, p. 10.  
 ¶¶ Nob. Mantes & Meulan, p. 16. Previns & Monteraux, art. 1. Rennes, art. 19.  
 \*\*\* Nob. Paris, p. 14. ††† Nob. Vitry le Francois, MS. Nob. Lyon, p. 16. Nob. Bugey, p. 28. Nob. Paris, p. 22. ‡‡‡ Nob. Ponthieu, p. 32. Nob. Chartres, p. 19. Nob. Auxerre, art. 74.  
 §§§ Nob. Bugey, p. 11. Nob. Montargis, p. 18. Nob. Paris, p. 16. Nob. Bourbonnois, p. 12. Nob. Nancy, p. 23. Nob. Angoumois, p. 20. Nob. Pays de Labour, fol. 9.  
 |||| Nob. Beauvais, p. 18. Nob. Troyes, p. 25. ¶¶¶ Nob. Limoges, p. 31.  
 \*\*\*\* T. Etat de Lyon, p. 7. Nismes, p. 13. Cotentin, art. 7. †††† T. Etat Rennes, art. 15.  
 ‡‡‡ T. Etat Nismes, p. 11.  
 §§§§ T. Etat Pont a Mousson, p. 17. Mr. Burke says, "When the several orders, in their several bailiages, had met in the year 1789, to choose and instruct their representatives, they were the people of France: whilst they were in that state, in no one of their instructions did they charge, or ever hint at any of those things which have drawn upon the usurping assembly the detestation of the rational part of mankind."

suited their purpose; and if they are made authority for condemning the transactions in that kingdom, they certainly are equal authority for supporting those transactions. I shall make but one observation on these demands. The assemblies that drew them up, most certainly never demanded, in express terms, the abolition of the monarchy, or the transfer of all the regal authority to the deputies; but let it be coolly considered, what sort of a monarchy must necessarily remain, while an assembly is permanent, with power to abolish tythes; to suppress the intendants; not only to vote, but to keep the public money: to alienate the king's domains; and to suppress his studs: to abolish the captaineries, and destroy the Bastile; the assembly that is called upon to do all this, is plainly meant to be a body solely possessing the legislative authority; it is evidently not meant to petition the king to do it; because they would have used, in this case, the form of expression so common in other parts of the cahiers, that his majesty will have the goodness, &c.

The result of the whole inquiry cannot but induce temperate men to conclude, that the abolition of tythe, of feudal services and payments, of the gabelle or salt tax, of that on tobacco, of the entrees, of all excises on manufactures, and of all duties on transit, of the infamous proceedings in the old courts of justice, of the despotic practices of the old monarchy, of the militia regulations, of the monasteries and nunneries, and of numberless other abuses; I say, that temperate men must conclude, that the advantages derived to the nation are of the very first importance, and such as must inevitably secure to it, as long as they continue, an uncommon degree of prosperity. The men who deny the benefit of such events, must have something sinister in their views, or muddled in their understandings. On the other hand, the extensive and unnecessary ruin brought on so many thousands of families, of all descriptions, by violence, plunder, terror, and injustice, to an amount that is shewn in the utter want of the precious metals, the stagnation of industry, and the poverty and misery found amongst many, is an evil of too great a magnitude to be palliated. The nourishment of the most pernicious cancer in the state, public credit; the deluge of paper money; the violent and frivolous extinction of rank;\* the new system of taxation, apparently so hurtful to landed property; and a restricted corn trade; all these are great deductions from public felicity, and weigh the heavier in the scale, because unnecessary to effect the revolution. Of the nature and durability of the constitution established, prudent men will not be eager to prophesy: it is a new experiment,† and cannot be

\* It is so because the inequality remains as great as if titles had remained, but built on its worst basis, wealth. The nobility were bad, but not so bad as Mr. Christie makes them; they did not wait till the Etats Generaux, before they agreed to renounce their pecuniary privileges, Letters on the Rev. of France, vol. i. p. 74. The first meeting of the states was May 5, 1789; but the nobility assembled at the Louvre, December 20, 1788, addressed the king, declaring that intention.

† After all that has been said of late years, on the subject of constitutions and governments by various writers in England, but more especially in France, one circumstance must strike any attentive reader; it is, that none of the writers who have pushed the most forward in favour of new systems, have said any thing to convince the unprejudiced part of mankind, that experiment is not as necessary a means of knowledge in relation to government, as in agriculture, or any other branch of natural philosophy. Much has been said in favour of the American government, and I believe with perfect justice, reasoning as far as the experiment extends; but it is fair to consider it as an imperfect experiment, extending no further than the energy of personal virtue, seconded by the moderation attendant on a circulation not remarkably active. We learn, by Mr. Payne, that general Washington accepted no salary as commander of their troops, nor any as president of their legislature; an instance that does honour to their government, their country, and to human nature; but it may be doubted, whether any such instances will occur two hundred years hence? The exports of the United States now amount to 20 millions of dollars; when they amount to 500 millions, when great wealth, vast cities, a rapid circulation, and, by consequence, immense private fortunes are formed, will such specta-

tried or examined on old ideas; but the effects, good and bad, here arranged, in opposition to each other, are visible to every eye; the advantages are recognized; the evils are felt. On these circumstances we are competent to reason.\*

1792.

IT may afford the reader some satisfaction to note a few circumstances of the state of France at the opening of 1792, which I draw from the correspondence of some friends, on whose accuracy I can rely.

*Agriculture*.... Small proprietors, who farm their own lands, are in a very improved and easy situation; renters are proportionably so, to the degree in which their landlords have not been able to acquire in new rents, the payments from which the land has been freed. Owners of meadows, woods, and a variety of articles for which no tythe was paid before, gain much less than others whose property used to be subject to that burthen. In regard to the payment of rent, there is a distinction between the north and south of the Loire; in the former, rents continue to be paid; but to the south, many landlords have been unable to receive a penny; and here a difference is observable; absentees, who were not beloved, or whose agents are disliked, are in an ill situation; but others, who reside, or who, though absent, are beloved, are paid proportionally to the ability of the metayer, which species of tenant is chiefly found south of the Loire. The last crop (of 1791) is said to have been short; in a good year, in Picardy, forty sheaves gave a septier of wheat, of 240lb.; but now it takes fifty to sixty. This circumstance, however, cannot be general, as the price plainly proves: for January 7th, 1792, price at Paris of wheat was 22 to 28 livres, with assignats at 36 per cent. discount, a remarkable proof, that the most depreciated paper currency will answer every purpose for objects of physical necessity, and daily consumption. The discount on this paper, is greater than ever was foretold by those who predicted an enormous rise of all the necessaries of life; a proof how new the science of politics is, and how little able the most ingenious men are to foretel the effects of any specified event. The sale of the national estates has been of late very slow, which is a strange circumstance, since the rapidity of their transfer ought to have been proportioned to the discount upon assignats, for an obvious reason; for, while land is to be acquired with money, the more depreciated paper is, the greater the benefit to the purchaser. While the sale of the estates lasted with any degree of briskness, the common price, of such as have come to my knowledge, was 20 to 30, and even more years purchase; at which rate the advantages attending investments may be great.

cles be found? Will their government then be as faultless as it appears at present? It may. Probably it will still be found excellent; but we have no conviction, no proof; it is in the womb of time....the experiment is not made. Such remarks, however, ought always to be accompanied with the admission, that the British government has been experimented...With what result? Let a debt of 240 millions....let seven years war....let Bengal and Gibraltar....let 30 millions sterling of national burthens, taxes, rates, tythes, and monopolies....let these answer.

\* The gross abuse which has been thrown on the French nation, and particularly on their assemblies, in certain pamphlets, and without interruption, in several of our newspapers, ought to be deprecated by every man who feels for the future interests of this country. It is in some instances carried to so scandalous an excess, that we must necessarily give extreme disgust to thousands of people, who may hereafter have an ample opportunity to vote and act under the influence of impressions unfavourable towards a country that, unprovoked, has loaded them with so much contumely; for a nation groaning under a debt of 240 millions, that deadens the very idea of future energy, this seems, to use the mildest language, to be at least very imprudent.



*Commerce and manufactures....* The result of the vast discount upon assignats has, in relation to the national industry, been almost contrary to what many persons, not ill-informed, expected. Early in the confusion of the revolution, nothing suffered so severely as manufactures; but I am now (1792) informed, that there is much more motion and employment in them than some time past, when the general aspect of affairs was less alarming. The very circumstance which, according to common ideas, should have continued their depression, has most unaccountably revived them in some measure; I mean the depreciation of the assignats. Paper currency has been at so low a pitch, that every species of goods has been preferred in payments; master manufacturers paying their workmen, &c. in assignats, by which bread is purchased at a price proportioned to the crop, can sell the product of that labour to such an advantage, as to create demand enough to animate their business: a most curious political combination, which seems to shew, that in circumstances where evils are of the most alarming tendency, there is a re-action, an under-current, that works against the apparent tide, and brings relief, even from the very nature of the misfortune. Combine this with the point of depression of England, in all her wars, as explained with such talents by the ingenious Mr. Chalmers, and something of a similarity will strike the reflecting reader. The loss by the depression of assignats has not been by any interior transactions, but by those with foreign powers. In consequence of it, the course of exchange rose at last so high, that the loss to the kingdom has been great, but by no means so great as some have imagined, who supposed the intercourse to be moving in the same ratio as in preceding periods. But this is no light error; the evil of exchange, like all other political evils, corrects itself; when it is very much against a people, they necessarily lessen their consumption of foreign commodities; and on the contrary, foreign nations consume theirs very freely, because so easily paid for. Through the month of January, 1792, the course of exchange between us and Paris, has been about 18 on an average; reckoning the par at 30 (which, however, is not exact) here is 40 per cent. against France; deduct 36 for the discount on assignats, and this apparent enormity of evil is reduced to 4 per cent. Through the month of January, 1791, the course was  $25\frac{1}{2}$ ; this was 15 per cent. disadvantage, and deducting five for the discount on assignats, the real disadvantage was ten. Thus the exchange in January, 1792, is 6 per cent. more favourable to France than in 1791; a remark, however, which must not be extended to any other case, and touches not on the internal mischiefs of a depreciated currency. It seems to shew, that the evils of their situation, so little understood by the generality of people here, are correcting themselves, relative to foreigners, through the operation of the causes I have mentioned. It is at the same time to be remarked, that while the price of corn, and other things, in which there is no competition by foreigners, rises merely on account of a scarcity, real or apprehensive; at the same time, every thing bought by foreigners, or which can be bought by them, has risen greatly; for instance, the cloth of Abbeville, a French commodity, has risen from 30 livres to 40 livres the auln; and copper, a foreign commodity, has increased, it is asserted in the petition of the Norman manufacturers to the national assembly, 70 per cent. Such a fabric may suffer: but if their pins sell proportionably with other things, the evil, it must be admitted, tends to correct itself.

*Finances....* The prominent feature is the immensity of the debt, which increases every hour. That which bears interest may be about 5,000,000,000 liv. and assignats, or the debt not bearing interest, may be grossly estimated at 1,500,000,000 liv. in all 6,500,000,000 liv. or 284,375,000l. sterling, a debt of such enormity, that nothing but the most regular, and well paid revenue, could enable the kingdom to support it. The

annual deficit may be reckoned about 250,000,000 liv. at present, but improveable by a better collection of the revenue.

The following is the account for the month of February 1790 :

Recette,	-	-	-	-	-	20,000,000
Depenses extraordinaire de 1792,	-	-	-	-	-	12,000,000
Id. pour 1791,	-	-	-	-	-	2,000,000
Advances au de part de Paris,	-	-	-	-	-	1,000,000
Deficit,	-	-	-	-	-	43,000,000
						<hr/> 58,000,000 <hr/>

I am afraid that any attempt to support such infinite burthens must continue to deluge the kingdom with paper, till, like congress dollars in America, circulation ceases altogether. There seems to be no remedy but a bankruptcy, which is the best, easiest, and most beneficial measure to the nation, that can be embraced ; it is also the most just and the most honourable ; all shifting expedients are, in fact, more mischievous to the people, and yet leave government as deeply involved as if no recourse had been made to them. If the milice bourgeoise of Paris is so interested in the funds as to render this too dangerous, there does not appear to be any other rule of conduct than one great and last appeal to the nation, declaring that they must either destroy public credit, or be destroyed by it. If the national assembly have not virtue and courage enough thus to extricate France, she must at all events remain, however free, in a state of political debility.

The impossibility of levying the œconomistes land-tax, is found in France to be as great in practice as the principles of it were absurd in theory. I am informed (Feb. 1792) that the confusion arising from this cause, in almost every part of the kingdom, is great.\* The tax of 300 millions, laid on the rental of France, would not be more than 2s. 6d. in the pound ; too great a burthen on just political principles, but not a very oppressive one, had it been once fairly assessed, and never afterwards varied. But, by pursuing the jargon of the produit net, and making it variable, instead of fixed, every species of inconvenience and uncertainty has arisen. The assembly divided the total among the departments ; the departments the quotas among the districts ; the districts among the municipalities ; and the municipalities assembled for the assessment of individuals : the same decree that fixed the tax at 300 millions, limited it also not to exceed one-fifth of the produit net ; every man had therefore a power to reject any assessment that exceeded that proportion ; the consequence was, the total assigned to the municipalities was scarcely any where to be found, but upon large farms, let at a money-rent in the north of France ; among the small proprietors of a few acres, which spread over so large a part of the kingdom, they all screened themselves under definitions, of what the produit net meant ; and the result was, that the month of December, which ought to have produced 40 millions, really produced but 14. So practicable has this visionary nonsense of the produit net proved, under the dispensations of a mere democracy, though acting nominally† by representatives. The fact has been, that this ill conceived and ill laid land-

\* The inequalities and the numerous injustices which have slipped into the valuations of landed property, excite a general discontent against the new system of taxation. Speech of the President of the Dist. of Tonnerre at the bar.

† Whether nominally, or really, is not of consequence, if effective qualifications of property be not at every step the guard, as in the American constitution.

tax, which, under a different management, and under the orderly government of the settled part of America, might have been effectively productive, has been so contrived, that it never will, and never can produce what it was estimated at in France. The people without property have a direct interest in seconding the refusals of others to pay, that are in the lowest classes of property, and who can really ill afford it; one great objection to all land-taxes, where possessions are much divided. With power in such hands, the refusal is effective, and the national treasury is empty. But supposing such enormous difficulties overcome, and these little properties valued and taxed on some practicable plan, from that moment there must be a new valuation every year; for, if one has wealth enough to improve beyond the capacity of the rest, they immediately shift a proportion of their tax on him; and this has accordingly happened, early as it is in the day, and indeed is inherent in the nature of the tax as promulgated by the assembly.\* Thus annual assessments, annual confusion, annual quarrels and heart-burnings, and annual oppression, must be the consequence; and all this, because a plain, simple, and practicable mode of assessment was not laid down by the legislature itself, instead of leaving it to be debated and fought through 500 legislatures, on the plan, purely ideal and theoretical, of the œconomistes!

*Police of Corn....* The national assembly has been of late repeatedly employed in receiving complaints from various departments, relative to the scarcity and high price of corn, and debates on it arise, and votes pass, which are printed to satisfy the people that all precautions are taken to prevent exportation. Such a conduct shews, that they tread in the steps of Mons. Necker, and that they consequently may expect, with a crop but slightly deficient, to see a famine. In the Gazettee Nationale, of March 6, 1792, I read, in the Journal of the Assembly, *Inquietudes—précautions prises—commissaires envoyés—veiller à la subsistance du peuple—fonds pour acheter des grains chez l'étranger—dix millions—&c.* Now this is precisely the blind and infatuated conduct of M. Necker. If these steps are necessary to be taken (which is impossible) why talk of and print them? Why alarm the people by showing yourselves alarmed? Forty-five millions loss, in the hands of M. Necker, purchased not three day's corn for France; ten millions will not purchase one day's consumption! but the report and parade of it will do more mischief than the loss of five times the quantity: without being in France, I am clear, and can rely enough upon principles to know, that these measures will raise, not sink the price. One of the many instances in legislation, that proves the immense difference (regarding the cases of France and the United States) between a representation of mere population and one of property! M—— pour prevenir les inquietudes qui pourroient arriver l'année prochaine et les suivantes, l'assemblée doit s'occuper dès ce moment d'un plan général sur les substances. There is but one plan, ABSOLUTE FREEDOM; and you will shew, by accepting or rejecting it, what class of the people it is that you represent. Proclaim a free trade, and from that moment ordain that an inkstand be crammed instantly into the throat of the first member that pronounces the word corn.

*Prohibition of the Export of the Raw Materials of Manufactures....* The last information I have had from France is a confirmation of the intelligence our newspapers gave, that the national assembly had ordered a decree to be prepared for this prohibition. It seems that the master manufacturers of various towns, taking the advantage of the great decline of the national fabrics, made heavy complaints to the national assembly; and,

\* " Aussitôt que les opérations préliminaires seront terminées les officiers municipaux et les commissaires adjoints seront, en leur ame et conscience l'évaluation du revenue net des différentes propriétés foncières de la communante section par section." Journal des Etats Gen. tom. xvi. p. 510.

among other means of redress, demanded a prohibition of the export of cotton, silk, wool, leather, and, in general, of all raw materials. It was strenuously opposed by a few men, better acquainted than the common mass with political principles, but in vain; and orders were given to prepare the decree, which I am assured will pass. As I have in various papers in the "Annals of Agriculture" entered much at large into this question, I shall only mention a few circumstances here, to convince France, if possible, of the mischievous and most pernicious tendency of such a system, which will be attended with events little thought of at present in that kingdom. As it is idle to have recourse to reasoning when facts are at hand, it is only necessary to describe the effect of a similar prohibition in the case of wool in England: 1st. The price is sunk by it 50 per cent. below that of all the countries around us, which, as is proved by documents unquestionable amounts to a land-tax of between three and four millions sterling; being so much taken from land and given to manufactures. 2d. Not to make them flourish; for a second curious fact is, that of all the great fabrics of England that of wool is least prosperous, and has been regularly most complaining, of which the proofs are before the public; the policy therefore has failed; and because it fails in England, it is going to be adopted in France. The home monopoly of wool gives to the manufacturers so great a profit, that they are not solicitous about any extension of their trade beyond the home product; and to this it is owing that no foreign wool, Spanish alone excepted (which is not produced here) is imported into England. The same thing will happen in France; the home-price will fall; the landed interest will be robbed; and the manufacturer tasting the sweets of monopoly, will no longer import as before; and the fabric at large will receive no increase; and all the effect will be, to give the master manufacturer a great profit on a small trade: he will gain, but the nation will lose. 3d. The most flourishing manufacture of England is that of cotton, of which the manufacturer is so far from having a monopoly, that  $\frac{1}{3}$ ths of the material are imported under a duty, and our own exportable duty free. The next (possibly the first) is that of hardware; English iron is exported duty free, and the import of foreign pays 2l. 16s. 2d. a ton; English coals exported in vast quantities. Glass exhibits the same spectacle; English kelp exportable duty free, and 16s. 6d. a ton on foreign; raw silk pays 3s. a lb. on import; export of British hemp and flax undressed is free, foreign pays a duty on import; British rags, for making paper, exportable duty free; unwrought tin, lead, and copper all exportable either free, or under a slight duty. The immense progress made by these manufactures, particularly hardware, cotton, glass, flax, and earthen-ware, another in which no monopoly of material can exist, is known to all Europe; they are among the greatest fabrics in the world, and have risen rapidly; but note (for it merits the attention of France) that wool has experienced no such rise.\* Our policy in wool stands on fact, therefore convicted of rottenness; and this is precisely the policy which the new government of France copies, and extends to every raw material! 4th. The free trade in raw materials is necessary, like the free trade in corn, not to send those materials abroad, but to secure their production at home; and lowering the price, by giving a monopoly to the buyer, is not the way to encourage farmers to produce. 5th. France imports silk and wool to the amount of 50 or 60 millions a year, and exports none, or next to none; why prohibit an export, which in settled times does not take place? At the present moment, the export either takes place, or it does not take place; if the latter, why prohibit a trade which has no existence? If it does not take place, it proves that the manufac-

\* Exports 1757, 4,758,095l. In 1767, 4,277,462l. In 1777, 3,743,537l. In 1787, 3,687,795l. See this subject fully examined, Annals of Agriculture, vol. x. p. 235.

turers cannot buy it as heretofore : is that a reason why the farmers should not produce it. Your manufacturers cannot buy, and you will not let foreigners ; what is that but telling your husbandmen that they shall not produce? Why then do the manufacturers ask this favour? They are cunning, they very well know why : they have the same view as their brethren in England, solely that of *SINKING THE PRICE*, and thereby putting money in their own pockets, at the expence of the landed interest! 6th. All the towns of France contain but six millions of people ; the manufacturing towns not two millions : why are twenty millions in the country to be cheated out of their property, in order to favour one-tenth of that number in towns? 7th. In various passages of these travels, I have shewn the wretched state of French agriculture, for want of more sheep ; the new system is a curious way to effect an increase, by lowering the profit of keeping them. 8th. The French manufacturers, under the old system of freedom, bought raw materials from other nations, to the amount of several millions, besides working up all the produce of France ; if sinking the price be not their object, what is. Can they desire to do more than this? If under their new government their fabrics do not flourish as under the old one, is that a reason for prohibition and restriction, for robbery and plunder of the landed interest, to make good their own losses? And if such a demand is good logic in a manufacturer's counting-house, is that a reason for its being received in a NATIONAL ASSEMBLY!!

One of the most curious inquiries that can be made by a traveller, is to endeavour to ascertain how much per cent. a capital invested in land, and in farming-stock, will return for cultivation in different countries ; no person, according to my knowledge, has attempted to explain this very important but difficult problem. The price of land, the interest of money, the wages of labour, the rates of all sorts of products, and the amount of taxes, must be calculated with some degree of precision, in order to analyse this combination. I have for many years attempted to gain information on this curious point, concerning various countries. If a man in England buys land rented at 12s. an acre, at thirty years purchase, and cultivates it himself, making five rents, he will not make more than from  $4\frac{1}{2}$  to 5 per cent. and at most 6, speaking of general culture, and not estimating singular spots or circumstances, and including the capital invested in both land and stock. I learn, from the correspondence of the best farmer, and the greatest character the new world has produced, certain circumstances, which enable me to assert with confidence, that money invested on the same principles, in the middle states of North America, will yield considerably more than double the return in England, and in many instances the treble of it. To compare France with these two cases, is very difficult : had the national assembly done for the agriculture of the kingdom what France had a right to expect from *FREEDOM*, the account would have been advantageous. For buying at 30 years purchase, stocking the same as in England, and reckoning products 6 per cent. lower in price (about the fact) the total capital would have paid from  $5\frac{1}{2}$  to  $6\frac{1}{2}$  per cent.; land-tax reckoned at 3s. in the pound, which is the proportion of the total tax to the rental of the kingdom.\* It is true, that the course of exchange would make

\* But this land-tax is variable, and therefore impossible to estimate accurately ; if you remain no better farmers than your French neighbours, it is so much ; but if you improve, you are raised, and they are sunk ; all that has, and can be said against tythes, bears with equal force against such a tax. And though this imposition cannot go by the present law beyond 4s. in the pound, it would be very easy to shew, by a plain calculation, that 4s. in the pound, rising with improvement, is a tax impossible to be borne by one who improves ; and consequently, that is a direct tax on improvement ; and it is a tax in the very worst form, since the power to lay it and enforce it, is not in the government of the kingdom, but in the municipal government of the parish. Your neighbour, with whom you may be on ill terms, has the power to tax you ; no such private heart-burnings and tyranny are found in excises.

an enormous difference, for when exchange is at 15, this ratio per cent. instead of  $5\frac{1}{2}$  becomes 11, if the capital is remitted from Britain: but as that immense loss (50 per cent.) on the exchange of France arises from the political state of the kingdom, the same circumstances which cause it would be estimated at so much hazard and danger. But bring to account the operations of the national assembly, relating to the non-inclosure of commons; the land-tax, variable with improvements (an article sufficient to stifle the thoughts of such a thing;) the export of corn at an end; the transport every where impeded; and your granaries burnt and plundered at the pleasure of the populace, if they do not like the price; and, above all, the prohibition of the export of all materials of manufactures, as wool, &c. and it is sufficiently clear, that America offers a vastly more eligible field for the investment of capital in land than France does; a proof that the measures of the national assembly have been ill-judged, ill-advised, and unpolitical: I had serious thoughts of settling in that kingdom, in order to farm there; but the two measures adopted, of a variable land-tax, and a prohibition of the export of wool, damped my hopes, ardent as they were, that I might have breathed that fine climate, free from the extortions of a government, stupid in this respect as that of England. It is however plain enough that America is the only country that affords an adequate profit, and in which a man who calculates with intelligence and precision can think of investing his capital. How different would this have been, had the national assembly conducted themselves on principles directly contrary; had they avoided all land-taxes;\* had they preserved the free corn-trade, a trade of import more than of export; had they been silent upon inclosures; and done nothing in relation to raw materials, the profit of investments would have been higher in France than in America, or any country in the world, and immense capitals would have flowed into the kingdom from every part of Europe; scarcity and famine would not have been heard of, and the national wealth would have been equal to all the exigencies of the period.

#### CHAP. XXII....VINES.

THE number of notes I took, in most of the provinces of the kingdom, relative to the culture of vineyards, was not inconsiderable; but the difficulty of reducing the infinite variety of French measures, of land and liquids, to a common standard, added to an unavoidable uncertainty in the information itself, renders this the most perplexing inquiry that can be conceived. It was an object to ascertain the value given to the soil by this culture; the amount of the annual produce; and the degree of profit attending it; inquiries not undeserving the attention even of politicians, as the chief interests of a country depend, in some measure, on such points being well understood. Now there is scarcely any product so variable as that of wine. Corn lands and meadow have their bad

\* To have avoided land-taxes, might very easily have been made a most popular measure, in a kingdom so divided into little properties as France is. No tax is so heavy upon a small proprietor; and the œconomistes might have foreseen what has happened, that such little democratic owners would not pay the tax; but taxes on consumption, laid as in England, and not in the infamous methods of the old government of France, would have been paid by them in a light proportion, without knowing it; but the œconomistes, to be consistent with their old pernicious doctrines, took every step to make all except land-taxes unpopular; and the people were ignorant enough to be deceived into the opinion, that it was better to pay a tax on the bread put into their children's mouths, and what is worse, on the land which ought, but does not produce that bread, than to pay an excise on tobacco and salt; better to pay a tax which is demanded equally, whether they have or have not the money to pay it, than a duty which, mingled with the price of a luxury, is paid in the easiest mode, and at the most convenient moment. In the writings of the œconomistes, you hear of a free corn-trade, and free export of every thing, being the recompence for a land-tax; but see their actions in power....they impose the burthen, and forget the recompence!

and their good years, but they always yield something, and the average produce is rarely far removed from that of any particular year. With vines the difference is enormous; this year they yield nothing; in another, perhaps casks are wanted to contain the exuberant produce of the vintage; now the price is extravagantly high; and again so low, as to menace with poverty all who are concerned in it. Under such variations, the ideas even of proprietors, who live by the culture, are not often correct, in relation to the medium of any circumstance: nor is it always easy to bring individuals to regard rather the average of a district, than the particular one of their own fields. In many cases, it is more satisfactory to rely on particular experience, when it appears tolerably exact, than to demand ideas, so often vague, of what is not immediately within the practice of the man who speaks. These difficulties have occurred so often, and in so many shapes, that the reader can hardly imagine the labour which it repeatedly cost me to gain that approximation to accuracy, which I was fortunate enough sometimes to attain. But, after all the inquiries I have made, with attention and industry, I do not presume to insert here an abstract of my notes as intelligence that can be entirely relied on: I am satisfied, that it is impossible to procure such, without application, time, and exertions, which are not at the command of many travellers. Contenting myself, therefore, with the probability of being free from gross errors, and with the hope of giving some information on the subject, not to be found in other books, I venture to submit the following extract to the public eye, though it be a result inadequate to the labour, variety, and expected success of my inquiries. It is necessary farther to premise, that the reader must not contrast the circumstance of one place with those of another, under the idea that a considerable difference is any proof of error in the account. The price of an arpent is sometimes out of proportion to the produce; and the profit at other times unaccounted for by either: this depends on demand, competition, the division of properties, the higher or lower ratio of expence, and on various other circumstances, which, to explain fully in each article, would be to enlarge this single chapter into a volume; I touch on it here, merely to guard against conclusions, which are to be made with caution. The towns named in the following table, are the places where I procured intelligence. None are inserted in which I did not make the inquiry as I was at every place mentioned in the margin.

The rents of vines are named but at few places; for they are very rarely in any other hands than those of the proprietor; even where rent is named, there is not one acre in an hundred let.

The price of the product is every where that of the same autumn as the vintage: those who can afford to keep their wine have much greater profits; but as that is a species of merchandise as much in the power of a dealer as a planter, it ought not to be the guide in such accounts as these.

*ISLE OF FRANCE....Arpajon....*Rent of some to 80 livres; in common 25 livres. Expences in labour, exclusive of vintage, 60 livres (2l. 10s. 9d. per English acre.) Produce, 6 pieces, of 80 pints, each 1½ bottle.

*Estampes....*Measure 80 perch, of 22 feet. Produce, 10 to 22 pieces. Rent to 90 livres. Labour, 60 livres (2l. 13s. 9d. per English acre) vintage excluded.

*Orleans....*Price in the town, 150 livres the piece, of 240 bottles, and retail 6 to 10s. the pint, of 1½ bottle. Rent 45 livres. Labour, 40 livres, vintage excluded (1l. 13s. 9d. per English acre.) Arpent of 40,000 feet.

*S. of ditto....*Measure 100 perch, of 20 feet. Produce, 7 pieces, and in a good year 12. Rent, 36 livres. Labour, 40 livres (1l. 13s. 10d. per English acre.)

SOLOGNE....*Verson*....Rent in common, 35 to 50 livres, of the best 60 livres the seterec. Produce, ten to twelve pieces, and to twenty-two. Account here.

Rent, - - -	60 livres.	Produce, 11 pieces, at 20 liv.	220 liv.
Tailles, about - -	12	Expences, - - -	156
Vingticenne, - -	5		
Labour, - - -	40	Profit, - - -	64
Props, - - -	6 10s.		
Vintage, - - -	33		
	<hr/>		
	156 10	Price, 220 liv. (9l. 6s. 4d. per English	acrc.)
	<hr/>		

They renew some of the vines every year, by laying down shoots, called generally provins, but here fausses, five hundred per annum, at 50s. the hundred. They manure to the amount of thirteen small cart loads, not reckoned in the above account. Twenty people necessary for gathering an arpent, at 12s. a day, and food. Vines are sometimes much damaged by frosts in the spring.

BERRY....*Vatan*....No props; give four hoeings. Fausse 1 livre 15s. the hundred. Rarely let. Produce, three pieces per seterec, some six or eight; price now 24 livres. Rent, 60 livres. Produce, 168 livres (6l. 13s. 10d. per English acre.) To plant a seterec, for setting only, 45 livres to 48 livres; for two years produces nothing; the third a little. All agree it is the most profitable husbandry, if one be not obliged to sell in the vintage, for want of capital to keep the wine.

*Chateauroux*....Very few let. Earth them four times. Produce, 3 poincons, or pieces, a seterec. Rent, 60 livres.

*Argenton*....Produce five or six pieces the seterec, each piece 160 bottles. Planted about two feet six inches square. Use props of quartered oak.

QUECY....*Brive*....A journal one-fourth of a seterec, 0.4132 (Paucton.) In a good year produce two muids, of two hundred and forty-two pints of two bottles, but not general. Price, 3 to 6s. the pint. Labour, 15 livres, vintage excluded.

*Pont de Rodez*....The plants at four feet square; very old and large. Every where quite clean, and in fine order, worked four times. Price, 6 livres for ninety-six Paris pints. Cartona about half an acre.

*Pellecoy*....Pass vineyards, of which there are many so steep, that it is strange, how men can stand at their work. One-third of the country under vines, which are planted on absolute rocks, but calcareous.

*Cahors*....Nineteen-twentieths under vines; in regular rows, at four feet; many more than two hundred years old. The true vin de Cahors which has a great reputation, is the product of a range of rocky vineyards, that are upon hills hanging to the south, and is called grave wine, because of the stony soil. Much subject to storms of hail. Measure the seterec, not quite an arpent. Produce, four barriques, each two hundred and ten common bottles. Price, 50 livres; sometimes at 20 or 30 livres; and if two or three plentiful years together, the price of the wine does not exceed the cask; last year 12 livres; 50 livres the barrique, is 3 livres the dozen. Price, 800 livres, the measure (33l. 18s. 1d. per English acre;) some at 150 livres (6l. 6s. 10d.) also at 300 livres (12l. 13s. 8d.) Labour, exclusive of vintage, 30 livres (1l. 5s. 4d.) Their wines all bear the sea well. The inhabitants and proprietors have little to do in the wine trade; dealers buy up for the merchants at Bourdeaux, who mix these wines



with their own thin bodied ones, and sell them for claret to the English, Dutch, &c. They make much brandy; five barriques make one of brandy. I drank this wine of three and ten years old; the latter 30s. the bottle, and both excellent. I imported a barrique, three years old, at 100 livres prime costs and charges; and it cost me into my cellar in Suffolk 15l. more, in freight, duty, carriage, and charges of all sorts. Mons. Andoury, aubergiste at the Trois Rois, with whom I settled a correspondence, might send me good wine; but not putting it into a double barrel, which he promised, it came to me much too weak; for the vin de Cahors is full bodied as port, but much better. A barrique I had also of another sort of wine, from the Chev. de Cheyron, near Leyborne; and, for want of being eased, it turned out such poor stuff, that it is hardly good enough for vinegar. Without double easing (and with it, for what I know) wines, on a private account, are tapped and filled up with water.

*Ventillac....* See them, for the first time in going south, ploughing between the rows of vines, at five feet and five and a half feet asunder.

*Noe....* Ox-hoeing the vines on a plain; each ox walks on an interval, with a row between them; and yoked with a sliding yoke, to vary the distance from ox to ox. Many young plantations of vines.

*ROUSSILLON....Pia....* Vineyards not reckoned profitable, on land that will do well for other products: a minatre (twelve hundred cannes, about forty thousand feet) from five to ten charges, each one hundred and twenty-eight bottles, or pints of Paris. Good wine, of last vintage, 6 livres to 10 livres the charge; but old at 72 livres.

*Sejean....* The charge contains sixty pots, and weighs three hundred and sixty pounds; five charges the muid, and the muid four tonneaux of Bourdeaux; price 10 livres, or 12 livres the charge; freight from Cette to Dunkirk, 50 livres 10s. the ton, and 20s. gratification; duty on export 7 livres.

*Beziers....* Vineyards planted by abbe Rozier, four feet four inches by three feet ten inches, but not regular; set in a deep fosse, and covered with flints only.

*Meze....* New vineyards planted in all parts. A seteree, in a common year, gives two muids, or four tonneaux; five hundred and seventy-six pots to the muid, or seven hundred and sixty-eight bottles, each a Paris pint. Four tonneaux of wine give one quintal of brandy, which sells, at present, at 122 livres 12s. the quintal. Produce in money 96 livres (8l. per English acre) labour exclusive; vintage 15 livres (1l. 6s. per English acre.) Examined a vineyard, planted one thousand two hundred and fifty plants per seteree; they were four feet nine inches one way, by four feet six inches the other; each plant therefore occupied  $21\frac{54}{143}$  feet square: rejecting the fraction, there would be two thousand and seventy three in an English acre: thus the seteree is something better than half an acre. They are worked twice a year by hand; the expence 15 livres the seteree: the cuttings pay the expence of taking. Taille 30s. and making the wine 20s. the muid; common price of the wine 24 livres the tonneaux.

*Pijan....* Produce  $1\frac{1}{2}$  muid per seteree, at 50 livres six hundred and forty bottles, or 2s. the bottle. Within two leagues, Frontignan, so famous for its muscat wines, a seteree of land has there yielded 300 livres, and half as much in a common year. Montbasin is also noted for its muscats, which sells as dear as those of Frontignan: three barriques make one muid, or six hundred and forty bottles: price in a common year, embarked at Cette, 300 livres: the red wine of Montbasin, 100 livres the three barriques.

*To Nimes....* Several thousand acres of vines on a level plain.

*Nîmes*....For several leagues around, the vineyards yield from one muid to six per saumee; three, on an average; and the mean price 60 livres: measure, one thousand seven hundred and fifteen eannes in a saumee, or sixty-one thousand seven hundred and forty feet.

*Plaisance*....An arpent of wheat, one year with another, yields more than an arpent of vines; but an arpent of vines sell for near double one of arable.

*Auch to Pleuran*....Many vines. Price, 500 livres (21l. 17s. 6d. per English acre.)

*Leitour*....Ditto on the stony hills. Measure a sack, that land sown with a sack of one hundred and forty-five pound wheat. Price 400 livres (17l. 10s. per English acre.)

*La Morte*....*Landron*....Vines on the hills. Measure the journal, and further ditto in the rich vale on the Garonne: props of willow. Price, 1000 livres (50l. per English acre.)

*Langon*....Yellow wine famous. Measure, arpent. Produce, five or six barriques. Price, 1000 livres the arpent (50l. per English acre.) Produce, 300 livres (15l. per English acre.)

*Barsac*....Sell at 5s. or 6s. the pas of two feet six inches; ninety pas the auln; and price 100 livres. Four rows of vines, or four aulns, make the breadth, and ninety pas long; are dressed four times a year, for 3 livres: forty-five rows a journal; but sell the space planted at one price, and the interval at another. The vines 20 livres to 22 livres the auln; the spaces between at 3 livres. Ninety by  $2\frac{1}{2}$ , or one hundred and eighty feet multiplied by  $2\frac{1}{2}$ , for the breadth four hundred and fifty, and by forty-five, the number of rows, gives twenty thousand two hundred and fifty square feet for a journal: forty-five rows, at 22 livres, are 990 livres; but forty-five by three, the price of the interval, 135 livres, average 562 livres, on the supposition of half vine, have intervals. Hills that hang to the Garonne, on the N. side, an immense range of vines.

*Castres*....In a journal, the half only planted as above, will give, in a good year, four tonneaux, average  $1\frac{1}{2}$ . Two years ago, 35 livres the tonneaux; this year, 60 livres to 70 livres: at 40 livres it is 90 livres per journal. Casks from the N. of Europe, much inferior to French ones, because the staves are larger and thicker; price of them, 240 livres the dozen. Journal of Bourdeaux, to arpent de France, as 062.8 to 1.

*Bourdeaux to Cobsac*....This country, part palus and part high: produce, five to six barriques on the latter, and  $2\frac{1}{3}$  to three tonneaux on the other: 1200 livres (61l. 8s. 6d. per English acre) a common price; but some journals rise to 3000 livres (153l. 11s. 3d. per English acre) and even to 4000 livres (191l. 19s. 3d.)

*To Cavignac*....Produce wine five to six barriques the journal: make much brandy; five or six for one; two hundred and twenty bottles are sold at 120 livres; their white wine for export is now at 150 livres the tonneaux. The fogs and rain this year, when the vines were in blossom, damaged them so much that the crop will be very poor; which they are not sorry for, since another great vintage or two would have ruined them, by the low price which is the consequence. They have a fabric of tartar.

ANGOUMOIS....*To Petignac*....*Roulet*....The journal of two hundred last each, twelve feet square, gives  $1\frac{1}{2}$  tonneaux; on good land, four to six barriques the journal of two hundred carreaux of twelve feet square, twenty-eight thousand eight hundred feet; an arpent  $1\frac{1}{2}$ ; on worse land  $1\frac{1}{2}$  to three. A journal of wine not equal to the value of one of wheat: make much very fine brandy.

*To Angouleme....* A journal, vines and arable land, of an equal price; 200 livres common (10l. per English acre) produce 40 livres (2l. per English acre.) An immense range of vines: produce, three to four barriques; common price, 10 livres: make a great deal of good brandy, which sells now at 150 livres the barrique, but has been at 60 livres; best vineyard 300 livres to 400 livres.

*Verteuil....* Price 10 livres to 15 livres the barrique: proportion of brandy varies from four to nine of wine for one; in general six for one.

*Cadec....* Give two, three, and four barriques per journal.

*ΡΟΙΤΟΥ.... Chateaurault to Les Ormes....* Poor hills, with vines, sell equally with their best vale lands. Measure the boifelee.

*TOURAINÉ.... Tours....* Produce, five to thirty picces per arpent; average ten; and mean price 15 livres (150 livres is 4l. 0s. 3d. per English acre): measure one hundred chaine of twenty-five feet, 62,500 feet.

*Amboise....* An arpent eight pieces, at 4 livres, 192 livres (5l. 12s. per English acre:) meadows a better estate and sell higher: the vines are 1500 livres (43l. 15s. per English acre.)

*Blois to Chambord....* Almost all the country vines, and many new plantations, on a blowing sand; two thousand acres under the eye at once. Arpent 1600 toises: produce twelve poincons, and, in good years, to thirty-six, each two hundred and forty bottles; mostly made into brandy; in one village, last winter, they made three thousand poincons: in some years three of wine make one: an arpent requires seven thousand two hundred props, which last about eight years; the price 18 livres to 20 livres the thousand.

*Chambord....* Same measure: average produce twelve pieces.

*To Petiviers....* Produce, twelve pieces on good land, at 36 livres now; but average ten, at 24 livres, or 240 livres (8l. 1s. per English acre.) Measure one hundred perch at twenty-two feet: price 1000 livres (35l. per English acre.)

*Petiviers....* Price of an arpent 700 livres (24l. 10s. per English acre:) produce, four to twenty pieces: average ten: price now 50 livres; but average 24 livres, or 240 livres (8l. 8s. per English acre:) labour, exclusive of vintage, 30 livres.

*ISLE OF FRANCE.... La Chapelle la Reine....* Produce, ten pieces, at 20 livres, 200 livres (7l. per English acre:) labour, exclusive of vintage, 30 livres: measure, one hundred perches, twenty-two feet: price 600 livres (21l. per English acre.)

*Liancourt....* A bad arpent 300 livres; a good 600 livres (450 livres is 15l. 13s. 3d. per English acre:) the measure one hundred perches at twenty-two feet. Produce, three muids, at 60 livres, 180 livres (6l. 6s. per English acre) the muid of three hundred and sixty Paris bottles; yet bad, and not drunk by gentlemen. Props last five or six years, 10 livres the thousand; to keep an arpent in order, two thousand every year.

*BRETAGNE.... Auvergnac....* A scattering of them from Guerande hither, and no where else N. except a few on the coast at Piriac and St. Gildas. Measure the journal of 1280 toises. Price, 800 liv. (29l. 3s. 10d. per English acre.) Produce, 6 to 8 barriques, each 240 pints of Paris. Common price 15 liv. to 20 liv. This for a good year. They reckon that if they have no crop they lose 60 liv. per journal.

*Nantes to Ancenis....* Produce, six barriques, now 25 liv. All promiscuous and no props.

*Ancenis....* Boifelee, the fifth of an arpent de Paris; sells, per arpent, at 750 livres. Produce in a common year,  $1\frac{1}{2}$  barrique, or  $7\frac{1}{2}$  per arpent: and common price 22 liv. 165 liv. (8l. 8s. 10d. per English acre:) sometimes let, at three-fourths and one-half produce, to metayers. Labour, 6. liv. the boifelec, and 6 liv. the vintage; in all,

60 liv. the arpent. Great region of vine along the river; they extend not far from it: dung very little; many not once in fifteen years.

*Varades....* Meadows sell at double the price of vineyards, yet these 600 liv. (30l. 14s. 3d. per English acre.)

*ANJOU....St. George....Boiflee*,  $\frac{1}{4}$  of an arpent, or 10,000 feet. An arpent, 40,000 feet, of the worst vines sells at 200 liv.; best 500 liv. (350 liv. is 14l. 9s. 7d. per English acre.) Produce  $1\frac{1}{2}$  to 5 barriques.

*Angers....* On the Loire, vineyards are various; some produce very little of the best wine; and others, by manuring, much of an inferior quality. Four barriques of good wine, on an arpent of 100 cords of 25 feet, or 62,500, is a common produce, but not a medium. The price, in a plentiful year, 35 liv.; and in one of scarcity, 50 liv. the barrique: This year it is 25 liv. but the wine bad, the grapes not being ripe. Four barriques, at 40 liv. make 160 liv. Expences—labour in digging, 24 liv.; vintage, 3 liv. the barrique, or 12 liv. the arpent; casks, at 5 liv. 20 liv.; tythe  $\frac{1}{3}$ th; besides taxes. The assertion general, that vines are the worst of all estates. Why? Because, for one year in five or six, they yield nothing; and sometimes little for two or three years together. But admitted at the same time, that if a man has money to enable him to keep his wine, two good years pay more than the fee simple. An arpent of the best vines on the Loire sells from 3000 to 4000 liv. Now, to gain from hence some facts by combination, call this 3500 liv. and that it pays only 5 per cent. it is 175 liv.; labour 36 liv.; casks 25 liv.; and here is 236 liv. without a penny for the king, or any profit to the proprietor: at 5 barriques, this makes 47 liv. each; a sure proof, either that the produce must be more than 5 barriques; or that the price must be more than 47 liv. probably 9, at 40 liv. (360 liv. is 9l. 14s. 4d. per English acre) for a mean arpent, at 1750 liv. (47l. 5s. 3d. per English acre.)

*Duretelle....* Vines sell higher than arable, and meadow higher than vines.

*La Roche Guyon....* Vines the worst estate in the hands of poor proprietors only. Account of an arpent of Paris. Price 1200 liv. (61l. 8s. 4d. per English acre.)

Rent; the interest of the price, at 4 per cent.	48	} 68 liv. (3l. 9s. 2d. English acre)	Produce, 6 muids, at 50 liv.	-	-	300	
Labour,	60		} 8	(15l. 7s. 1d. English acre.)	-	-	
Vintage,	40			Expences,	-	-	-
Manure,	-			Profit,	-	-	73
Six casks,	36						
Props,	30						
Taille,	5						
	<hr/> 227						

The muid 240 pints de Paris.

An extraordinary good year is 10 muids; a middling one six; and a bad one three. As to no produce at all, or so little as one, no such thing is known, not even in forty years. But query, hail?

In 1785, the crop was 12 muids, at 27 liv.	324 liv.
1786,	5      70      350
1787,	3      90      270
1788,	$4\frac{1}{2}$ 75      337

The labour consists in carrying of dung, pruning, trimming, four diggings, staking, tying, budding, &c.

How this husbandry can be esteemed unprofitable, as it is generally in France, surpasses my comprehension; in the hands of a man without a sufficient capital, it certainly is so; but thus also is that of wheat and barley.

*Neuf Moutier*...In one of the richest districts in France, vines on the slopes sell at 2000 liv. to 2500 liv. (2250 liv. is 78l. 13s. 3d. per English acre) the arpent of 100 perches of 22 feet; where the rich vales let at 40 liv. to 60 liv.; and land of 40 liv. sells not higher than 1500 liv. or 1600 liv.

CHAMPAGNE....*Epernay, &c.*...Two-thirds of all the country around, about Ay, Cuniere, Piery, Disy, Hautvilliers, &c. &c. under vines; and here all the famous Champagne wines are made. The country producing the fine white wine is all contained in the space of five leagues: and three or four more include Avise, Aunge, Lumenée, Crammont, &c. where they make the white wine, with white grapes only. At Ay, Piery, and Epernay, the white wine is all made with black grapes. La Montagne de Rheims, Bouze, Versce, Verznec, Tease, Airy, and Cuniere, for the bon rogue de la Marné. At Airy the first quality of the white also made. With the black grape they make either red or white wine, but with the white only white wine.

The price of land is very high; at Piery 2000 liv.; at Ay 3000 liv. to 6000 liv.; at Hautvilliers 4000 liv. The worst in the country sells at 800 liv. (3000 liv. is 105l. 9s. per English acre; 6000 liv. is 210l. 18s.)

The produce, as may be supposed, varies much; at Ay, two to six pieces, and four the average; at Reuil and Vanteuil, to twenty pieces; at Hautvilliers, a convent of Benedictines, near Epernay, eighty arpents that yield two to four; and the price varies equally: at Ay, the average is two, at 200 liv.; one at 150 liv.; and one at 50 liv. By another account, 200 liv. to 800 liv. the queue, of two pieces; average 400 liv. the queue. At Reuil and Vanteuil it is 60 liv. to 100 liv. The vines of Villiers 700 liv. to 900 liv. the queue. Red wine is 150 liv. to 300 liv. Account of a considerable vineyard, an average one, given me at Epernay:

	FOR AN ARPENT.	liv.	Per English Acre.
Interest of purchase, 3000 liv.	- - - - -	150	£.6 11 3
Labour, - - - - -	- - - - -	55	2 8 1½
Renewal (provins) ditto, - - - - -	- - - - -	24	1 1 0
Tying, - - - - -	- - - - -	8	0 7 0
Props, - - - - -	- - - - -	30	1 6 3
Manure, 1 part dung to 14 earth, - - - - -	- - - - -	20	0 17 6
Vintage, 12 liv. a piece, - - - - -	- - - - -	48	2 2 0
Casks, - - - - -	- - - - -	15	0 13 1½
Taxes....taille, vingtieme, and capitation, - - - - -	- - - - -	9	0 7 10½
Aides, 15 the queue, - - - - -	- - - - -	30	1 6 3
Cellar, vaults, press, reservoirs, tubs, &c. and building to hold them, - - - - -	- - - - -	20	0 17 6
8000 liv. for 20 arpents, or 400 liv. per arpent, the interest,		409	17 17 10½
Product....Two pieces, at 200 liv. - - - - -	- - - - -	400	17 10 0
One ditto, - - - - -	- - - - -	150	6 11 3
One ditto, - - - - -	- - - - -	50	2 3 9
		600	26 5 0
Expences, - - - - -	- - - - -	409	17 17 10½
Profit, - - - - -	- - - - -	191	8 7 1½

Which, with the interest charged, makes 10 per cent. on 3000 liv. land, and 400 liv. buildings; the general computation, and which seems admitted in the country. Sixty women are necessary to gather the grapes for four pieces, by reason of the attention paid in the choice of the bunches; a circumstance to which much of the fine flavour of the wine is owing, as well as to singularity of soil and climate; the former of which is all strongly calcareous, even to being white with the chalk in it. A fine lengthened slope of a chalk hill, hanging to the south, between Disy and Ay, which I examined, is entirely covered with vines, from top to bottom, and is the most celebrated in the province. It is indeed rather a marl than a chalk; in some places white, in others much browner, and may properly be called a calcareous loam on a chalk bottom. This marl is in some places very deep, and in others shallow. I was shewn pieces worth 6000 liv. the arpent, and others worth 3000 liv. but the difference of soil was not perceptible; nor do I credit that this difference depends on soil: none of it approaching to pure chalk. It is impossible to discover, in the present state of knowledge and information, on what depends the extraordinary quality of the wine. The people here assert, that in a piece of not more than three arpents, in which the soil is, to all appearance, absolutely similar, the middle arpent only shall yield the best wine, and the other two that of an inferior quality: in all such cases, where there is something not easily accounted for, the popular love of the marvellous always adds exaggeration, which is probably the case here. Attention in gathering and picking the grapes, and freeing every bunch from each grape that is the least unsound, must tend greatly to insure wine of the first quality, when the difference of soil is not striking.

The vines are planted promiscuously, three or four feet, or two and a half from each other: are now about eighteen inches or two feet high, and are tied to the props with small straw bands. Many plantations are far from being clean, some full of weeds; but a great number of hands spread all over the hill, sarcling with their crooked hoe.

As to the culture, in the middle of January, they give the cutting taill: in March dig the ground: in April and May they plant the provins: in June tie and hoc the seps: in August hoe again: in October, or in good years in September, the vintage.

To plant an arpent of vines, costs in all 50 louis d'or: there are eight thousand plants on an acre: and twenty-four thousand seps and the props cost 500 livres: to keep up the stock of props 30 livres a year. It is three years before they bear any thing, and six before the wine is good. None are planted now, on the contrary, they grub up.

Very few persons have more than twenty or thirty arpents, except the marquis de Sillery, near Rheims, who has two hundred and fifty arpents. At Piery there are twenty arpents now to be sold; a new house, a good cellar, magazine, a good press, and every thing complete, for 60,000 livres: the vines a little, but not much, neglected. For this sum I could buy a noble farm in the Bourbonnois, and make more in seven years than by vines in twenty.

Those who have not a press of their own, are subject to hazards, which must necessarily turn the scale very contrary to the interests of the small proprietor. They pay 3 livres for the two first pieces, and 25s. for all the rest: but, as they must wait the owner's convenience, their wine sometimes is so damaged, that what would have been white becomes red. Steeping before pressing makes red wine.

As to pressing, to do it very quickly and powerfully, is much the better way; and they prefer turning the wheel of the press by six, seven, or eight men, rather than by a horse.

In regard to the aides, or tax, on the transfer of wine, the proprietor who sells a piece worth 200 liv. pays

Ten sols per livre,	5
Augmentation; gauge, constage, &c.	5
Octroi de la Ville and du Roi,	5
	25

The merchant, when he sells it, pays the same; and every person through whose hands it passes. The duty at the port, on exportation, is about 15 livres each piece. The cabareteer and aubergiste pays 30 or 40 livres more retail duty. The wine trade with England used to be directly from Epernay; but now the wine is sent to Calais, Boulogne, Montreuil, and Guernsey, in order to be passed into England, they suppose here by smuggling. This may explain our Champagne not being so good as formerly. Should the good genius of THE PLOUGH ever permit me to be an importer of Champagne, I would desire Mons. Quatresoux Paretclaine, merchant at Epernay, to send me some of what I drank in his fine cellars. But what a pretty supposition, that a farmer, in England, should presume to drink Champagne, even in idea! The world must be turned topsy-turvy before a bottle of it can ever be on my table. Go to the monopolizers and exporters of woollens—go to—and to—and every where—except to a friend of the plough!

The ecclesiastical tythe is a heavy burthen. At Hautvilliers the eleventh is taken for a dixme; at Piery the twentieth, or in money 4 livres 10s.; at Ay, 48s.; and at Epernay, 30s.; at Disy, 1/3; but with all this weight of tax, nothing is known or ever heard of like the enormities practised in England, of taking the actual tenth.

The idea of the poverty attending the vines is here as strong as in any other part of France: the little and poor proprietors are all in misery. The fact is obvious, that a hazardous and uncertain culture is ridiculous for a man with a weak capital. How could a Kentish labourer be a hop-planter? But no discrimination is found commonly in France, the assertion is general, that the vine provinces are the poorest; but an assertion without explanation is utterly ridiculous. To render vines profitable, it is a common observation here, that a man ought to have one-third of his property in rents, one-third in farm, and one-third in vines.

It is easy to conceive, that the most successful cultivators are those who have the largest capitals. It is thus that we hear of the exertions of merchants; men who not only have many arpents of their own vines, but buy the wine of all their little neighbours. Mons. Lasnier, at Ay, has from fifty to sixty thousand bottles of wine always in his cellar; and M. Dorse from thirty to forty thousand.

*Rheims*....Average price of an arpent 2400 livres (84l. per English acre.)

ACCOUNT.

	liv.		liv.
Interest, - - - - -	120	Produce, 3 pieces,	
Culture by contract, - - - - -	40	at 410 livres,	420
Manured every fifth year, 60 livres; and 1000 men or women's loads of earth to mix, 36 livres, - -	96	(14l. 14s. per English acre.)	
Props, 20 bundles, - - - - -	12		
	268	Carry forward,	420

Brought forward,	- - - - -	liv. 268	Brought forward,	liv. 420
Extra hoeing,	- - - - -	6		
Taxes,	- - - - -	8		
Casks,	- - - - -	18		
Vintage, at 20s. a day,	- - - - -	18		
Press, four men, at 20s. and 20s. food,	- - - - -	8		
Interest of building, cellar, magazine, press, and utensils,	- - - - -	30		
The cellar-man, 200 livres for 20 arpents, per arpent,	- - - - -	10		
		<hr/>		
		366	Loss, - - - - -	4
		<hr/>		
Labour, 64 livres (2l. 4s. 7d. per English acre) interest of which for first year,	- - - - -	18		
		<hr/>		
		384		
		<hr/>		
Droit d'aides, 7½ per cent. on value, three pieces gross, besides constage, &c. &c.	- - - - -	40		
		<hr/>		
		424		<hr/>
		<hr/>		424

But instead of loss, every one I talked with, and the gentleman himself who gave me this account, Mons. Cadot L'Aine, who has a considerable vineyard, assured me, that they pay, on an average of ten years, 7½ per cent. on the capital; this will make a difference of 75 livres, which, with the 24 livres loss in this account, is 99 livres, which must be partly deducted from these expences, and partly added to the produce. On an average, the manuring is I suspect estimated too high. The vines this year promise to yield not a piece per arpent; not by reason of frosts last winter, but of the cold being so late as last week (in July.)

The little proprietors here also are generally very poor, and many are ruined by not being able to wait for a price. The wine trade at Rheims amounts to four or five millions per annum (175,000l. to 218,700l.)

*Sillery*....The marquis has a hundred and sixty arpents under vines, and not two hundred and fifty, as I had been informed; he has cellar room for two hundred pieces; this was mentioned as an extraordinary circumstance, but it shews that he is very deficient in a power of keeping his wines: a hundred and sixty arpents, at three each, are four hundred and eighty pieces; so that his cellar, instead of containing the crop of three years, will not hold half the crop of one year. It is evidently a business that ought to have a large capital, and even an apparently superfluous one, or all the profit goes to the merchant.

*LORRAINE*....*Braban*....Price 175 livres (25l. 10s. 1d. per English acre.) Measure, 80 perches, at 11½ feet.

*Verdun*....Measure, 480 verges, of 8 feet 2 inches, equal 66 perches of Paris: highest sell to 2400 livres; not uncommon 1100 livres (84l. per English acre.)

*Metz*....Measure, journal, equal to 69½ perches of Paris. Price 1200 livres (89l. 14s. per English acre.)



ACCOUNT.

	liv.		liv.
Culture, 6 livres per monee, 8 monees in the journal,	48	Produce, 40 hottes,	
Props, 20s. the monee,	8	each 44 pints of	
Two loads of dung, at 3 livres,	6	Paris, at 6½ liv.	260
Repairs of casks,	6	(20l. 9s. 6d. per	
Taxes, taille, and capitation,	13	English acre.)	
Ditto vingtieme,	4	Expences,	110
Pressing, one-thirtieth of the crop,	9		
Vintage,	16	Profit,	150
	<hr/>		<hr/>
	110		
	<hr/>		

Labour, 64 livres (5l. 0s. 7d. per English acre.)

But interest of 1200 livres is 60 livres, and the tythe here is from the twentieth to the thirtieth to be deducted. The general assertion, which seemed to admit no doubt, was that the profit is 7 per cent.

*Pont au Mousson*....Measure a journal, 10 hommées, or 250 verges of 10 feet, the foot of 10 inches.

ACCOUNT.

	liv.		liv.
Labour,	30	Produce, 400 hottes	
Manuring, 64 livres, but once in eight years,	8	on 13 arpents,	
Vintage twenty-five persons for 13 journals, at 12s. fed,	3	30 per journal,	180
Press,	2	(14l. 11s. 3d. per	
Casks,	16	English acre.)	
Taxes, no droit d'aides,	3	Expences,	121
Props,	4		
Arpent, 800 livres, (66l. 2s. 1d. per English acre)	}	Profit,	59
Buildings, 60			<hr/>
	45		
860			
Interest of ditto,			
Droit de gabelle, and gaugc, 13s. per hotte,	10		
	<hr/>		
	121		
	<hr/>		

Labour, 33 livres (2l. 9s. 10d. per English acre.)

But some little error here, for the common calculation is, that they pay 10 per cent.

Vines are planted more and more, the culture augmenting every day; they plant the land proper for wheat as readily as any other.

*Nancy*....Measure, 19,360 feet. Price of the best, 1000 livres; the worst, 500 livres (at 750 livres, 65l. 12s. 6d. per English acre.) They have what they call the gross race and the petit race of vines; the first gives much in quantity, but of a bad quality: the latter wine of a good quality, but in quantity small.

The medium produce is twenty measures per journal, of eighteen pots of two pints of Paris, of the gross race, and ten of the petite. The mean price of the first 5 livres; of the latter 10 livres (at 100 livres it is 8l. 15s. per English acre.)

*Lunewille*....The journal 15,620 feet. Produce, 40 measures of the gross race, of all sorts; average, twelve measures, 6 livres 15s. Price per journal, 550 livres (56l. 17s. 6d. per English acre.) Produce 80 livres (8l. 12s. per English acre.)

ALSACE....*Wiltenheim*....Measure, 100 verges, at 22 feet. Price, 900 livres (31l. 10s. per English acre.)

*Strasbourg*....Measure, 24,000 feet. Price, 800 livres (55l. 7s. 9d. per English acre.) Produce, thirty measures, of twenty-four pints of Paris. Good price; 6 livres the measure; middling, 4 livres 10s. low, 3 livres (at 150 livres produce, it is 10l. 7s. 4d. per English acre.)

*Schelestadt*....Produce, forty measures. Price, 6 livres the measure, 240 livres (16l. 12s. 6d. per English acre.)

*Isenheim*....Some so high as 3000 livres, but few that yield a hundred measures, at 6 livres, but by no means common.

FRANCHE COMPTE....*Beaume*....Measure, an œuvre. Produce, a muid, at 40 livres to 60 livres.

*Besancon*....Measure, a journal, of eight œuvres; the œuvre 45 perches, of 9½ feet. Price, 40 livres to 400 livres the œuvre. Produce, a quarter of a muid to one muid; or eight per journal. The grape, called the gamme, yields the most wine, but of the worst quality. Common price, 60 livres the muid. Account of a journal, 32,400 feet.

Interest of 2400 livres (123l. 6s. English acre)	Liv.	Produce, 4 muids, at	Liv.
at 5 per cent.	120	60 livres (12l. 6s.	
Culture, 5 livres the œuvre,	40	per English acre)	240
Props, 1 livre ditto,	8	Expences,	214
Vintage, 5 livres ditto,	40		—
Tonneaux, 12 livres the muid new; but re-		Profit,	26
paration a trifle,	0		—
Taille, capitation, and vingtieme 8s.	3 4s.		
No droit d'aide.			
Never dung, thinking it spoils the wine,			
Fausse, renovation 3 livres per 100,	3		
Tythe, none in common; but, where found,			
only from one-twelfth to one-twentieth.			
	214 4		
Labour, 83 livres (4l. 4s. per English acre.)			

The common idea is, that the produce of an œuvre is	30 livres.
And the expence	12
	18
Or profit per journal	144
Interest	120
	24
Remains net	

They are also generally supposed to yield but five per cent. profit on capital, and sometimes not so much.

The vines here are in double rows, at about two feet, and the props placed in an inclining position, so as to join over the centre of that space, and are there tied to an horizontal prop; by which means any small sticks answer the purpose of props.

**BOURGOGNE....Dijon....**Measure, journal of 900 toises. Price of common vineyards 1000 to 1500 livres (at 1250 livres it is 63l. 19s. 2d. per English acre) the best about Dijon. Produce, about seven or eight pieces, or muids, at 36 livres (at 270 livres it is 13l. 16s. 6d. per English acre :) pay six per cent. But the fine vineyards of Veauce, Romane, Tash, &c. sell at 3000 livres.

**Clos de Veaujeau....**This is the most famous of all the vineyards of Burgundy, the wine selling at the highest price; it contains above an hundred journals, walled in, and belongs to a convent of Bernardine monks. This reminds me of Hautvilliers, near Epernay, one of the finest vineyards in Champagne, having reverend masters also. There are no trees in that at Clos de Veaujeau, though in all the more common ones. The vines are now not more than two or three feet high, the props being short also; they are not in rows, but planted promiscuously. The soil a brown loam, inclining to reddish, with stones in it, which on trial proves calcareous. It is not, like the fine vineyards of Champagne, on a declivity, but flat, at the foot of a hill, which is rocky. The produce,  $1\frac{3}{4}$  muid, at 600 livres the muid, 900 livres (46l. 1s. 4d. per English acre.) The vineyard would, it is said, sell for 10,000 livres the journal (511l. 17s. 6d. per English acre.) They make white wine also, of a quality and price equal to the red.

**Nuys....**The finest vineyards sell up to 7000 and 8000 livres a journal; but in common about 1000 livres (51l. 3s. 9d. per English acre.) The produce of the fine wines never great; four pieces, or muids, of half a queue, or two hundred and forty bottles, is a great product;  $1\frac{3}{4}$  middling: and in bad years, none at all, which happens sometimes, as at present, after a very fine appearance: but the frosts at the end of May cut them off so entirely, that there is not a grape to be seen. Such wine as the poor people drink, sells commonly at 60 livres or 70 livres the queue, now 120 livres. Account of a journal.

Interest,	-	-	-	-	-	-	Liv.	50	Produce, $1\frac{3}{4}$ piece, at	Liv.
Culture, by contract (some at 60 livres)	-	-	-	-	-	-	72	100 liv. (8l. 19s. 4d.		
Props, called here, not echalets, but paiseux,	-	-	-	-	-	-	6	per English acre)	175	
Casks repaired,	-	-	-	-	-	-	6	Expences,	-	148
Taxes,	-	-	-	-	-	-	8			
Vintage,	-	-	-	-	-	-	6	Profit,	-	27
							<hr/>			<hr/>
							148			

One vigneron, with his wife and four children, must all work very well to do four journals; for which, if at 60 livres, they receive 240 livres, but have the winter for other work. The vineyards which bear the greatest reputation here, after the Clos de Veaujeau, are those of St. George, Romane, La Tashe, de Veauce, Richebourg, Chambertin, and Cote Rote. The best is 25l. the piece, or 3 livres the bottle; but this is the price of the vintage; kept three or four years, it sells for 4 livres, and even 5 livres the bottle in the country.

In 1782 the crop was so great, that they gave 12 livres for very miserable casks, and sold them full at 20 livres, but the wine not good. In 1785 was the last great crop,

when the price of a cask, a tonneaux, which commonly is 12 livres new, was 36 to 40 livres, but the wine bad: they never dung for fine wines, only for bad ones, but they manure sometimes with earth. New vineyards give a larger quantity of wine than old ones, but the wine of the latter the best quality. There are here, as in all the other wine provinces, many small proprietors, who have but patches of vines, and always sell their grapes; but there is no idea of their being poorer than if they did not pursue this culture.

*Beaume*....The stones in the vineyards here calcareous. An œuvre costs 400 livres, 3200 livres per journal (163l. 16s. per English acre.) Produce, two or three pieces, at 15 livres this common wine; but there are fine ones vastly higher. The wines of greatest name here, after the Clos de Veaujeau, are Volny, Pomar, Aloes, Beaume, Savigne, Mulso (white) and Maureauche, which last sells, ready to drink, at 4 livres the bottle; new at 1200 livres the queue. They give here great accounts of the profit attending this culture; but on being analysed, they are found all to turn on the supposition of having good cellars, and keeping for a price, which is mere merchandise, and not cultivation; for the merchant who buys at the vintage to fill his cellars, is exactly in the same predicament; and to enjoy this profit, it is not necessary to cultivate a single acre.

*Chagne*....Price of an œuvre 100 livres; eight of them to a journal, 800 livres (40l. 19s. per English acre.) Common produce, one piece per œuvre: the price now 60 livres the piece, but 20 livres more common (160 livres is 8l. 3s. 7d. per English acre.)

*Couch*....An œuvre, the eighth of a journal, sells at 100 livres; but there is more at 80 livres. Produce, one piece, at 36 livres common price, but now 60 livres: usually one piece at 25 livres; half the produce, by contract, for labour (at the price of 640 livres, it is 32l. 15s. 4d. per English acre.)

*BOURBONNOIS*....*Moulins*....Sell to 1000 livres the arpent (34l. 12s. 1d. per English acre) of eight boifeeces, each 168 toises, 48,384 feet. In a good year, produce eight poincoins, at 30 livres; common year five or six, at 30 livres for common vineyard: half the produce is paid by contract, for labour. Very rarely dung: props 7 livres: tythe the eleventh.

*Riaux*....Common produce, half a piece per œuvre, or boifeec; one-fourth for proprietor, and one-fourth for labour.

*St. Ponerin*....Vineyards on hills, 100 livres the boifeec; 800 livres the arpent (27l. 13s. 10d. per English acre.)

*AUVERGNE*....*Riom*....Sell at 200 livres the œuvre; sometimes 1s. the bottle, or 15s. the pot; now 3 livres; middling price 20s. to 30s.

*Clermont*....Measure 800 toises; best 300 livres; worst 100 livres; middling 150 livres an œuvre; 1200 livres the arpent (70l. per English acre;) medium ten pots, each sixteen pints of Paris; on the best land fifteen, and the mean price 30s.; at present 3 livres; tie them with willow branches, *salix viminea*.

*Izore*....In common sell at 500 or 600 livres the seteree, but in good situations 800 livres (46l. 12s. 9d. per English acre:) the œuvre of the best yields two sommes; middling one and a half; bad, one: the somme six pots, each sixteen pints of Paris; the common price after the vintage, 25s. to 30s. the six pots (at 168 livres it is 9l. 16s. per English acre.)

ACCOUNT OF AN ŒUVRE.

	liv. sols.		liv. sols.
Labour, - - - - -	8 0	Produce, 1 $\frac{3}{4}$ som-	
Props, - - - - -	2 10	me, at 30s. the	
Interest buildings, 100 livres, 50 œuvres,	28	pot, 12 livres	
Interest of 100 livres purchase, - - - - -	5 0	the sous, 21	
Taille, &c. - - - - -	0 11	Expences, 18 19	
Provins, - - - - -	0 8		
Dung ditto, - - - - -	0 2	Profit, 2 1	
	18 19		

By which we are only to understand that they pay little more than common interest.

*Briude....*Price, 10 livres to 100 livres (55 livres, is 25l. 12s. 9d. per English acre;) the worst are on rocks, where a storm drives soil and crop away. It is very remarkable that the rocky declivities, which are so natural to the vine, here yield a wine far inferior to the rich plains of the Limagne. This deserves remark, and a further attention from the naturalists, who examine this very curious and interesting country. They have thirty-five sorts of vines here; the Lange dit de chien is the first.

DAUPHINE....*Montelimart....*Price of a seteree, half an arpent of Paris, 168 livres to 480 livres, and produces seven measures of wine, called charges, each of a hundred bottles, the common price 15 livres, or 75 livres per seteree.

ACCOUNT.

	liv.		liv.
Interest of 300 livres (44l. 12s. 6d. per English acre)	15	Produce (7l. 17s. 6d.	
mean price, - - - - -		per English acre)	75
Culture, 1st, - - - - - 20 liv. } 30		Expences, - - - - -	58
2d, - - - - - 10 } 30		Profit, - - - - -	17
3d, paid by cuttings, - - - - - 0 }			
No props.			
Vintage, - - - - -	6		
Casks, - - - - -	3		
Taxes, - - - - -	2		
No droit d'aides,			
Cellar, &c. &c. - - - - -	2		
	58		

PROVENCE....*Avignon....*Price 70 livres the eymena, and produce three barrels: price at present 6 livres the barrel, or 3s. the bottle; common price 2s. The best vines give eight per cent. on capital.

*Aix....*The carteree 800 livres (63l. per English acre.) Measure, six hundred cannes for the carteree; the canne of eight pans, the pan of nine inches and three lines.

*Tour d'Aigues....*The produce of a somma is a hundred coup, each 60lb. 3lb. a pot; and the common bottle 2½lb.: 100lb. of grapes give 60lb. of wine. Mean price 30s. the coup, or per somma 150 livres. Measure, 50,400 feet.

## ACCOUNT.

	liv.		liv.
Culture, - - - - -	48	Produce,	
Hoeing and pruning, - - - - -	12	(4l. 19s. 6d. per	
Vintage and carriage, - - - - -	10	English aere)	150
Interest of buildings, &c. - - - - -	15	Expences,	126
Taille, by the eadastre (but this varies every year by reason of provincial expence) - - - - -	10	12 Profit,	24
Seignoural duty, - - - - -	1		
Price, 600 livres (20l. 2s. 6d. per English aere) interest,	30		
	126		

*Hyeres....* Usually planted in double rows, at three or four feet, with intervals of different distances, ploughed, or hocd, for corn; and this method they call mayoivere. Two hundred and eighty plants produce one bout of wine, of six barrels, each barrel twenty-eight pots, and each pot 3lb. Common price per bout 50 livres.

## OBSERVATIONS.

It is merely for curiosity I observe, that the average of all the prices per measure, in the purchase of these vineyards, amounts to 61l. 8s. per aere; such a medium demands very little attention, unless the minutes were exceeding numerous, and equally so in every province. Rejecting those in which the prices exceed 100l. an aere, as going certainly much beyond what can possibly be the medium of the kingdom, the average of the rest is 41l. 1s. 6d. per aere. But I should wish that attention were rather given to another mode of calculating the price and produce of these vineyards; there are twenty-three minutes that include both price and produce; the average of these, exclusive of such as rise above 100l. purchase, and 21l. produce, is,

- For the price per English acre, - - -	£. 45 1 0	
For the produce, - - - - -	9 2 0*	
Which is in French money, per arpent of Paris....	Price, - - -	871 liv.
	Produce, - - -	175

From which it appears, that vines, in these provinces, give, in annual produce, one-fifth of their fee simple.

The amount of labour per acre, on an average of those minutes, in which it appears to be satisfactorily noted, and rejecting the higher articles as before, is 2l. 12s. 6d.

\* The marquis de Mirabeau observed, that an arpent of vine is, on an average, worth double the best arpent of corn. *L'Ami des Hommes*, 5th edit. 1760. tom. vi. p. 137. This agrees pretty well with my notes.

The net profit appears, from several of the minutes, to vibrate between 7 and 10 per cent. on the capital employed.

How nearly these averages, noticed in my route, approach the real medium of the whole kingdom, it is impossible, with any degree of accuracy, to conjecture; but I am inclined to believe, that the difference may not be considerable. This, however, must be left, with a proper diffidence, to the well informed reader's superior sagacity.

The importance of this branch of cultivation to the kingdom, and the idea so common there, I may almost say universal, that the wine provinces are the poorest, and that the culture is mischievous to the national interests, are subjects too curious to be dismissed hastily: as my opinion is directly the reverse of the prevalent one in France, it is necessary to explain the circumstances on which it is founded.

It appears by the preceding minutes, that the value of the soil thus employed was probably higher than it could be in any other application, good meadows (valuable from their scarcity) alone excepted: that the produce much exceeds all others; and lastly, that the employment depending upon it is very considerable. Under such leading and powerful circumstances, and connected as they are with another not less essential, that vast tracts of the land thus employed are rock and declivities, too steep for the plough, it should seem astonishing, how an idea could ever be entertained that such a cultivation could be prejudicial to a country: it is, however, very general in France.

The question ought to be put solely on this issue. Would the same land, under any other culture, sell at the same price? 45l. per acre, amounting to thirty years purchase, at 30s. an acre, is such a value as France, in the richest vales, knows nothing of (meadows alone excepted, which will always be valuable according to scarcity and heat of climate) and we in England as little. But this greater value arises not by any means from the richest lands, but from those which, considered on a medium, are certainly very inferior to the rest of the kingdom. Great tracts could be applied to no other use than that of sheep-walk or warren; much is situated, in some of the poorest soils in the kingdom, on sands, sharp gravels, and lands so stony, as to be inapplicable to the plough: to possess a climate that gives the power of raising such land to the value of 30l. or 40l. an acre, is beyond all doubt or question, a superiority that cannot be too much valued.

The amount of the produce is not less striking: rich pastures sell every where at high prices, because they are attended with no expences: and thus a small product may be classed with a large one; but it is not so with vines. The average of 9l. an acre, on a mean of good and bad years, is such as no other plant will equal that is cultivated in France, watered lands alone excepted. It is only on singularly fine soils, in certain peculiar districts, that any thing approaching such a product is to be met with. There is no part of Europe, in which a crop of wheat, of such value, is not exceedingly large, and much beyond the average. That of all the wheat, in any of the richest counties in England, vibrates between 6l. and 7l. an acre, prepared for perhaps, by a barren and expensive fallow, at least by something much less profitable than itself. What then are we to think of a plant which covers your land with a rich crop of wheat every year?

There are many men, however, in France, who will say, *YOUR REASONING MUST BE ERRONEOUS*; for there is not a vine proprietor in France, who would not give you his vineyard for your ideal wheat of every year. The observation may be perfectly just; but it is no answer to me, who am not speaking of net profit, but of produce. To him who considers the subject in a national light, and as a politician, the former is not the object; the great point is to secure a large produce. The prince may levy such heavy taxes

on the produce: and it may be gained by such an oporose culture, that the poor may levy a much heavier for their labour; the consequence to the cultivator may be a low profit, but to the nation at large the importance of the product remains the same and unimpeached. And in this light I look upon that of vines as so considerable, that should the fact of the real average of the whole kingdom prove less than I make it, even so little as 7l. per aere, I should still esteem the culture an object of infinite national consequence. It is more than sugar pays in the West Indies, which is usually supposed the most profitable cultivation in the world.

In regard to the net profit, which on the minutes vibrates from 7 to 10 per cent. it does not seem to some to be adequate to the peculiar happiness of the climate, and the reputation of the wines throughout the world; or to the price of the land, or amount of the product. But, in this respect, it must be considered, that the minutes, so far as they concern the returns in money, are the prices of the vintage only: whereas every man that has a capital sufficient, by keeping his wine for three months only, adds considerably to the profit. If a proprietor be merely able to store his crop in casks in his cellar, long enough to avoid the immediate necessity of selling for want of casks, he has an advance of price, which will greatly augment the ratio of his profit: it is very fair to give the cultivator of vines the same time that is taken by most of his brethren with whom corn is the object, that is to say, six months from the harvest. The difference of profit is exceedingly great between the sale in the vintage, and that of six months after. But it is still of more consequence to observe, that the rate per cent. here mentioned, is not on the mere business of the cultivator, but on the purchase of the estate upon which the culture is carried on. This makes an enormous difference. If agriculture, in England, yield 15 per cent. and landed property three, throw the two together, and the mean is not more than  $5\frac{1}{2}$  or 6; and those who, in England, buy an estate, and stock, and cultivate it, and make 6 per cent. will not think they are suffering, notwithstanding the accumulated advantages of a century of freedom.

It is this large annual product which in the vine provinces gives bread to such numbers of people; beside the direct object of common labour, which amounts, as we have seen, to 2l. 12s. 6d. per acre, and consequently is above thrice as high as that of common arable crops; and if they are not in very complete culture, the superiority is much more considerable, there is the trade of casks, which, independent of the employment of coopers, gives a value to the woods of a country, as well as an activity to foreign commerce, by the import of staves and hoops. The props have the same effect as our hop-poles, and render willow plantations, as well as common under-woods, much more valuable than they would be otherwise. Besides, there is the circumstance, that so many politicians regard alone, the exportation of the wine, and the cask or the bottle; forming, whether in the shape of wine or of brandy (as I shall by and by shew) one of the greatest trades of export that is to be seen in Europe; as much the export of French labour, as that of the silk of Lyons, or the cloths of Louviers. And after all this, if I be allowed to place last, what in truth ought ever to be regarded first, that is, the home consumption, there is the invaluable advantage of a whole people being well and amply supplied with a beverage, the effect of their own industry, and the result of their own labour; and it surely will not be thought a small advantage, that a nation has recourse, for supplying this consumption, to her sands, gravels, declivities and rocks; that she demands it not of her rich plains, but of those lands which her less fortunate neighbours are forced to cover with copse or rabbits.

But here we are not to forget, that argument is always to give way to fact. From what I have just said, the reader is not to conclude that such lands only are under vines



in France, the contrary is the fact; I found them on the noble and fertile plain of the Garonne; on the richest lands in the vale which extends from Narbonne to Nismes; in the vales of Dauphine and of the Loire; and, in a word, indiscriminately on every sort of land in all the wine provinces; but I found them also on such rocky and bad soils as I have described, and in so great quantities as to shew how well adapted they are to such soils and situations. There are two reasons why vines are so often found in rich plains; the first is, the export of wheat being either prohibited, or allowed with such irregularity, that the farmer is never sure of a price: but the export of wine and brandy has never been stopped for a moment. The effect of such a contrast in policy must have been considerable, and I saw its influence in every part of France, by the new vineyards already planted, or begun to be planted, on corn lands, while the people were starving for want of bread; of such consequence, in the encouragement of any culture, is a steady unvarying policy! the fact is the more striking in France, because the vine culture is very much burthened in taxation; but, always possessing a free trade, it thrives. The second reason is, that the culture of this plant is much better understood in France than that of corn. An advantageous rotation of crops, and that arrangement of a farm which makes cattle necessary to corn, and corn necessary to cattle, on which the profit of arable land so much depends, is what the French have hardly an idea of. In their practice it is never to be seen, and in their books it is never to be read. But their vineyards are gardens; the turnips of Norfolk, the carrots of Suffolk, the beans of Kent, and the cabbages of an English gentleman, are not so clean as the vines of France, while the whole œconomy of the plant is perfectly understood, both in theory and practice.

It is a question which I have heard often started in conversation, whether it be nationally more advantageous that wine should be, as in France, the common beverage, or beer, as in England? How it should ever become a question I cannot understand. We are, of necessity, obliged to have recourse to our best lands to supply our drink; the French, under a good government, would have all theirs from their worst soils. The sands of Sologne, which are passed in the way from Blois to Chambord, &c. &c. are as bad as ours in Suffolk and Norfolk, which feed only rabbits. The French sands, by means of vines, yield 8l. or 9l. an acre, and those of Suffolk not so many shillings. Through nine tenths of England, the land that yields wheat in every rotation yields also barley. If our hills, rocks, sands, and chalky declivities gave us our liquor, could we not apply these richer soils to something better than beer? Could we not, by means of rotations, that made potatoës, tares, beans, and artificial grasses, the preparatives for wheat alternately, contrive to raise infinitely more bread, beef, and mutton, if barley did not of necessity come in for an attention equal to what we give to wheat! Wheat, rye, barley, and oats exhaust, every other crop we raise, either actually or consequentially, ameliorates. Would it be no advantage to strike out one of these exhausters, and substitute an improver? Would it be no advantage to feed all the horses of Britain on beans instead of oats? Your populousness may be proportioned to your quantity of bread, mutton, and beef. With one-fourth of your land under barley, can you have as much bread, mutton, and beef, as if you were not under the necessity of having any barley at all? How few agricultural combinations must there be in a mind that can entertain doubts on such questions? There is a common idea that wine is not a wholesome beverage, I take this to be a vulgar error; bad wine, or wine kept till sharp and acid, may be unwholesome, but so is bad beer, or beer kept till acid: but this has nothing to do with the question. If the lower people be forced, through poverty, to drink bad liquor, the complaint ought not to be that wine is unwholesome, but that a bad government is unwholesome: the beer drinkers under such a one, will not have much to boast. There may

be more strength and vigour of body among the common people in England than among the same class in France; if this be true, it proves nothing against wine. Are the French poor as well fed as ours; do they eat an equal quantity of animal flesh? Were they as free? These common prejudices, for or against certain liquors, are usually built on very insufficient observation.

But the enemies of vineyards recur to the charge; the vine provinces are the poorest of the kingdom; and you always see misery among the poor proportioned to the quantity of vines.\* This is the main hinge on which the argument turns; it is an observation that has been made to me a thousand times in France, and conversation never touches on the subject but you are sure to hear it repeated. There is some truth in it as a fact there is none as an argument.

There is usually a considerable population in vine provinces; and doubtless it is not surprising, that where there is a great population there should be many poor, under a bad government. But there is another reason, much more satisfactory, which arises not at all from the nature of the culture, but from the abuse of it.

It is the smallness of the property into which vineyards are usually divided; a circumstance carried to such excess, that the misery flowing from it can hardly be imagined by those who are whirled through France in a post-chaise. The nature of the culture depending almost entirely on manual labour, and demanding no other capital than the possession of the land and a pair of arms; no carts, no ploughs, no cattle, necessarily leads the poor people to this species of property; and the universal practice of dividing it between the children, multiplies these little farms to such a degree, that a family depends on a spot of land for support that cannot possibly yield it; this weakens the application to other industry, rivets the children to a spot from which they ought to emigrate, and gives them a flattering interest in a piece of land, that tempts them to remain, when better interests call them elsewhere. The consequence is, their labouring as much as they can for their richer neighbours; their own little vineyards are then neglected; and that culture, which to a more able proprietor is decisively advantageous, becomes ruinous to insufficient funds. But a misfortune, greater even than this, is the uncertainty of the crop; to a man of a proper capital, and who consequently regards only the average of seven years, this is of no account; but to the poor proprietor, who lives from hand to mouth, it is fatal; he cannot see half a year's labour lost by hail, frost, cold, or other inclemencies of the season, without seeing, at the same time, his children in want of bread; before the ample produce comes, which certainly will come on the average account, he finds himself in the hospital.

This I take to be the origin of that general and too indiscriminate condemnation of vineyards in France. The poverty is obvious; it is connected with vines, and for want of proper distinctions, it is considered as necessarily flowing from vineyards; but, in fact, it is merely the result of small properties amongst the poor: a poor man can no where be better situated than in a vine province, provided he possess not a plant. Whatever may be the season, the poor are sure of ample employment among their richer neighbours, and to an amount, as we have above seen, thrice as great as any other arable lands afford. That culture which demands 2l. 12s. in hand labour only, whether there be crop or no crop, and which employs women and children of all ages, ought not surely to

\* So lately as in the *Journal Physique* for May 1790. Mons. Roland de la Platiere, a gentleman with whom I had the pleasure of some agreeable conversation at Lyons (in the happier period of his life, before he was involved in the misery and guilt of revolutions) says, that of all countries the vine ones are the poorest, and the people the most wretched! And in the *Cahier* of the clergy of Auxerre, it is demanded, that the ordinances against planting vines on land proper for corn be executed.

be condemned as the origin of distress among the poor. Attribute the fact to its true cause, the desire and spirit of possessing landed property, which is universal in France, and occasions infinite misery. This circumstance, so prevalent in that kingdom, and (comparatively speaking) so little known in ours, where the poor are so much more at their ease than in France and most other countries, is very curious to a political observer. What an apparent contradiction, that property should be the parent of poverty, yet there is not a clearer or better ascertained fact in the range of modern politics. The only property fit for a poor family, is their cottage, garden, and perhaps grass land enough to yield milk; this needs not of necessity impede their daily labour; if they have more, they are to be classed with farmers, and will have arable fields, which must, in the nature of things, be ill cultivated, and the national interest consequently suffer.

The explanations I have given of the wine system in France will be received, I trust with candour. To investigate such questions fully, would demand dissertations expressly written on every subject that arises, which would be inconsistent with the brevity necessary to the register of travels: I attempt no more than to arrange the facts procured; it belongs to the political arithmetician fully to combine and illustrate them.

#### CHAP. XXIII...OF THE CULTURE OF SILK IN FRANCE.

*QUERCY....Caussade....*In the avenue leading to this town, two rows of the trees are mulberries, and these are the first we have seen.

*Montauban....*Many mulberries here, in rows; and under some of them four rows of vines, and then six or seven times the breadth of corn. When the leaves are not in time for the worms, or are destroyed by frosts, they are fed with lettuce leaves: and if no lettuce, with cabbage, but the silk is so worthless, that the failure is reckoned nearly equal to have none at all.

*Toulouse to Noe....*Mulberry trees are here worth from 6s. to 20s. and 30s. each per annum, according to their size.

*Noe....*Mulberries worth up to 3 livres per tree, per annum. But silk worms have missed much for three years past.

*Narbonne....*Many mulberries; all within pruned flat heads.

*Pinjean....*Olives are a beneficial article of culture, but they prefer mulberries, because they yield a crop every year. On four seterees of land they have sixty trees; and at the same time the land yields barley or oats, mown for forage, of which the four seterees give sixty quintals, that sell at 33s. the quintal. Single mulberries have paid as far as two louis each, and many one louis. If four seterees equal two acres, there are thirty trees on an acre, and the acreable produce of forage will be 52 livres, or 2l. 5s. 6d.

*Nismes to Sauve....*Seven mulberries on an English rood.

*Quesac....*Mulberry leaves sell commonly at 3 livres the quintal. A tree yields from one to eleven quintals: two, three, and four are common. Gathering the leaves costs 12s. the quintal. Fifteen quintals of leaves are necessary for one ounce of grain (the seed or eggs of the worm:) 20 livres the mean price of silk per lb.: reckon that an olive tree pays as well as a mulberry.

Many mulberries about Quesac, and some on very poor dry land. In grass fields the ground is kept dug around them, as far as the branches extend. Remark some stones laid around many trees, for some distance from the stem.

Eight trees in something less than an English rood.

By information, almonds, in Rouverge, pay better than mulberries, and with much less expence and attention : 3, 4, 5, and 6 livres a tree.

*Gange*....Many fine mulberries about this place, which yield from 3 to 8 livres a tree in common, young ones excluded. They yield to twelve quintals of leaves ; in general, three, four, or five. The price varies from 3 to 10 livres the quintal. They are much more valuable than olives. This year the great cold in April destroyed the young buds and hurt the crop greatly. They never think of giving any thing to worms but the leaves ; have heard of twenty things, but treat the idea with the greatest contempt, knowing as they do, by the fabric, the worthlessness of silk, if the worms are so fed.

*Lodeve*....Mulberries are more profitable than olives ; yield three, four, and five quintals of leaves, which sell, in common, at 3 livres.

*Mirepoix*....Mulberries are here, but none after, in going from Carcassonne to St. Martory.

*Auch*....A few mulberries near the town.

It is here to be noted, that from Moirepoix to Bagnere de Luchon, and from thence by Pau to Bayonne, and back by Dax to Auch, a line of much more than three hundred miles, I saw no mulberry trees.

*GUIENNE*....*Leyrac*....Some few mulberries.

*Aiguillon*....A few trees for some miles before this place. Behind the chateau, in the town, is a large plantation, formed by the late duke ; which, being in the fine vale of the Garonne, the land is cultivated as the rest, under hemp and wheat ; but both those crops are less than middling, the expression of the person who gave us the information, on account of the roots and shade of the trees. The duke gives the leaves to the people in the town, furnishing also the wood, boards, grain, and whatever else is necessary for the business, and he has in return the third part of the silk they make. Every one in the place, and all around the country, say that he loses considerably by it ; asserting, that the land thus occupied is worth 500 louis a year ; that the crop of silk is so precarious that he has had eight quintals, and in other years only three, two, and even one ; so that on an average, his third part gives only 150 louis, and the crops under the trees cannot make up one half of the deficiency. They also maintain, that the land is too rich for mulberries ; and, to prove that they are right in their ideas, they quoted many gentleman in the neighbourhood, who have grubbed up their mulberries.

*Tours*....They have in the neighbourhood of this city many mulberries, insomuch, that the value of the raw silk has amounted, as they assert, in a good year, to a million of livres. I walked several times into the country to view the trees and make inquiries. Many of the corn fields are regularly planted all over ; the gardens are surrounded with them ; and the roads and lanes have rows of them. The large good trees, in a favourable year, give the value of four livres, but not in common. I viewed several plantations, containing old, young, good, and bad, that gave on an average, one with another, 30s. which seemed, from various accounts, to be a general medium ; it, however, excludes very bad years ; such, for instance, as last spring, in which they had no crop at all, the frosts in April (note, this is certainly one of the finest climates in France) having entirely destroyed it. I saw several trees which gave to the amount of 10 to 15s. at ten years old, and 30s. at the age of fifteen years. Plants, at two years old, are sold at 3 livres the hundred : at three years old, 4 livres : and good trees, proper to plant out in an arable field, 20s. each. In regard to the distance, at which the trees are planted, they have no general rule. I measured many distances, in a large corn field,

and found them at two rod square, at an average : in another they were six yards by nine ; which trees gave 40s. on a medium : round a garden they were at five yards from tree to tree : a field, entirely cropped with mulberries, had them in rows at one and a half rod ; and between the rows another of small plants, in the manner of a hedge. If sixty square yards are allowed per tree, there will be eighty on an acre, and if they give 30s. each, it will amount to the vast produce of 5l. per acre, besides what can be gained under them ; it would, however be a question, whether this under-crop would make up for bad years, that yield nothing ? Around fields, in roads, corners, &c. the profit will be greater. It is remarkable, however, that with all this profit attending them, they do not increase about Tours, yet not one acre in an hundred adapted to the culture, is so employed, which shews either a very uncommon want of capital, or doubts whether the cultivation is so profitable as it appears to be from such information.

In order to spread the cultivation, government established nurseries, and gave the trees gratis, until private nurseries were opened ; and in winding the silk much assistance was also given to the loss to government, of 20s. per lb. ; but now the business is carried on without any premium of that sort. Probably such encouragements were of very little use ; the abuses incident to all governments would direct such assistance to be given where it was not wanted ; and in that case it would, by raising disgust, do mischief.

They plant no mulberry but the white ; the black they think very bad.

NORMANDY....*Bizy*....Having read, in the Memoirs of some of the Agriculture Societies in France, that the marshal duke de Belleisle made a very considerable and successful experiment on the introduction of the culture of silk in Normandy, on his estate at Bizy, I had long ago made a note of it, for examining, as the steps which proved successful in such an attempt in Normandy, might probably have the same effect, if applied in a climate so similar as that of England. I went to Bizy with this view, and did what I could to find out the proper persons, concerned in this undertaking, to give me the information that was necessary.

Five-and-thirty years ago, the duke began by making some extensive plantations of mulberries, to the amount of many thousand trees ; they succeeded well ; and in order to draw all the advantage possible from them, as the people in the neighbourhood were ignorant and awkward in the process, the duke, by means of a friend in Provence, procured a man, his wife, and all his children, well skilled in the whole business of the silk-worm, and established them at Bizy, in order to instruct his own people in it. By these means, he made as much silk as the produce of leaves would admit. I wished to know to what amount, but could not ascertain it ; but the duke continued his plantations of mulberries during nine or ten years. I tried hard to find out some descendant or remains of this Provençal family, but in vain ; the man was dead, the woman gone, and the children dispersed ; the estate, on the marshal's death, having been sold, and coming into the possession of the duke de Penthièvre, made all these circumstances the more difficult. The great object was, the success of the experiment ; this inquiry was uniformly answered by several persons : it had no success at all. It was a favourite project of the duke's, and supported with perseverance, for many years, until his death ; but the silk did not pay charges ; and though he very liberally offered leaves to the poor people, on easier terms than they are supplied with them in the south of France, and even gave trees ; yet nothing more was done, than what his influence and authority forced : and the Provençal family, after ten years' experience, pronounced that the climate would do to make silk, but not with profit. To his last hour, the duke

had silk made, but not an hour longer; the practice had taken no root; the country people, by whom alone such an undertaking could prosper, saw no inducement to go into the scheme, and the whole fell at once into utter ruin and neglect on the duke's death; so that the trees themselves were by degrees condemned, and the number remaining at present inconsiderable. Certainly no positive physical proof, that silk will not do in Normandy, but it is a presumptive one, pretty strongly featured. Go into Languedoc, Dauphine, and Provence, and the poor people do not want the exertions of marshals of France to induce them to breed silk worms; they have a much more powerful inducement, the experience that it is their interest: had this inducement been present at Bizy, the culture would, in more than ten years, have taken root.

*BOURBONNOIS....Moulins....* Monsieur Martin, gardener of the Royal Nursery here, who is from Languedoc, cultivates silk with great success; he was so obliging as to be as communicative as I could wish. Trees of two or three years old, yield a few leaves, but to be stripped cautiously: at eight to ten years, they come very well into yielding. One ounce of grains, that is, of the eggs of the worm, requires twenty quintals (one hundred weight English) of leaves, and yields from 7lb. to 9lb. of silk. He has made as far as 300lb. in a year, the produce of 3000lb. of cocoons; and the worms that year eat 12,000lb. of leaves every day, for four or five days together, and fifty persons were employed for eight days. The whole business of hatching and feeding employs a month; the winding is afterwards done at leisure. For care and attendance of the worms, gathering the leaves, and winding the silk, he gives one-fourth of the produce, or about 6 livres the pound of silk; for spinning, 3 livres; in all, 9 livres; rests profit, 15 livres. The men earn 20s. to 24s. a day, and the women 8s. to 10s. He prefers this climate for the business to that of Languedoc, though stoves are here necessary for keeping the room to the temperature of eighteen degrees, Reaumur; whereas in Languedoc they do without fires. The season here varies from fifteen to twenty days; the earliest is the 24th of April, and the latest the 15th of May. If the leaves are not ready, he keeps the hatching back, by lodging the grains in a cool cellar. He has known one tree in Languedoc yield 80 livres a year in silk. Moulins and its environs make to the value of 60 or 80,000 livres a year. Mons. Martin sells trees, of two years old, at 20 livres the thousand. The distance of planting, if for crops under the trees, thirty feet; if no crops, twenty feet. Of the writers that have treated on this subject, he prefers Mons. Sauvages.

In the particulars of an estate to be sold, was one article relative to the product of silk; mulberries enough for 12 oz. of grain, yielding 60lb. of silk.

*VIVARAIS....Maise to Thuys....* First meet with mulberries in going south from Auvergne. They yield very largely here; I am assured, that many trees in a good year, reach 12 livres each. That in four years after planting, they begin to produce leaves enough for stripping. The best of them are all grafted. Trees, fifteen years after planting, have, in a very good year, yielded 6 livres. I was shewn a small field that yields, one year with another, 120 livres; I stepped, and found it fifty yards by seventy, or three thousand five hundred square yards (7l. 4s. 4d. per English acre;) yet the trees were not regularly planted, nor fully; and this besides the other produce of the ground.

*Aubenas....* The silk mills here, which are considerable, purchase the cocoons of the farmer, at 28s. to 32s. the pound. The mulberry trees here are very large.

*Villeneuve de Bergue....* Twenty quintals of leaves give one quintal of cocoons, and one quintal of cocoons 10lb. of silk. They reckon that the waste, debris & dechet, pay

the spinning. Eighteen trees, of seven years age, pay 28 livres a year; but some trees of ten years old, have been known to give 3 livres each. Three-fourths of an arpent de Paris have been sold for 400 livres; the soil all rock and stone, but calcareous. The trees are grafted before transplantation, which is at three years old; price, 12s. and 15s. each. The second year after planting they begin to gather. The price of the leaves 3 livres the 100lb.; and of gathering 10s. the quintal. The culture is reckoned more profitable than vines, which are sometimes grubbed up, to make way for mulberries. Of the sorts, the rose fuille is best. In the road to Viviers, I remarked a tree 2½ feet in diameter; and very large ones are in the bed of a torrent, where no earth (only stones) is visible.

DAUPHINE....*Montelimart*....Silk is the great produce of the country; they have mills, where the cocoons are bought, at 27s. the pound. An ounce of grains gives 60lb. of cocoons, and 12lb. of cocoons 1lb. of silk: forty middling trees each yielding a quintal of leaves, being required to feed that proportion of worms. The grains are hatched by artificial heat, and the operation demands wood to the amount of 24 livres to each ounce of grains. A common method of conducting the business is, for the proprietor of the land to find trees and half the grains; the poor people the other half and all the labour; and the parties divide the produce between them. The impediments in the culture are: 1. Climate; frosts in the spring destroy the leaves, and, if at a critical time, there is no remedy. I demanded if they had no succedaneum, in such case, in feeding the worms with the leaves of some other plants? The answer was, that experiments had been made upon that point, without any success; that the idea, however, was nonsense, for the quantity of food was so great, as to render it absurd to think of providing it, not for a certain want, but merely a contingent one; the expence of such a conduct would absorb all the profit. Nor is it frosts only that are dreaded; great and sudden heats make the worms fall, and they labour very poorly. 2. The extreme labour of attending the worms, is a great objection to the business; it is, for the last fifteen days, so severe as to kill many; and, for the last eight days, they are cleaned every day.

Upon a comparison of the culture of the olive and the mulberry, it was remarked to me, that one great advantage of the olive, was the contracted space in which the roots feed, consisting chiefly of a tap-root and fibres, which made the crops sown under them good; but a mulberry threw out a profusion of roots, fifteen or twenty feet around, in every direction.

They have been known, at eleven years growth, to yield 200lb. of leaves each tree.

The mulberry is found not to like water; for there is in the watered meadows a mound of earth, to keep the water from the roots of these trees.

When silk-worms are ready to spin the cocoon, if they are cut in halves and thrown into vinegar, each worm gives two transparent ligaments, very strong, for making fishing lines, &c. &c.

*Loriol*....Mons. l'abbe Brenger, cure of this place, has given an uncommon attention to this culture; he was so obliging as to give me the result of many years experience on this interesting subject.

*Time of sowing*....There are two seasons; the first, with the fruit, fresh, at the end of June: the second in May, with the seed of last year, dry; and this is better, because the June sowing suffers sometimes, if frosts are severe, or the weather is both cold and humid. When sown dry, if too early and cold weather succeeds, they are apt to fail. They are often watered.

*Transplantation....*In April following, those that were sown in May are transplanted, three feet every way, into the nursery; only half the plants (the best) being drawn, the rest are left till the year after. They are never transplanted a second time.

*Sort....*The feuille rose, with white or gray fruit, is the best; black fruit not known here, but said to be good for leafing late, and escaping frosts in the spring.

*Grafting....*It is best to graft in the nursery, in May, when they are three years old, at the head, with grafts cut in February preceding; and preserved in sand in a cellar: these grafts are branches three feet long, which are buried in sand, except four inches at the end, for three or four knots to shoot; if all are buried in the sand, all the knots will shoot. At grafting cut off those knots that have shot out, and use the rest. The time is after gathering the leaves of the standard to be grafted, when the plants are 5 feet, or  $5\frac{1}{2}$  feet high. One year after grafting transplant, that is, about April. Graft three or four branches.

*Soil....*Good and humid sands, and sandy loams are the best: warm, forward, rich, and friable: rocky and stony soils do well; but all clays are bad. On the lightest stony lands, the trees come into bearing much sooner than in the rich vale, but these last vastly longer; on the rich vale land, two hundred years are a common age for them.

*Planting....*In bad land plant at eighteen feet square, in moderate at twenty-four, and in very good at thirty-six; and, after seven or eight years, there can be no crops under them, if at these distances. There are two sorts of trees, the one large standards; and the others dwarf ones, which they call murier nain; an arpent contains, of course, many more in number of these than of the others; and they yield, for the first ten or fifteen years, a larger produce, but afterwards the greater trees are more productive. The dwarfs are best for being set in rows, for ploughing between; they are grafted at  $1\frac{1}{2}$  feet high; are never watered. The price of trees 25s. the hundred, at the age of one or two years; the great trees, at four or five years, for grafting, 20s. each, at present 15s. each, and grafted. The operation of planting is performed by digging a hole six feet square, and  $2\frac{1}{2}$  or 3 feet deep; and they commonly lay dung upon the roots.

*Cultivation....*The attention with which they manage the trees after planting, merits the highest commendation: after they have been planted two years, a trench is dug around each tree, about two feet deep, which is left open all winter, and filled up again in the spring; the year following another is dug, more removed from the tree, which is managed in the same manner; and so on every year a trench, till the whole land is stirred as far as the roots extend. This appears to be a most excellent system, and preferable to trenching the ground at first; as in that way much of it is consolidated again, before the roots of the young trees reach it.

No crops whatever to be sown on the land after the trees are of a size to have their leaves gathered; as much is lost in leaves as is gained by such crops.

The trees should never be pruned at any other season than March, and but once in two years; the wood pays the expence; they receive one digging per annum, at 6 livres, and a hoeing at 3 livres per arpent.

There is another admirable practice known here, and used by all skilful cultivators; which is that of washing the stems of the trees every year, in May, for four or five years after planting. Mons. l'abbé Berenger always practises this with great success.

*Produce....*For the benefit of the young trees, they ought not to be stripped for seven or eight years after planting into the field; they will pay well afterwards for this for-



bearance ; but the practice is not common. I viewed a young plantation of Mons. Blanchard, at present in the national assembly, who is famous for his attention to his mulberries ; the trees were six, seven and eight years old, and none of them had ever been stripped, and their appearance was very flourishing. Mons. l'abbe Berenger approves the practice, but has not adhered to it ; his trees, however, are very fine, and do not complain ; one plantation, of eight or ten years growth, that have constantly been stripped, are, notwithstanding, very fine. There are forty on four hundred toises of land, that this year produced, each tree, eight pound of leaves. The beginning of February he planted the land under them with potatoes, which were dug in August, and produced forty quintals ; among these potatoes maize was planted in April, in squares of five or six feet, and the produce of that will be five or six quintals, at 8 livres the quintal. He shewed me another plantation, of an arpent, of very fine and flourishing dwarf trees, which yielded this year eight pound of leaves each tree, and three hundred pound on the arpent. They are ten years old ; no crops have ever been sown under them.

The produce of leaves may be estimated at fifty pound from a tree of a toise square. The greatest produce known is ten quintals, from a tree of fifty years old. At twenty years the medium is two quintals. They increase till sixty years old ; but are in good perfection at twenty.

*The eggs....* A paper of nine inches by fifteen inches, covered with small leaves, stuck full of worms, gives one quintal of cocoons ; and this is what they call one ounce of grains. But proportions will not hold, for the produce is not increased proportionably to an increase of quantity.

*Hatching....* Retarding the hatching of the worms with particular views, is, in many circumstances, impossible. When once the heat of the atmosphere is come to a certain pitch, the hatching cannot be retarded by cellars. Mons. Faujas remarked, that in June they would hatch in an ice house ; which shews that at a certain age they will hatch in spite of cold. They never, however, trust to the natural heat for hatching them, which always does it too slowly ; it is done with the assistance of fire, and in the month of May. They begin to hatch at twenty to twenty-two degrees (Reaumur ; ) but artificially it is done at twenty-four degrees. When the eggs happen to have been put in a cellar, at ten degrees, their common temperature, they afterwards hatch with difficulty, and never well ; always best when they have to undergo but a moderate change.

*Feeding....* In this business all sorts of food, except the mulberry leaf, is rejected, at the first mention, as the most ridiculous, impracticable, and impossible idea, that ever entered the head of a visionary ; and never could be conceived but by those only who amuse themselves with a few worms, without taking the trouble of calculating quantity, expence, and quality of silk.

For one ounce of grain, a room of ten feet by fourteen feet, and twelve feet high, is necessary ; but the larger the better, and with windows only to the north. There should be ten tables, or shelves, six feet long, and  $4\frac{1}{2}$  feet broad, one eighteen inches above another ; the first expence of which is 60 livres.

Till the 18th of April there is here no security against frosts. Two years ago there were many leaves before that day, and most people began their operations ; the leaves were all cut off, and they lost the year entirely, for it is three weeks before the leaves come again. Mons. l'abbe Berenger would not trust appearances ; did not begin till after that day, and had as good a year as at any other time.

The expences are usually borne between the parties, and amount to half the produce, not including the keeping the utensils in repair. But if they are paid by the owner of the mulberries, some of them amount to as follow: gathering the leaves, 10s. to 15s. the quintal; for gathering the dwarfs, only half the price of the others; wood, 15 livres for one, two, or three ounces of eggs in one room; thirty livres for six ounces, because in two rooms; 22 livres 10s. for labour in the house; spinning, 40s. per lb. of silk. The waste is worth 20s. therefore the expence is 20s.

For the last four or five days, eight men are necessary to gather leaves for twenty ounces of grain, their voracity being incredible the latter part of the time.

The price of the leaves, if bought, is 4 livres to five livres the quintal, never at 3 livres, but has been at 10 livres. From fifteen to eighteen quintals of leaves give one quintal of cocoons, and one of cocoons gives nine pound of silk. Cocoons are sold at 26s. the pound; silk, on an average, at 19 livres. The leaves, dissected by the worms, are dried, and kept for hogs, sheep, &c. being worth 4 livres the quintal; and an ounce of grain yields two quintals of such: and the dung of the worms, from an ounce, is worth 4 livres more, being excellent; the best indeed of all others.

Two brothers here, Messrs. Cartiers have had as far as eighty quintals of cocoons. Mons. Berenger's three hundred trees on an arpent, at eight pound of leaves each, are twenty-four quintals; and, at 4 livres the quintal, amount to 96 livres: and as sixteen quintals of leaves give nine pound of silk, at 19 livres, it is 171 livres, and for twenty-four quintals, 256 livres, the half of which is 128 livres; hence, therefore, to sell the leaves at 4 livres the quintal, does not answer equally with half the produce (128 livres per arpent de Paris, is 6l. 4s. 3d. per English acre.)

PROVENCE.....*Avignon*....At ten years growth the mulberries yield a considerable produce; at that age they give one hundred pound to one hundred and fifty pound of leaves, but not common. For one ounce of grain, five or six very large trees are necessary; or, if the leaves are bought, to the amount of 24 livres to 30 livres. The ounce will give from forty pound to fifty pound of cocoons, or five pound of silk; but more commonly twelve pound of cocoons for 1 pound of silk. Gathering the leaves, 10s. or 12s. the quintal, one with another, dwarfs and standards. The waste pays the spinning.

*Aix*....Mulberries, beyond all comparison, more profitable than olives; will give 3 livres or 4 livres per tree, more regularly than olives will 10s. but the great plantations of olives are on barren rocks that will not do for mulberries.

*Tour d'Aigues*....One ounce of grains requires fifteen quintals of leaves, and gives fifty pound of cocoons; that is fifty pound in a small undertaking, like the house of a poor family; but not more than thirty pound in a large building. Mons. the president has, however, had seventy-five ounces of grain that gave forty pound one with another: fourteen pound of cocoons give one pound of organzine silk.

On good land, twenty trees, of ten years old, will give fifteen quintals of leaves. The waste, with the addition of 10s. per pound, will pay the spinning. Wood is 12s. the quintal, and 1½ quintal will wind and spin one pound of silk: and one quintal of charcoal will make three pound of silk. The common calculation is ten quintals of charcoal for one ounce of grain.

Labour and fuel, 40s. per pound of silk, exclusive of gathering the leaves; but the common method is to find the trees and the grain, and give half the produce for all the rest. The whole business, exclusive of winding and spinning, employs exactly a month.

*Hyerès*....This article is here but little regarded; the number is not considerable, nor do they pay nearly the same attention to them as in Dauphine. A tree of twenty years pays about 30s.; and some, of a very great size and age, 6 livres.

*Frejus*....Close without the town, on the banks of a small canal of irrigation, are five or six of the largest mulberries I have seen, growing close to the water's edge; from which it should appear, that they have here none of that objection to water which was mentioned to me at Montelimart.

*Estrelles*....At the inn here there is a mulberry tree which yields black fruit, and leaves of a remarkable size. I asked the master, if he used them for silk-worms? Never, he replied, they are no better for them than elm, oak, or pine leaves; it is the white mulberries that are for worms. So inaccurately understood is this point, even in the silk countries; for in Languedoc they told me, all sorts were given indiscriminately. This tree would be worth 2 or 3 louis a year.

To these notes, taken by myself, I shall add a few others, for the more general elucidation of the subject.

Languedoc yields, in a common year, from five hundred to one thousand two hundred quintals of silk.\* I have searched books in vain for information of the quantity of silk produced in all France; but I find the number of looms which work it, by one account, twenty-nine thousand,† of which eighteen thousand at Lyons; but by a later and more authentic account, there were at Lyons only nine thousand three hundred and thirty-five looms, which worked about two million pounds,‡ and in all France seventeen thousand five hundred looms; which, in the same proportion, would work about three million, seven hundred and sixty three thousand pounds. In 1784, she imported raw silk to the value of 29,500,000 livres, and in 1787, to 28,220,000 livres; call it twenty-nine millions, and 20 livres the mean price per lb. it is one million, four hundred and fifty thousand pounds;§ which will leave about two million, three hundred and ten thousand pounds for the home produce, or 46,200,000 livres, which is so gross an impossibility, as to ascertain to a certainty, the exaggeration of the number of looms, and confirms, in a fresh instance, the many errors in the New Encyclopædia. If Languedoc produces only one hundred thousand pounds, all the rest of the kingdom cannot produce twenty times as much; for the culture is confined to three or four provinces, except small quantities, that enter for little in a general account. I was informed, at Lyons, that the home growth was about a million of pounds weight, of two-thirds of the value of the imported per lb. or about twenty livres. This makes the growth to the value of 20,000,000 livres or 875,000l. If so, Languedoc must produce more than one hundred thousand pounds, for that province must be at least one-fourth, if not one-third of the whole. I must confess I have my doubts upon this point, and think that even one million of pounds much exaggerated, for I crossed the silk country in more than one direction, and the quantity of trees appeared inconsiderable for any such produce. But admitting the authority, and stating that the kingdom does produce to the amount of 8 or 900,000l. sterling, I must remark that the quantity is strangely inconsiderable, and seems to mark, that the climate has something in it vastly inferior to that of Italy, for the production of this commodity; in which country there are little principalities that give more than the whole kingdom of France; yet, to human feel-

\* Considerations sur le Commerce de Bretagne, par Mons. Pinczon du Sel des Mons. 12mo. p. 5.

† Letter sur les Muriers & Vers a soie Journal Œconomique, 1756, vol. ii. p. 36.

‡ Encyclop. Methodique Manuf. tom. ii. part 2. p. 44

§ A very late writer was strangely mistaken in saying, that France imports 20,000,000 of pounds weight. Mr. Townshend's Journey through Spain, vol. i. p. 52.

ings, there is no comparison between the climate of France and that of Italy; the former is better, beyond all question. But the spring frosts (found in Italy also) are what bring the greatest destruction on this culture, and will for ever retard its progress greatly in countries exposed to them. In 1788, there was a general failure in the south of France, yet across the Pyrenees in Catalonia, the crop was abundant, merely because the spring frosts did not pass those mountains.

In the districts and spots of the southern provinces, where the climate has, from experience, been found favourable to silk, there is no want of exertion in following it; and about Lorient and Montelimart, it is cultivated with more energy than in any part of Lombardy, yet at small distances there are no mulberries, though the proprietors are as rich and as industrious as where they are found. The same observation is to be made every where, and seems to mark a great dependence even on the locality of climate, if I may hazard such an expression. Where the culture succeeds well, it appears from the preceding minutes, to be highly profitable, and to form one of the most beneficial objects that can attract the attention of the industrious.

The Society of Arts at London, have, for many years, offered premiums for mulberries and silk in England; and much has been written and argued in favour of the scheme, which I take to be a great but harmless folly; it may mislead and deceive a few ingenious speculative people, who may, for what I know, in the course of a century, arrive at such success as the late king of Prussia boasted, that of making a few thousand pounds of miserably bad silk, after forty years' exertion. Such success is a real loss; for the same attention, time, capital, and encouragement, given to productions natural to the climate, would have made twenty times, perhaps an hundred times, the return. That silk may be made in England I have no doubt; but it will be made on the same principles, and attended by the same dead loss. The duke of Bellisle made silk in Normandy, and if he had been a great sovereign, his hundreds would have been thousands of pounds; but all was loss, and therefore the sooner it dropped the better. Another duke failed, not quite so much in the Angoumois; and a third planted mulberries to loss on the Garonne; his neighbours did the same, but grubbed them up again because they did not answer. At Tours, the finest climate of France for fruits, and by consequence well adapted for mulberries, they succeed tolerably, but the culture does not increase, which carries with it a presumption, that more steady heat in spring is wanted than the northern provinces of France enjoy. Such circumstances bear with great force against any ideas of silk in England, where the heat is never steady; and least of all in spring, where late frosts cut off vegetables much harder than the mulberry, even so late as the end of May and beginning of June; and where I have seen potatoes turned black by them, even on midsummer day.

The minutes are invariably decisive, on the question of feeding worms with any thing but mulberry leaves; the utter impracticability of that scheme is shewn in a manner too satisfactory for any doubts to remain; and the difficulty of retarding the hatching of the worms beyond a certain period, though not proved with equal decision, is yet placed in a light not a little questionable. It is upon these two modifications of the common practice, that silk in England confessedly depends; one of them is a vague groundless theory: and the other too uncertain to be relied on. But I must further remark, that frosts, in such a climate as England, as well as abroad, are to be looked for after the leafing of the mulberry; and consequently, that the power of retarding the hatching of the eggs would be useless; the worms in that case must be put upon other food, which, with small parcels, would make bad silk, and with large ones would demand an expence impossible to submit to every year, for a mere contingency that might

be demanded only once in three or four. To urge the example of Brandenburg is idle: in the first place all continental climates are more regular than insular ones, and therefore the climate of the king of Prussia's dominions may be better for the business; yet with this advantage Normandy failed. In 1788, that is, after forty years' exertion, they made, in all the Prussian territories, eleven thousand pounds,\* of pounds lighter than French ones. And the author I quote on this subject, who commends the project, informs us, that in Brandenburg, to make a pound of silk demands one-fourth more cocoons than in the south of France;† and that the silk thus made is so bad, that it will do only for certain objects;‡ of the climate he says, that it is not favourable enough§ for the business. What encouragement is to be collected from this detail, when it is considered that forty years effort of the first talents in the world, seconded by boundless power, forcing plantations and lavishing premiums, have been able to drive this nail, that will not go but against nature, to no greater extent than eleven thousand pounds of bad silk in all the Prussian dominions? In my opinion, the result of such an experiment yields a more complete condemnation, than if it had never been tried at all in such a climate, and ought to be a lesson to us in England, not obstinately to persist in such foolish attempts, calculated only to bring ridicule on societies, and disappointment to individuals. In all probability, the silk made in Prussia cost every year ten times more than it is worth; that is to say, the same royal attention, the same premiums, the same favours, as giving trees and silk eggs, the same powerful instigations to rectors and curées of the crown livings, &c.; had they been exerted to people the heaths of Brandenburg with sheep, would have yielded, in wool alone, ten times the value of eleven thousand pounds of silk; which, if we value it at 12s. a pound, being so inferior, amounts only to 6600l.; a pretty article of produce for forty years' effort of the most energetic government in Europe! fifty thousand sheep, at 3s. a head in wool, go much beyond it, throwing mutton out of the question.

An idle error in England, is the idea that this culture demands the labour only of women and children, and old and infirm persons; the contrary appears the fact; eight men are necessary for gathering the leaves for twenty ounces of grain, during four or five days, when the worms are most ravenous; and the work of gathering is that of men at all times; for the leaves are not picked, but stripped along a branch, by force and hardness of hand. And even the feeding and cleaning worms is so far from being light work, that it is, on the contrary, very severe, so as even to kill some of the poor people that follow it up; as the industrious will follow up all work severely. The culture is therefore very far from what it has been represented in England, as being all net profit, demanding only women, children, and the infirm; on the contrary, it would demand many able men, at a busy season of the year, when they could be ill spared; and if a proposal was to be made at such a season to a farmer, that he must spare men enough to gather all the leaves of many hundred pollard trees of any sort, he would probably say, the price of mulberry leaves in the silk countries would not pay him; and that double that price would not be an inducement to him, at such a season, to derange his business, and take his men from necessary work, for employing them on such a business. If it is asked, how the same thing can be done in silk countries? I answer, that labour is but half the price of English labour, owing to causes explained in other chapters; that the multiplied subdivision of landed property fills many of those countries with hands, many idle, and many not half employed. To them the culture is highly valuable; but to introduce it in a country, even if the climate would permit, constituted and politically arranged, in a manner and upon principles absolutely contrary, would be

\* Mirabeau Monarch. Pruss. tom. i. p. 180.

† Tom. ii. p. 166.

‡ Tom. i. p. 180.

§ Tom. ii. p. 166.

attended with difficulties and expences, not in the contemplation of a people very ingenious, perhaps, who have amused themselves with silk-worms, and paid an attention to them, being a pleasure, which, if commercially valued, would possibly amount to fifty times the value of all the silk they make.

#### CHAP. XXIV.....OF CATTLE IN FRANCE.

EVERY part of agriculture depends so immediately on the quantity of live stock, that a farming traveller cannot give too much attention to so material a part of his pursuit. The candid reader will not, however, look to any traveller, that does not reside long in a place, for such information as is alone to be acquired by such residence. He who stays a week will gain knowledge beyond the attainment of a day; and the attention of a month will produce fruits beyond the reach of him whose observations are limited to a week, and yet remain very superficial, when compared with the researches of others who live on the spot. A mere traveller should gain what his opportunities allow, and what he is thus able to gain is not the less valuable, because larger powers would have commanded a greater harvest.

PAYS DE BEAUCE....*Toury, &c.*....Their best cows sell at 150 livres; they give 12 or 13 bottles a day.

*Orleans*....They have a remarkable custom of letting chick-weed get a head in their vineyards, which they pluck in May and dry. This they boil in water with bran for their cows, giving it thrice a day, and find that it makes them give double the quantity of milk they would do on any other food. This application of a common plant, that might easily be cultivated, and got off time enough for a crop of turnips, probably improving the land, deserves a trial. The fact is curious.

SOLOGNE....*To La Ferte*....Make hay of the weeds of their vineyards, and are the chief support of their cows; do not boil, but give them in bran and water. In summer feed with grass and vine cuttings. A cow, that gives one to three bottles a day, sells at 90 livres.

*La Fuzilier*....The cows small, and very like Alderneys. Plough bullocks of the same breed.

BERRY....*Verson*....A pair of oxen, ready to work, sell at 400 livres (17l. 10s.) and when old and past labour, but lean, 300 to 340 livres.

*Argentan*....A good pair of oxen sell at 400 livres; common ones 300 livres; very fine to 600 livres (26l. 5s.) All the cattle here are cream coloured, as well as the droves we have met going to Paris. A cow, not the largest, sells at 150 livres (6l. 11s. 3d.)

LA MARCHE....*To Boismande*....Very fine bullocks, well made, and in great order, 600 livres (26l. 5s.) the pair. These oxen are of a beautiful form; their backs straight and flat, with a fine springing rib; clean throat and leg; felt well; and are in every respect superior to many breeds we have in England.

*La Ville Aubrun*....Work their cows, but they do not give as much milk as if not worked. A good one sells, with its calf, at 150 livres (6l. 11s. 3d.) They fatten oxen here with raves, a sort of turnip; begin to use them in October or November, and last generally about three months. To fatten a pair of good oxen, would take forty-five cart loads, cut in pieces, and twenty quintals of hay; when the raves are done, they give the flour of rye or other corn, with water enough added to form a paste; this they leave four or five days to become sour, and then they dilute it with water, thicken it with cut chaff, and give it to the oxen thrice a day; when fed with raves the oxen do not want to drink. Such a detail would imply a turnip culture of

some importance, but though hoeing is not absolutely unknown, yet the turnips may be conjectured, from the common management, being never to hoe, fearing to cut up the crop by it. The young plant is sometimes eaten by the fly, in which case they sow again; frost sometimes damages the roots, but never destroys them entirely. Often sow wheat after them, and do not cultivate clover: thus three-fourths of the merit of the culture is lost.

*Bassie....* Their raves yield, according to the year, two or three cart loads per boisee of land, about eight of which make an English acre. A pair of good oxen will eat a cart load in two days, but have hay with them: they are as fond of this root as horses are of oats: they finish with flour of rye, mixed as before-mentioned: they assert that the oxen like it the better for being sour, and that it answers better in fattening them. They eat about a boiseau a day (weighs 22lb.) and never give this acid liquor without chopped hay. It is proper here to remark, that, in coming to Paris, we have met a great many droves of these oxen, to the amount I guess of from twelve to fifteen hundred, and that they were with few exceptions very fat; and considering the season, May, the most difficult of the year, they were fatter than oxen are commonly seen in England, in the spring. I handled many scores of them, and found them an excellent breed, and very well fattened.

*LIMOUSIN....To Limoges....* A pair of good oxen will eat a cart load of raves a day; begin to feed the end of October: after the raves, give rye-paste as described above, but with the addition of a leaven (levain) to the paste, to quicken the fermentation, and make it quite sour: at first the oxen will not drink it, but they are starved to it; usually take it the second day, and after they have begun like it much, and never leave a drop. Saw a pair bought last winter for 1100 livres (48l. 2s. 6d.) but such as are ready for work, sell as dear as fat ones, which is remarkable. An arpent of raves yields forty cart loads; and a pair of good oxen will eat a load a day. They have two kinds; one very large and flat, the other more round, and with a root that enters the ground deeply. They generally manure thoroughly for them in March, and plough in so early that the dung may be quite rotten and mixed with the soil by the end of June. Begin to sow a fortnight after midsummer: they are not hurt by the frost when it thaws with rain, but are apt to rot when it thaws with the sun. About Christmas they plough up the part eaten, and sow rye, the rest for oats. They plough their cows, milking them once a day, from three to five bottles.

*Limoges....* The great staple of the whole province is fat cattle, sent to Paris and other towns, as well as hogs, that go for salting to the sea ports. The cattle are all of a yellow cream colour, with no other distinction than having, one in an hundred perhaps, a tendency to a blood red: all have horns of a medium length; legs short in proportion to their carcasses, which are deep and heavy; the shape in general very good; the back straight and broad; the rib springing, and consequently well arched; the hips and rumps very fat; the tail rising high from the rump; which I note, not because such points are of real importance, but because it is esteemed by some as a proof of a bad breed: the weight I guess to be from 60 to 70 stone (14lb.) some rise to 80, and a very few may be so low as 50. Their hogs are many of them large: some with lop ears like our old Shropshire's.

*St. George....* The same breed of oxen continues here, but hardly so large; they are always kept in high order: a pair draws the weight commonly of 2000lb. and supports such labour well. They rear calves by keeping them eight or ten months with the cows.

*Usarch*....Fatten their oxen with raves, as above, and then with rye-flour, made into a paste with leaven, and given sour, as before described. They also fatten some with potatoes, mixed with chesnuts, and also alone; but in either case boiled thoroughly, and given fresh as boiled every day. They have a great opinion of their fattening quality: they feed their cows also with this root, and find that it gives a great increase of milk. Calves reared, either for oxen or cows, suck ten or twelve months, which is the universal practice.

*QUERCY*....*Brive to Cressensac*....A practical farmer, that has the largest oxen I had met with, gave me the following account: they fatten with maize, but, in order to render it tender, pour boiling water on it, cover it up close, and give it to the cattle the same day; and in this method it is a most excellent fattener, both of oxen and poultry. But in order to make them fatten sooner and better, this farmer gives them, every night, and sometimes of a morning, a ball of pork-grease, as large as an apple; he says this is both physic and food, and makes them thrive the better.

*To Souillac*....Fat their oxen here also with raves, and give them also to lean beasts; the master of the post town where we stopped says, that he sent last year to Paris, four raves that weighed 100lb. They soil their oxen with crops of the *vicia latharoides*, and of the *lathyrus setifolius*; of these plants he spoke so highly, when given in the soiling way, in the stable, that he said the oxen became so fat that they could not get out of the stable if they were not worked. He shewed me some oxen that did not allow a doubt of the truth of what he said, for they were as fat as bears. The fact of hog's grease being given, was here confirmed; it is given to increase the appetite, and answers so well, that the beasts perfectly devour their food after it, and their coats become smooth and shining. The most fattening food they know for a bullock, is walnut oil-cake. All here give salt plentifully, to both cattle and sheep, being but 1s. a pound. But this practice is, more or less, universal through the whole kingdom.

*Cahors*....Nearly all the draft cattle are mules, and yoked as oxen in England, only collars to the yoke instead of bows. Cows and oxen all cream coloured; very good, and in fine order.

*LANGUEDOC*....*Toulouse*....Very fine cream-coloured horned oxen; a pair of good working ones sell at 25 louis.

*St. Gaudents*....Price 120 livres (5l. 5s.) in the winter kept in stables, and fed upon hay.

*Bagnere de Luchon*....Every parish in these mountains has common pastures for their cattle and sheep, and each inhabitant has a right to send as many as they can feed in winter. They are on the mountain three or four months, under the care of people who milk the cows, goats, and ewes, and give the proprietor, at the end of the period, two cheeses of eighteen pounds for each cow; or four goats; or ten ewes; the price of the cheese is 5s. the pound; but 10s. at a year old, and the overplus, if any, is their reward. A cow is reckoned to pay above 2 louis a year, valuing the calf, as they do, at a louis. A pair of cows, stout enough to be worked, sell at 10 to 12 louis; and a pair of oxen 12 to 15 louis.

*BASQUE*....Informed by a gentleman, at Bagnere de Luchon, that the mountains in this province afford a very great supply of food, in summer, for cattle, which are sent to winter on the landes of Bourdeaux, where they just get a living on weeds, rough grass, branches of trees, &c.; and that they pay only 5s. a head for wintering these cattle, which is perfectly incredible; but I note it as reported. He also informs me, that those



mountains of Basque, and also of Navarre, breed most of the oxen that I saw in Limousin; they are sold thither calves; and are all cream-coloured, or yellowish.

LANGUEDOC....*Pinjean to Montpellier*....Ploughing with fine large oxen, in good order; some cream-coloured, others deep-red; middling horns. The same breed has been found all the way, almost from the Loire to Barcelona; and from Calais to the Loire, variations of the short-horned Alderney, or Norman cow.

BEARN....*Navarens*....Cream-coloured cows, 100 livres to 120 livres.

GASEOIGN....*St. Palais to Anspan*....In 1786, on these mountains, the scarcity of forage being very great, they cut much fern and made hay of it, and it answered well; horses, mules, and young cattle, eat it freely; but it was cut early. Through this country, and nearly to Bayonne, they fatten oxen with raves, which they cultivate carefully for an after-crop. They answer perfectly well, without other food being given; when the raves are done, they sometimes give maize-flower, but dry, knowing nothing of the Limousin method.

*Port St. Marie*....Very fine cream-coloured oxen.

*Aiguillon*....Ditto, very fine and beautiful.

*Tonnium to La Morte Landron*....As we advance on the Garonne, the oxen are yet finer; meet common ones at 600 livres and 700 livres the pair; but some very fine that rise to 1000 livres, and 1200 livres (52l. 10s.) as they are in the plough; all are however, in fine order, and many fat. Breed their own cattle; a pretty good cow sells at 250 livres; harness and work them as oxen, but gently while they give milk.

*La Reole*....Work their cows: put oxen at work at three years old, and keep them to it four, eight, and even ten years, according as they are found fit for it. Rise in price to 1200 livres the pair. The least weight they are put to draw, is 20 quintals (a ton English) a pair; but good oxen draw 30 quintals with ease: all harnessed by the horns; they are fed now upon maize leaves, which are so excellent a food for them, that it is sown in succession thickly for mowing for soiling. Give also at present vine leaves, which are very good food. See them shoe an ox; they are fastened by the horns in a shoeing stall, and lifted from the ground, if wanted, by two broad bands of hemp, that pass under the belly. The shoe turns over the toe, or hoof, as in England; shoe for ploughing as well as for the road.

*Barsac*....Oxen, through all this country, where they are found fine, are dressed as regularly every day as horses.

ANGOUMOIS....*Barbesieux to Petignac*....Cream-coloured oxen; 20 louis to 25 louis the pair.

POITOU....*Poitiers*....Red-coloured oxen, with a black tinge in the head; the sign of the Poitou breed.

*Chateaurault*....Good cream-coloured and red oxen, but they have declined since Bourdeaux. The good ones here sell at 25 louis the pair. They plough with a pair, without driver or reins.

*Amboise*....Cream-coloured, and some blackish; and, which shews we are got to the Loire, some Norman ones, with mixtures. This great river is the separation of breeds in a remarkable manner. All the way from Tours, to Blois, they raise raves for cows and oxen, but never hoe them; and the scale not at all respectable.

*Petiviers*....Cows quite the Norman breed, and the earth tilled by horses.

ISLE OF FRANCE....*Liancourt*....Exceedingly deficient. Some poor ill fed cows upon the commons were all that I saw, except the duchess of Liancourt's dairy of Swiss cows.

Of oxen and fattening beasts they have none. Very fine fat beef appeared at table which came from Paris, I think.

*Brasseuse....* Madame la Viscountesse du Pont's dairy of cows fed entirely with lucerne, and the butter excellent; I admired it much, and found the manufacture quite different from the common method. The milk is churned instead of the cream. Her dairy-maid is from Bretagne, a province famous for good dairy-maids. The evening's milk and the morning's are put together, and churned as soon as the latter is milked; the proper quantity of salt is added in the churn, and no washing or making in water, which these dairy-maids hold to be a very bad method. Finer butter, of a more delicate flavour, was never tasted, than procured by this method from lucerne.

*Comerle en Vexin....* This part of the province is famous for fattening calves for the Paris market. I had gathered some circumstances at Marenne, and they were confirmed here. All is known at Paris under the name of Pontoise veal, but it comes chiefly from this country. The farmers here are mostly if not all, in the system of suckling. The cows are of the Norman short-horned breed, nearly resembling our Alderney; those of three considerable farmers, whose herds I viewed, were so unexceptionably. The management of their cows is to keep them tied up constantly, as far as food is concerned, but turned out every day for air and exercise, during which time they pick up what the bare pastures yield. Their food is given in the houses, being soiled on lucerne, sainfoin, or clover, mown fresh every day, while they give milk, but hay and straw in winter. The calves also are, in general, tied up in the same house; those I saw, both cows and calves, were all littered; but they seemed to have so little attention to keep them clean, that I inquired the reason; and was told, that they are sometimes suffered to rest on their dung till it rises high, by the addition of fresh straw, but that no inconvenience is found from it. Having been assured that they fed their calves with eggs, for giving reputation to the veal of Pontoise, I inquired into the truth of it, and was assured that no such practice was known; and that the reason of the superiority of the veal of Pontoise, to that of Normandy, from which province most of the other calves come, was simply that of making them fatter by longer sucking; whereas the Norman custom was to feed them with skim milk. In this country of the Vexin, they are in the custom of keeping them till they are of a large size: I saw some of four months old, valued at 4 louis each, and that would be worth 5 louis in another month; some have been sold at 6 louis; and more even than that has been known. I felt one calf that sucked the milk of five cows. It was remarkable to find, that the value of many fattening calves I examined was nearly what it would be in England; I do not think there was 5 per cent. difference. They never bleed them to whiten the flesh, as is done with us. Some of the farmers here keep many cows; Mons. Coffin, of Commerle, has forty, but his farm is the largest in all the country; the country people say it is 20,000 livres a year.

*PICARDIE....St. Quentin....* All the way from Soissons hither, the cattle are some black, and black and white, which is very uncommon in France.

*Cambray to Bouchaine....* Feed their cows, and fatten oxen and cows, on carrots. They reckon that no food is so good, for giving much and excellent milk. For fattening an ox they slice them into bran: but they remarked, that in fattening, the great object was to change their food; that a middling one, with change, would go further than a good one without; but in such change, carrots rank very high.

*FLANDERS....Valenciennes to Orchies....* Finding that they fed cattle with linseed-cakes, I inquired if they used any of their immense quantity of colseed-cakes for the same use? And was assured that they did; and that a beast, with proper care, would fatten on them,

though not so well as on linseed-cake; also that they feed their sheep with both. For fattening beasts and for cows, they dissolve the cake in hot water, and the animal drinks, not eats it, having various other food given at the same time, as hay, bran, &c.; for there is no point they adhere to more than always to give variety of foods to a fattening beast. Their cows, of which they are very proud, are Dutch; not large, though bigger than the Norman breed; they are red, or red and white, with a few black; the horns short and curled inwards, forward. They are fed in the house the whole year round, but kept clean with the greatest attention. They boast of their butter being equal to any in the world; and I was assured of a cow that gave 19 livres (16s. 7½d.) in butter every nine days. They feed them with potatoes, which give excellent butter; and with turnips, which give as bad. Cows sell at 150 livres.

*To Lillie....*All the cattle tied up in houses, as they assured me, the year round; I inquired into their motives for this, and they asserted, that no practice is, they think, so wasteful as letting cattle pasture abroad, as much food, or perhaps more, being spoiled than eaten; the raising dung also is a great object with them, which stands still, to their great loss, when cattle are abroad.

Their cows were now (November 4) feeding on turnips and cabbages. In every cow house I saw a tub of bran and water, which is their principal drink; boiled with bran in it is greatly preferred, but some give it without boiling. Such minutiae of practice seems only possible on a little farm, where the hands are very numerous compared with the quantity of land: but it merits experiment to inquire, how far boiling all the water drank in winter can answer. Without experiment, such questions are never understood. All the cows I saw were littered, but the floor being flat, and without any steep at the heel, they were dirty.

*NORMANDIE....Neufchatel...* There are dairies here that rise to fifty cows, the produce of which in money, on an average, rejecting a few of the worst, is 80 to 100 livres, including calves, pigs, butter, and cheese. In winter they feed them with straw: later with hay; and even with oats and bran; but not the least idea of any green winter food. The vale from hence to Gournay is all full of dairies, and some also to Dieppe. One acre of good grass feeds a cow through the summer.

*To Rouen....* Good cows give three gallons of milk a day; they are of the Alderney or Norman breed, but larger than such as come commonly to England.

*Pont au Demer....* Many very fine grass inclosures, of a better countenance than any I have seen in France, without watering; grazed by good Norman cows, larger than our Alderneys, but of the same breed; I saw thirty-two in one field. In the height of the season they are always milked three times a day; good ones give three English gallons of milk a day. A man near the town that has got cows, but wants pasture, pays 10s. a day for the pasturage of one, which is a very high rate for cattle of this size.

*Pont l'Evêque....* This town is situated in the famous Pay d'Aguc, which is the district of the richest pasturage in Normandy, and indeed of all France, and for what I know of all Europe. It is a vale of about thirty-five miles long, and from half a mile to two miles over, being a flat tract of exceedingly rich land, at the bottom of two slopes of hills, which are either woods, arable, or poor land; but in some places the pasture rises partly up the hills. I viewed some of these rich pastures, with a gentleman of Pont l'Evêque, Mons. Beval, who was so good as to explain some of the circumstances that relate to them. About this place they are all grazed by fattening oxen: the system is nearly that of many of our English counties. In March or April, the graziers go to the fairs of Poitou and buy the oxen lean at about 240 livres (10l. 10s.) they are generally cream-coloured; horns of a middling length, with the tips black; the ends of their

tails black; and tan coloured about the eyes, which are the distinctions of the Poitou breed. At Michaelmas they are fat; and sent to the fair at Poissy, that is Paris: such as are bought in at 240 livres lean, are sold fat at 350 to 400 livres (15l. 6s. 3d. to 17l. 10s.) An acre of good pasturage carries more than one of these beasts in summer, besides winter fattening sheep. This acre is four verges, each forty perches, and the perch twenty-two feet, or a very little better than two English acres. The rent of the best of these pastures (called herbagés here) amounts to 100 livres (4l. 7s. 6d.) per Norman acre, or nearly 2l. 3s. 9d. the English; the tenants taxes add 14 livres (12s. 3d.) or 6s. 1½d. per English acre. The expences may be stated thus:

Rent,	-	-	-	-	-	-	-	-	-	-	liv.
Taxes,	-	-	-	-	-	-	-	-	-	-	14
Suppose 1½ ox fattened, bought at 240 livres,	-	-	-	-	-	-	-	-	-	-	360
											<hr/>
											474
Interest of that total,	-	-	-	-	-	-	-	-	-	-	23
											<hr/>
											497
											<hr/>
Say,	-	-	-	-	-	-	-	-	-	-	500
											<hr/>
Ox and an half fat, at 375 livres,	-	-	-	-	-	-	-	-	-	-	562
Expences,	-	-	-	-	-	-	-	-	-	-	500
											<hr/>
Profit,	-	-	-	-	-	-	-	-	-	-	62
											<hr/>

Which is about 1l. 6s. 6d. per English acre profit; and will pay a man well, the interest of his capital being already paid. As these Norman graziers are generally rich, I do not apprehend the annual benefit is less. In pieces that are tolerably large, a stock proportioned to the size is turned in, and not changed till they are taken out fat. These Poitou oxen are for the richest pastures; for land of an inferior quality, they buy beasts from Anjou, Maine, and Bretagne. The sheep fed in the winter do not belong to the graziers, but are joisted; there is none with longer wool than five inches, but the pasture is equal to the finest of Lincoln. In walking over one of these noble herbagés, my conductor made me observe the quantity of clover in it, as a proof of its richness; it was the white Dutch and the common red: it is often thus—the value of a pasture depends more on the diadelphia than on the triandria family.

*To Lisieux....* This rich vale of the Pay d'Auge, some years ago, was fed almost entirely with cows, but now it is very generally under oxen, which are found to pay better. Whatever cows there are, are milked three times a day in summer.

*To Caen....* The valley of Corbon is a part of the Pay d'Auge, and said to be the richest of the whole. In this part, one acre, of one hundred and sixty perches of twenty-four feet, or about (not exactly) 2¼ acres English, fattens two oxen. Such rents are known as 200 livres (3l. 17s. per English acre) but they are extraordinary; the proportions here are rather greater, and more profitable than in the former minute. They buy some beasts before Christmas, which they keep on the pasturage alone, except in deep snows; these are forwarder in spring than such as are bought then, and fatten quicker; they have also a few sheep. There are graziers here that are landlords of 10,000 livres, and even 20,000 livres a year, yet 100 acres are a large farm.

*Bayeux*....The rich herbage about this place are employed in fattening oxen, of the Poitou breed, as before; bought lean, on an average, at 200 livres, and sold fat at 350 livres. Their cows are always milked thrice a day in summer; the best give twelve pots a day, or above four gallons, and sell at 7 or 8 louis each.

*Isigny to Carentan*....Much salt marsh, and very rich; they fat oxen; but I was surprised to find many dairy cows also on these very rich lands. A cow they say sometimes pays 10 louis in a year; giving eight pound of butter in a week, at 20s. to 30s. a pound at some seasons, but now (August 25) only 10s. which they say is ruinously cheap. All are milked thrice a day. Others informed me that a cow gives ten pound a week, at the average price of 15s. These cows resemble the Suffolk breed, in size and brindle colour, round carcass, and short leg; and would not be known from them but by the horns, which are of the short Alderney sort. The profit on fattening a cow here they reckon at 72 livres, and an ox of the largest size 300 livres. They have also a common calculation, that dairy cows feed at the expence of 8s. a day, and yield 20s. leaving 12s. profit. It is remarkable, and cannot be too much condemned, that there are no dairies in this country: the milk is set and the butter made in any common room of a house or cottage.

*Carentan*....Many oxen are bought at Michaelmas, and kept a year. They eat each in the winter three hundred bottes of hay, or 50 livres, but leave 150 livres profit, that is, they rise from 300 livres to 450 livres. Cows pay, on an average, 100 livres, and are kept each on a verge of grass, the rent of which is from 30 to 40 livres. As the verge is 40 perches, of 24 feet, or 23,040 feet, it is equal to 96 English square perches, which space pays 100 livres, or per English acre 7l. 5s. 3d.; but all expences are to be deducted, including what the wintering costs. Here they have milk-rooms. They work oxen all the way from Bayeux, in yokes and bows, like the old English ones, only single instead of double.

Advancing; cows sell so high as 10 and 12 louis. Many are milked only twice a day; good ones give  $1\frac{1}{2}$  or  $1\frac{1}{2}$  pound of butter a day. They remark that cows that give the largest quantity of milk do not yield the largest quantity of butter. Fat cows give much richer milk than others.

Again; a good cow gives six pots of milk a day, which pays in butter 24s. Three thousand livres profit has been made by fattening thirty cows. A great number of young cattle all over the country, especially year olds.

BRETAGNE....*Rennes*....Good oxen of Poitou, 400 livres to 600 livres the pair; they are harnessed by the horns. A good cow, 100 livres. Milk but twice a day.

*Landerviser*....I was at the fair here, at which were many cows; in general of the Norman breed, but small: one of the size of a middling Alderney, 4 louis, but said to be dear at present. Colour, black and white, and red and white.

*Quimper*....Many black and white, small, but well made, cows on the wastes here; a breed somewhat distinct from the Norman; different horns, &c.

*Nantes*....Many Poitou oxen; cream-coloured; black eyes, tips of horns, and end of tail; about fifty or sixty stone fat; all yoked by the horns.

*Nonant*....Much rich herbage; an acre of which feeds two oxen to the improvement of 160 livres. Many cows are fattened also; and some milked always three times a day in summer.

*To Gace*....Some very fine cream coloured oxen, of sixty stone or more; but in general, red and white, not Poitou.

ISLE OF FRANCE....*Nangis*....Cows sell at 4 louis or five louis; oxen, half fat, from 8 louis to 11 louis. They come from Franche Compté.

CHAMPAGNE....*Mareuil*....Mons. Le Blanc's Swiss cows give eighteen pints of Paris (the Paris pint is an English quart) of milk per diem, and hold their milk remarkably long. He gave 40 louis for a bull and a cow.

LORRAINE....*Braban*....A small cow, 75 livres.

ALSACE....*Strasbourg*....A cow, 6 louis; an ox the same.

*Issenheim*....Cows improve as you approach Franche Compté.

*Befort*....Good oxen, red and cream-coloured, to 25 louis a pair.

*Isle*....Here much smaller; and they say the fine ones I have seen are from the mountains on the frontiers of Swisserland.

BOURGOGNE....*Dijon to Nuy*....Small oxen in this country, and yoked by the horns.

*Autun to La Maison de Bourgogne*....Good oxen drawing by the horns.

AUVERGNE....*Clermont*....Salt given twice a day to cows that give milk. In the mountains the price of cows, 150 livres to 200 livres; a few, 300 livres: an ox, from 200 livres to 450 livres.

*Izoir*....A pair of good oxen, 16 louis to 18 louis, which will draw two thousand pounds. The Poitevins will buy only red cattle in Auvergne, having remarked that they fatten easier.\*

VIVARAIS....*Costerons*....A small cow, 4 louis.

PROVENCE....The cities of Aix, Marsailles, and Toulon, are fed by oxen, cows, and sheep, from Auvergne, which come every week; a few from Piedmont.

*Tour d'Aigues*....A pair of good oxen, 18 louis or 20 louis. When they have done working, they are fattened with the flour of the lathyrus sativus, &c. made into paste, and balls given fresh every night and morning; each ox, two or three balls, as large as a man's fist, with hay.

#### OBSERVATIONS.

From the preceding notes it appears, that in Normandy, the Bas Poitou, Limousin, Quercy, and Guienne, the importance of cattle is pretty well understood; in some districts very well; and that in the pasturage part of Normandy, the quantity is well proportioned to the richness of the country. In all the rest of the kingdom, which forms much the greater part of it, there is nothing that attracts notice. There would, in eighteen-twentieths of it, be scarcely any cattle at all, were it not for the practice of ploughing with them. There are some practices noted, which merit the attention even of English farmers. 1. The Limousin and Quercy methods of fattening, by means of acid food. It is remarkable, that I have found hogs to fatten much better with their food become acid, than when used fresh.† But in England no experiments, to my knowledge, have been made, on applying the same principle to oxen; it is, however, done in the Limousin with great success. The subject is very curious, but the brevity necessary to a traveller will not allow my pursuing it at present. 2. The practice in Flanders, and, in some degree, in Quercy, &c. of keeping cows, oxen, and all sorts of cattle, confined in stables the whole year through. This I take to be one of the most correct, and probably one of the most profitable methods that can be pursued; since, by means of it, there is a constant accumulation of dung throughout the year, and the food is made to go much farther. 3. Milking well-fed cows thrice a day, as in Normandy. Experiments should be made on the advantages of this practice, which will probably be found not inconsiderable; it is never done, either in England nor in Lombardy.

\*See also Voyages D'Auvergne, par Mons. Le Grand D'Aussy, octavo, 1788, p. 273.

† Annals of Agriculture, vol. i. p. 340.

Except in the provinces I have named, the management of cattle in France is a blank. On an average of the kingdom, there is not, perhaps, a tenth of what there ought to be: and of this any one must be convinced, who reflects that the courses of crops throughout the kingdom are calculated for corn only; generally bread corn; and that no attention whatever is paid to the equally important object of supporting great herds of cattle, for raising manure, by introducing the culture of plants that make cattle the preparative for corn, instead of those barren fallows which are a disgrace to the kingdom. This system of interweaving the crops which support the cattle, among those of corn, is the pillar of English husbandry; without which our agriculture would be as miserable and as unproductive as that of France. The importance of grass in such views, is little understood in France; but in proportion as corn is the ultimate object, should be the attention that is paid to grass. England, by the immense extent of her pastures, has a prodigious preparation always ready for corn, if it was demanded. He who has grass can, at any time, have corn; but he who has corn, cannot at any time have grass, which demands one or two years' accurate preparation. In proportion to your grass, is the quantity and mass of your improvements; for few soils, not laid to grass, are at their last stage of improvement. The contrary of all this takes place in France; and there is little appearance, from the complexion of those ideas which are at present fashionable there, that the kingdom will be materially improved in this respect: the prejudices in favour of small farms, and a minute division of property, and the attention paid to the pernicious rights of commonage, are mortal to such an improvement; which never can be effected but by means of large farms, and an unlimited power of enclosure.

#### HORSES.

This is an animal about which I have never been solicitous, nor ever paid much attention; I was very early and practically convinced of the superiority of oxen for most of the works of husbandry; I may, indeed, say for all, except quick harrowing: and if oxen trot six miles an hour with coaches, in Bengal, which is the fact, they are certainly applicable to the harrow, with proper training. To introduce the use of oxen in any country, is so important an agricultural and political object, that the horse would be considered merely as administering to luxury and war. The very few minutes I took, I shall insert in the order they occurred.

LIMOUSIN.... This province is reckoned to breed the best light horses that are in the kingdom; and some capital regiments of light horse are always mounted from hence; they are noted for their motion and hardiness. Some miles to the right of St. George, is Pampadour, a royal demesne, where the king has a haras (stud:) there are all kinds of horses, but chiefly Arabian, Turkish, and English. Three years ago four Arabians were imported, which had been procured at the expence of 72,000 livres (3149l. ;) and, owing to these exertions, the breed of this province, which was almost spoiled, has been much recovered. For covering a mare, no more is paid than 3 livres, which is for the groom, and a feed of oats for the horse. They are free to sell their colts to whom they please; but if they come up to the king's standard of eight, his officers have the preference, on paying the same price offered by others; which, however, the owner may refuse, if he pleases. These horses are never saddled till six years old, and never eat corn till they are five; the reason given is, that they may not hurt their eyes. They pasture all day, but not at night, on account of the wolves, which abound so in this country as to be a nuisance. Prices are very high; a horse of six years old,

a little more than four feet six inches high, sells for 70 louis; and 15 louis have been offered for a colt at one year old. The pastures are good, and proper for breeding horses.

*Cahors*.... Bean-straw they reckon excellent for horses, but not that of pease, which is too heating.

*Agen*.... Meet women going to this market, loaded with couch roots to sell for feeding horses. The same practice obtains at Naples.

SAINTONGE.... *Monlieu*.... Never give chaff to their horses, as they think it very bad for them.

ISLE OF FRANCE.... *Dugny*.... Mons. Crette de Palleul has found out chaff one of the most economical foods that can be given to horses; and his machine for cutting it is by far the most powerful one that I have any where seen. It is a mill turned by a horse; the cutting instruments are two small cylinders, that revolve against each other, circular cutting hoops being on their surface, that lock into each other; those of one, plain, but of the other, toothed; just above them is a large trough or tray, to hold a truss of straw, which weighs twelve pounds, and the machine cuts it into chaff in three minutes, without putting the horse out of his paces; and in two minutes, by driving him quicker; a man attends to spread the straw equally in the tray, as it is sucked in by the revolving cylinders; a boy driving the horse. One of the machines common in England, for dressing corn, is at the same time turned: the whole is in a building of eight yards square.

NORMANDY.... *Isigny*.... The rich herbage here are fed, not only with bullocks and cows, but also with mares and foals.

*Carentan*.... Colts, bred here, sell for very high prices, even to 100 louis at three years old; but in general good ones from 25 to 30 louis.

BRETAGNE.... *Rennes*.... Good horses sell at 150 livres. The author of the *Considerations sur le Commerce de Bretagne*, says, p. 87, that he has seen many markets in the bishopries of Rennes and Nantes, where the best horse was not worth 60 livres.

*Morlaix*.... See in this vicinity, for several miles, some fine bay mares with foals.

*Auvergnac*.... Informed that Bretagne exports twenty-four thousand horses, from 12 to 25 louis each; and the country that chiefly produces them, is from Lamballe to the sea beyond Brest.

ALSACE.... *Strasbourg*.... A good farm horse, 12 louis.

*To Schelestadt* ... Clover mown for soiling all the way.

The Norman horses for draught, and the Limousin for the saddle, are esteemed the best in the kingdom. Great imports have been made of English horses for the coach and saddle. It is no object to lessen that import, for their own lands can be applied to much more profitable uses than breeding of horses. The economists were great enemies to the use of oxen, and warm advocates for that of horses becoming general; one of the many gross errors which that fanciful sect were guilty of.

#### HOGS.

GASCOIGN.... *St. Palais to Anspan*.... See many fine white, and black and white hogs; they are fed much on acorns, but are fattened throughout this country on maize ground to flour, and boiled with water to a paste, and given fresh, milk warm, every day. Some on beans. They are turned a year old when put up to fatten; rise to the weight of two or three quintals. These are the hogs that furnish Bayonne with the hams and bacon, which are so famous all over Europe. The hams sell at 20s. the pound.



I have reserved this minute, from some others of little consequence, for the opportunity of remarking, that, in England, the old custom of feeding hogs with warm food, is totally discontinued; but it well deserves experiment, whether it would not answer in fattening, and also in the nourishment of sows and pigs. Such experiments are difficult to make satisfactorily, but yet they ought to be made by some persons that are able. Warm food in winter, regularly given, I should suppose, must be more fattening than that which is cold, and, in bad weather, half frozen.

#### CHAP. XXV...OF THE CULTURE OF VARIOUS PLANTS IN FRANCE.

IN the course of my inquiries into the French agriculture, I made some minutes on various articles, that do not merit a separate chapter assigned to each; I shall therefore introduce them to the reader alphabetically. It may be of use to future travellers to know what articles are cultivated in that kingdom, that they may give to each such an attention as may suit their purpose.

#### ALMONDS.

PROVENCE....*Aix*....More subject to accidents than olives; sometimes three, four, and five bad crops to one good. Olives flourish in June, but almonds in February, and consequently subject to frosts. The produce of a good tree is commonly 3 livres.

*Tour d'Aigues*....Do not yield a good crop oftener than once in ten years. Price, 36 to 40 livres the quintal; four and a half quintals in the shell yield one clean: the price has been 70 livres. Price of the pistachio almond, 6 livres the fifteen pound in the shell. Some few fine almond trees will give a quintal in the shell. They are a most hazardous culture, by reason of the fog that makes them drop; the worm that eats; and the frost that nips.

#### BEANS.

SOISSONNOIS....*Coucy*....In the rich lands cultivated, in the course of, 1, beans; 2, wheat, remark now (October 31) some beautiful curled and luxuriant pieces of wheat, which from the beans among it, appear to have been sown after this crop.

ARTOIS....*Lillers to Bethune*....Many beans through all Artois, in drills at twelve or fourteen inches, very fine and very clean; the culture is as common and as good as in Kent, and they have a much richer soil. Wheat is sown after mustard, flax, and beans; and is better after beans than after either of the two crops.

ALSACE....*Wiltenheim to Strasbourg*....Many pieces; good and very clean. Produce, six sacks (of one hundred and eighty pound of wheat) per arpent of 24,000 feet (twenty-eight bushels per English acre.)

*Schelestadt*....Produce six to eight sacks, at 7 to 12 livres (seven at 9 livres is 4l. 7s. per English acre.)

The culture of beans is by no means so common in France as it ought to be; they are a very necessary assistance on deep rich soils in the great work of banishing fallows; they prepare on such soils better than any other crop for wheat, and are of capital use in supporting and fattening cattle and hogs.

#### BROOM.

BRETAGNE....*Rennes*....The land left to it in the common course of crops. It is cut for faggots; sold to the bakers, &c.

*Morlaix*....Cultivated through all this country, in a very extraordinary system : it is introduced in a regular course of crops, and left three or four years on the land ; at which growth cut for faggots, and forms the principal fuel of the country. It is a vast growth much superior to any thing I ever saw ; six or seven feet high, and very stout ; on regular lands, with intervals of two or three feet. Price sometimes of a cord of wood, 30 livres. Does this apologize for such a system ?

*Brest*....The broom seed is sown among oats, as clover is in other places, and left four years, during all which time it is fed. The faggots of a good journal will sell for 400 livres (14l. per English acre.) The faggots weigh fifteen pound, and sell fifty for 9 livres to 12 livres, being a three-horse load. It is only within the reach of Brest market that it is worth 400 livres, elsewhere only 300 livres the best. Four years broom improves land so much, that they can take three crops of corn after it.

BOURGOGNE....*Luzy*....When I left Bretagne, I never expected again to find broom an article of culture ; but the rye-lands of all this country, and there is nothing but rye in it, are left, when exhausted by corn, to cover themselves with broom, during five years ; and they consider it as the principal support of their cattle.

To Bourbonlancy and BOURBONNOIS....*Moulins*....Much broom through all this district of rye-land.

#### CARROTS AND PARSNIPS.

FLANDERS....*Cambray*....See some fine carrots taken up, which on inquiry, I find are for cows. They sow four pound of seed per arpent ; hoe them thrice : I guessed the crop about four bushels per square rod. An arpent sells, for cattle, at 180 livres, the purchaser taking up (5l. 5s. per English acre.) After them they dung lightly, and sow wheat.

*Orchies to Lille*....The culture here is singular ; they sow the seed at the same time, and on the same land, as flax, about Easter ; that crop is pulled in July, the carrots then grow well, and the produce more profitable than any other application of the flax stubble. They yield, I guess, from sixty to eighty bushels, and some more, per English acre : but what I saw were much too thick.

*Argentan to Bailleul*....Carrots taken up, and guarded, by building in the neatest and most effectual way, against the frost ; they are topped, laid in round heaps, and packed close, with their heads outwards ; and being covered with straw, in the form of a pyramid, a trench is digged around, and the earth piled neatly over the straw, to keep out the frost. In this manner they are found perfectly secure.

ARTOIS....*Ass to Aras*....A sprinkling of carrots, but none good.

BRETAGNE....*Ponton to Morlaix*....Many parsnips cultivated about a league to the left ; they are sown alone and hoed. They are given to horses, and are reckoned so valuable, that a journal is worth more than one of wheat. Nearer to Morlaix, the road passes a few small pieces. They are on beds, five or six yards broad, with trenches digged between, and on the edges of those trenches a row of cabbages.

*Morlaix*....About this place, and in general through the bishopric of St. Pol de Leon, the culture of parsnips is of very great consequence to the people. Almost half the country subsists on them in winter, boiled in soup, &c. and their horses are generally fed with them. A horse load of about three hundred pounds sells commonly at 3 livres ; in scarce years, at 4 livres ; and such a load is good food for a horse fifteen days. At sixty pounds to the bushel, this is five bushels, and 2s. 7½d. for that is 6½d. per bushel of that weight. I made many inquiries how many loads on a journal, but

no such thing as information tolerably to be depended on; I must therefore guess the present crop, by the examination I made of many to amount to about three hundred bushels, or three hundred and fifty per English acre. The common assertion, therefore, that a journal of parsnips is worth two of wheat, seems to be well founded. The ground is all digged a full spit deep for them; they are kept clean by hand-weeding very accurately, but are left, for want of hoeing, beyond all comparison, too thick. They are reckoned the best of all foods for a horse, and much exceeding oats; bullocks fatten quicker and better on them than any other food; in short, they are, for all sorts of stock, the most valuable produce found on a farm. The soil is a rich deep friable sandy loam.

*Landernau to Brest....* The culture of parsnips here declines much, but I saw a few pieces; one was weeding by five men, crawling on their knees. Fatten many horses, by feeding them with cabbages and parsnips boiled together, and mixed with buck-wheat-flour, and given warm. They have a great pride here in having fat horses. Many other districts in France, besides Bretagne, possess the right soil for parsnips; and many more, besides Flanders, that for carrots; but they are no where else articles of common culture. Parsnips are not cultivated in England; but carrots are in Suffolk, with great success, and all the horses in the maritime corner of that county fed with them. I have, in the Annals of Agriculture, given many details of their culture and uses. Carrots succeed well on all dry soils that are six inches deep; but for large crops, the land should be a foot deep, rich, and dry. The extent of such in France is very great, but this general profitable use not made of them.

## CABBAGES.

**FLANDERS....***Orchies to Lillic....* The kale, called here choux de Vache, is common through this country; it never cabbages, but yields a large produce of loose reddish leaves, which the farmers give to their cows. The seed is sown in April, and they are transplanted in June or July, on to well dunged land, in rows, generally two feet by one foot: I saw some fields of them, in which they were planted at greater distances. They are kept clean by hoeing. They are reckoned excellent food for cows, and the butter made from them is good, but not equal to that from carrots.

**NORMANDIE....***Granville to Avranches....* In the gardens of the cottages, many cabbage trees five and six feet high.

**BRETAGNE....***St. Brioux....* Many sown here on good land, on wheat stubbles, for selling plants to all the gardens of the country, and to a distance. I do not see more than to the amount of a journal in one piece; which, in September, I must have done, had they possessed any cabbage culture, as represented to me, worth attention. They first clean, and then plough the wheat stubbles, and chop and break the surface of the three-foot ridges fine, and then sow. The plants are now (September 7) about an inch high, and some only coming up.

*Morlaix....* They have some crops that are much more productive than their turnips, but planted greatly too thick: they are given to cows and oxen.

**ANJOU....***Migniame....* The chou d'Anjou, of which the marquis de Turbilly speaks, is not to be found at present in this country; they prefer the chou de Poitou, which is a sort of kale, and produces larger crops of leaves than the chou d'Anjou. Mons. Livoniere gave me some seeds, but by mistake, they proved a bad sort of rave, and not comparable to our turnips, as I found by sowing them at Bradfield.

**ALSACE....***Saverne to Wiltenheim....* Many cabbages, but full of weeds.

*Strasbourg....*Crops to a great weight, but only for sour crout.

*Schelestat....*The quantity increases between Benfeldt and Schelestat. Their culture is, to sow the seed on a bed in March, covered with mats, like tobacco, and transplant in June, two to three thousand plants on an arpent; they make a hole with a spade, which they fill with water, and then plant; they never horse-hoe, yet the distance would admit it well. They are in size ten or twelve pounds, and some twenty pounds; the hearts are for sour crout, but the leaves for cows. An arpent is worth 303 livres (20l. 15s. 10d. per English acre;) but carriage to a town is to be deducted.

The culture of cabbages for cattle, is one of the most important objects in English agriculture; without which, large stocks of cattle or sheep are not to be kept on soils improper for turnips. They are in every respect but one, preferable to that root; the only inferiority is, that of cabbages demanding dung on all soils, whereas good land will yield turnips without manuring. Great attention ought to be paid to the full introduction of these two crops, without which we may venture to predict, that the agriculture of France will continue poor and unproductive, for want of its due stock of cattle and sheep.

#### CLOVER.

ISLE OF FRANCE....*Liancourt....*Never cultivate it for its place in rotation, but merely for forage like lucerne; have a barbarous custom of sowing it without tillage on wheat stubbles, and it lasts so sometimes two years.

ARTOISE....*Recousse....*Mons. Drinkbierre, a very intelligent farmer here, assured me, that clover exhausted and spoiled the land, and that wheat after it was never so good as after a fallow; but as the clover was sown with a second, and even a third corn crop, no wonder therefore that it fouls land.

I could add many other notes on this subject, but will be content to mention, in general, that the introduction of clover, wherever I have met with it, has been commonly effected in such a manner that very little benefit is to be expected from it. All good farmers in England know, from long experience, that the common red clover is no friend to clean farming, if sown with a second or third crop of corn. In the course, 1, turnips or cabbages; 2, barley or oats; 3, clover; 4, wheat: the land is kept in garden order. But if after that fourth crop, the farmer goes on and sows, 5, barley or oats; 6, clover; 7, wheat, the land will be both foul and exhausted. In a word, clover is beneficial to the really good and clean farmer only to the extent of his turnips, cabbages, and fallow; and never ought to be sown but on land previously cleaned by those hoeing crops, or by fallow. As to fallow, no Frenchman ever makes it but for wheat, consequently the culture of clover is excluded. I have often seen it sown in this course; 1, fallow; 2, wheat; 3, barley; 4, oats; 5, clover; 6, clover; 7, wheat; 8, oats; and the land inevitably full of weeds. I may venture to assert, that clover thus introduced, or even in courses less reprehensible, but not correct, will do more mischief than good, and that a country is better cultivated without than with it. Hence therefore, let the men, emulous of the character of good farmers, consider it as essential to good husbandry to have no more clover than they have turnips and cabbages, or some other crop that answers the same end; and never to sow it but with the first crop of corn; by these means their land will be clean, and they will reap the benefits of the culture without the common evils.

I have read in some authors, an account of great German farmers having such immense quantities of clover, as are sufficient to prove the utter impossibility of a due pre-

paration: these quantities are made a matter of boast. We know, however, in England, in what manner to appreciate such extents of clover.

#### CHESTNUTS.

**BERRY....***La Marche....*First meet with them on entering La Marche.

**Boismande....**They are spread over all the country; the fruit are sold, according to the year, from 5s. to 10s. and 15s. the boiscou, which measure will feed a man three days: they rub off the skin; boil them in water with some salt; squeeze them into a kind of paste, which they dry by the fire; they commend this food as pleasant and wholesome. The small ones are given to pigs, but will not fatten them so well as acorns, the bacon being soft; when fattened with acorns, they are finished with a little corn. A chesnut tree gives two boiscou each of fruit on an average; a good one, five or six. The timber is excellent for building; I measured the area spread by many of them, and found it twenty-five feet every way. Each tree, therefore, occupies six hundred and twenty-five feet, and an acre fully planted would contain seventy; at two boiscou each it is one hundred and forty, which, at 10s. is 2l. 18s. 4d. and as one of these measures will feed a man three days, an acre would support a man four hundred and twenty days, or fourteen months. It must, however, be obvious, that land cannot be so exactly filled, and that an acre of land would not probably, in common, do for half that number.

**La Villeaubrun....**They eat many chesnuts, but do not live upon them, eating some bread also; in which mode of consuming a boiscou, it will last a man five or six days. Price as above.

**LIMOUSIN....***Limoges....*Price 7s. to 15s. the boiscou. This food, though general in the country, would not be sufficient alone; the poor therefore eat some rye bread. The comfort of them to families is very great, for there is no limit in the consumption, as of every thing else: the children eat them all day long, and in seasons when there are no chesnuts there is often great distress among the poor: The exact transcript of potatoes in Ireland. The method of cooking chesnuts here, is to take off the outward skin, and to put a large quantity into a boiler, with a handful of salt, and very little water to yield steam; they cover it as closely as possible to keep in the steam: if much water is added they lose their flavour and nourishing quality. An arpent under chesnuts does not yield a product equal to a good arpent of corn, but more than a bad one.

**To Magnac....**They are spread over all the arable fields.

**QUERCY....***Brive to Noailles....*Ditto; but after Noailles there are no more.

**Payrac....**Boil them for their food, as above described.

**LANGUEDOC....***Gange....*Many in the mountains, and exceedingly fine chesnut under-wood.

**POITOU....***Ruffec....*Yields a good crop, to the amount even of 10 livres for a good tree's produce. The poor people live on them. A measure of forty-five pounds has been sold this year at 48s.

**BRETAGNE....***Pont Orson....*On entering this province, these trees immediately occur, for there are none on the Normandy side of the river, that parts the two provinces.

**MAINE....***La Fleche to Le Mans....*Many chesnuts, the produce chiefly sold to towns; the poor people here not living on them with any regularity: three bushels (each holding thirty pounds of wheat) are a good crop for one tree, and sell at 40s. the bushel; this is more than a mean produce, but not an extraordinary one. The number here is very great; and trees, but of a few years' growth, are well loaded.

VIVARAIS....*Pradelles to Thuytz*....Immense quantities of these trees on the mountains ; it is the greatest chesnut region I have seen in France. The poor people live on them boiled ; and they sell by measure, at the price of rye.

The husbandry of spreading chesnuts over arable lands must unquestionably be very bad ; the corn must suffer greatly, and the plough be much impeded. It is as easy to have these trees upon grass land, where they would be comparatively harmless : but the fact is here, as is so general in France, that they have no pastures which the plough does not occupy by turn ; all, except rich meadows, being arable. The fruit is so great a resource for the poor, that planting these trees upon lands not capable of tillage by the plough, is a very considerable improvement ; the mountains of the Vivarais thus are made productive in the best method perhaps that they admit.

#### CHICORY.

ISLE OF FRANCE....*Dugny*....Mons. Crette de Paleucl, 1787, had this plant recommended to him by the Royal Society of Paris ; in consequence of which, he has made several very successful experiments on it. He has had it two years under cultivation. The seed is sown in March, twelve pounds per arpent (one hundred perches at eighteen feet) on one ploughing, and is harrowed in. It rises so thick, as to cover the whole ground, and is mown the same year once ; Mons. Crette has cut one piece twice the first year. The following winter he dunged it, at the rate of eight loads of three horses per arpent. The year after, some was cut three times, and some four ; and Mons. Crette remarks, that the oftener the better, because more herbaceous and the stalks not so hard. He weighed the crop upon one piece, and found the weight, green,

	lb.
Of the first cutting, - - - - -	55,000
second, - - - - -	18,000
third, - - - - -	3,000
	<hr/>
Per arpent, - - - - -	76,000
	<hr/>

By making some of it into hay, he found that it lost three-fourths of its weight in drying, consequently the arpent gave nineteen thousand pounds of hay, or ten tons per English acre. It is so succulent and herbaceous a plant, as to dry with difficulty, if the weather be not very fine ; but the hay, he thinks, is equal to that of clover, though inferior to meadow hay. He has used much in soiling, and with great success, for horses, cows, young cattle, and calves ; finds it to be eaten greedily by all, and to give very good cream and butter. Mons. Crette's fine dairy of cows being in their stalls, he ordered them to be fed with it in my presence ; and they ate all that was given with great avidity. When in hay, it is most preferred by sheep : cows do not in that state eat the stalks so well as sheep. A circumstance which he considers as valuable, is its not being hurt by drought so much as most other plants ; and he informs me, but not on his own experience, that it will last good ten years.

I viewed one of his crops, of seven or eight arpents, sown last spring, and which has been mown once ; I found it truly beautiful. He sowed common clover and sainfoin among it, and altogether it afforded a very fine fleece of herbage, about eight or nine inches high (October 28) which he intends feeding this autumn with his sheep. He is of opinion that the sainfoin will be quite suffocated, and that the chicory will get the better of the clover.

PROVENCE....*Vauchuse to Orgon*....In a very fine watered meadow, one third of the herbage is this plant.

I liked the appearance of this plant so well in France, and was so perfectly satisfied with what I saw of it, cultivated by Mons. Crette de Paleuel, and growing spontaneously in the meadows, that I brought seed of it to England, and have cultivated it largely at Bradfield with such success, that I think it one of the best presents France ever made to this kingdom. I sow it with corn like clover; but it pays well for occupying the land entirely. It will prove, without doubt, a very valuable plant for laying land permanently to grass; and also for introducing, in courses of crops, when the land wants rest for three, four, or five years. I am much mistaken if we do not in a few years make a much greater progress in the culture of this plant than the French themselves, from whom we borrowed it, will do.

Sheep are said to be very fond of it,\* a fact I have sufficiently proved in Suffolk. From a passage in an Italian author, who speaks of sowing the wild chicory, I am in doubt whether the French have the honour of being really the first introducers of this plant.†

#### COLESEED.

FLANDERS....*Cambray*....Near this town, I met first with the culture of coleseed: they call it goza. Sow the seed thick on a seed-bed, for transplanting; setting it out on an oat stubble, after one ploughing. This is so great and striking an improvement of our culture of the same plant, that it merits the utmost attention; for saving a whole year is an object of the first consequence. The transplanting is not performed till October, and lasts all November, if no frost; and at such a season there is no danger of the plants not succeeding: earlier would however surely be better, to enable them to be stronger rooted, to withstand the spring frosts, which often destroy them; but the object is not to give their attention to this business till every thing that concerns wheat sowing is over. The plants are large, and two feet long, a man makes the holes with a large dibble, like the potatoe one used on the Essex side of London, and men and women fix the plants, at eighteen inches by ten inches; some at a foot square, for which they are paid 9 livres per manco of land. The culture is so common all the way to Valenciennes, that there are pieces of two, three, and four acres of seed bed, now cleared, or clearing for planting. The crop is reckoned very uncertain; sometimes it pays nothing, but in a good year up to 300 livres the arpent (one hundred perches of twenty-four feet) or 8l. 15s. the English acre. They make the crop in July, and by manuring the land, get good wheat.

*Valenciennes to Orchies*....This is a more valuable crop than wheat, if it succeeds, but it is very uncertain. All transplanted.

*Lille*....The number of mills, near Lille, for beating coleseed, is surprising, and proves the immense quantity of this plant that is cultivated in the neighbourhood. I counted sixty at no great distance from each other.

*Bailleul*....The quantity cultivated through this country immense; all transplanted; it occurs once in a course of six or seven years. Price of the cakes, 3½s. each; they are the same size as ours in England.

ARTOIS....*St. Omers*....Great stacks of coleseed straw all over the country (August 7th) bound in bundles, and therefore applied to use.

\* *Phytographie Economique de la Lorraine*, par M. Willemet, 1780. octavo, p. 57.

† *Ronconi Dizionario D'Agricoltura o sia La Coltivazione Italiana*. Tom. ii. p. 148.

I should remark, in general, that I never met with coleseed cultivated in any part of the kingdom merely for sheep-feed; yet it is an object, so applied, of great consequence, and would be particularly useful in France, where the operose cultures of turnips and cabbages will be long establishing themselves. With this view coleseed should be thus introduced:

1. Winter tares, sown the beginning of September on a wheat stubble; mown for soiling: then the land ploughed and coleseed harrowed in.
2. Barley, or oats.
3. Clover.
4. Wheat.

#### FULLER'S THISTLE.

ISLE OF FRANCE....*Liancourt*....Very profitable: has been known to amount to 300 livres or 400 livres the arpent (about 1½ acre.)

#### FURZ.

GASCOIGNE....*St. Palais to Anspan*....A practice in these mountainous wastes, which deserves attention, is their cutting furz when in blossom, and chopping them mixed with straw for horses, &c.; and they find that no food is more hearty or nourishing.

NORMANDIE....*Vologne to Cherbourg*....Throughout this country a scattering of furz sown as a crop, with wheat or barley, as clover is usually sown: the third year they cut it to bruise for horses; and every year afterwards: and it yields thus a produce of 40 livres the verge, of ninety-six English perch.

BRETAGNE....*St. Pol Leon*....Through all this bishopric the horses are fed with it bruised, and it is well known to be a most nourishing food.

The practice here minuted is not absolutely unknown in England; there are many traces of it in Wales, and some other parts of the kingdom. I have been assured that an acre, well and evenly seeded, and mown for horses every year, has yielded an annual produce, worth, on a moderate estimate, 10l. but I never tried it, which was a great neglect, in Hertfordshire, for I had there land that was proper for it.

#### CULTURE OF HEMP AND FLAX.

PICARDIE....*Montreuil to Picquigny*....Small patches of flax all the way. At Picquigny, a good deal of land ploughing for hemp, to be sown in a week. (May 22.)

QUERCY....The hemp, in much of this province, is sown every year on the same spots; and very often highly manured. This appears to be an erroneous system, wherever the lands in general are good enough to yield it.

*Caussade*....Vast quantities near this place, now (June 12) two or three feet high.

LANGUEDOC....*Monrejeau*....Flax now (August 10) grassing.

*Bagnere de Bigore to Lour*....Never water their flax, only grass it. I saw much with the grass grown through it; if the land or weather be tolerable wet, three weeks are sufficient.

GUIENNE....*Port de Leyrac*....This noble vale of the Garonne, which is one of the richest districts of France, is also one of the most productive in hemp that is to be found in the kingdom.



*Agen....*Hemp yields ten quintals per carteree, at 40 livres the quintal, poid de table (17l. 10s.) which carteree is sown with two hundred and seventeen pounds of wheat. This is probably about 1 $\frac{3}{4}$  English acre.

*Aguillon....*The hemp is every where watered in the Garonne; they do not leave it in more than three or four days.

*Tonneins....*The whole country, from Aguillon to this place, is all under either hemp or wheat, with exception of some maize; and its numerous population seems now employed on hemp.

*La Morte Landron....*It yields ten to twelve quintals, at 36 livres to 45 livres the quintal.

*SOISSONNOIS....Coucy....*Hemp cultivated in the rich vales, in the course, 1, hemp; 2, wheat. It yields five hundred bottes, at 25 livres the hundred, reckoned on the foot before watering.

*St. Amand....*The carteree of land, of one hundred verge of nineteen feet (thirty-six thousand one hundred feet) under flax, has this year a very good crop, on account of the rainy weather; it has been sold at 1200 livres, or very near the fee-simple of the land (55l. 11s. 3d. per English acre.) This amazing value of flax made me desirous of knowing if it depended on soil, or on management. Sir Richard Weston, in the last century, who has been copied by many scores of writers since, speaks of poor sandy land as being the best for that flax of which the fine Brussels lace is made; consequently this is made from land abundantly different from what produces the Valenciennes lace, if that assertion were ever true. The soil at St. Amand is a deep moist friable loamy clay, of vast fertility, and situated in a district where the greatest possible use is made of manures; it therefore abounds very much with vegetable mould. Flax is sown on the same land once in twelve to fifteen years; but in Austrian Flanders, once in seven or eight years. Advancing and repeating my inquiries, I was assured that flax had been raised to the amount of 2000 livres the carteree (92l. 15s. 6d. per English acre.) The land is nearly the same as above described, and lets, when rented, at 36 livres the carteree (11l. 13s. 3d. per English acre.) They sow two raziere of seed, each holding fifty pounds of wheat per carteree; and a middling crop of good flax is from 3 $\frac{1}{2}$  to four feet high, and extremely thick. They water it in ditches, ten, twelve, and fourteen days, according to the season; the hotter the weather, the sooner it is in a proper state of putrefaction. After watering, they always grass it in the common method.

Going on, and gleaning fresh information, I learned that 1200 livres may be esteemed a great produce per carteree; the land all round, good and bad, of a whole farm, letting at 30 livres and selling at 1200 livres. Nothing can shew more attention than their cultivation: besides weeding it with the greatest care while young, they place poles, or forked stakes, amongst it, when at a proper height, in order to prevent its being beaten to the ground by rain, from its own length and weight; without this precaution it would be flat down, even to rotting.

*Orchies....*A carteree of flax, of forty thousand feet, rises to the value of 1500 livres, and even more (63l. 18s. 9d. per English acre.) They sow such as is intended for fine thread, as soon as the frosts are over, which is in March; but such as is for coarser works, so late as May. Never seed their own flax, always using that of Riga. They prefer for it an oat-stubble that followed clover; and they manure for it in the winter preceding the sowing. Wheat is, in general, better after flax than after hemp.

*Lille....*Flax in common, is worth 90 livres the centier, or 360 livres the carteree (15l. 6s. 3d. per English acre :) this is excluding uncommon crops.

ARTOIS....*Lillers*....Flax all through the country, and exceedingly fine. Sow wheat after it.

*Bethune*....An arpent of good flax worth more than one of wheat; yet good wheat is worth 200 livres.

*Beauval*....Flax sometimes worth 500 livres the journal (25l. 17s. 11d. per English acre.) Hemp does not equal it. They do not water flax here, only spread it on grass or stubbles.

NORMANDY....*Bolbec to Harfleur*....Flax not watered, but spread on stubble.

BRETAGNE....Throughout this province, they every where cultivate flax in patches by every family, for domestic employment.

*Ancenis*....The culture of flax is generally, throughout the kingdom, as well as in the greatest part of Europe, that of a spring crop; but here it is sown in autumn. They are now working the wheat-stubbles on one ploughing, very fine, with a stout bident-hoc and sowing them; some is up. It is pulled in August, and wheat sown after it.

ANJOU....*Migniame*....They have winter-sown flax all over the country. The value of the crop exceeds that of wheat. They do not water, only grass it; yet admit that watering makes it whiter and finer.

*Turbilly*....Hemp is sown in patches every where through the country; sells at 8s. the pound raw; spun, at 26s. and 27s. bleached, at 30s. to 36s. The crop is thirty to forty weights, each fifteen or sixteen pounds per journal, or about 210 livres.

MAINE....*Guesceland*....Through all this country there is much hemp sown every year, on the same spot; spun, and made by domestic fabrics, into cloth for home uses. Spinning is 10s. the pound; and it is an uncommon spinner that can do a pound in a day; in common but half a pound.

LORRAINE....*Luneville*....Hemp is cultivated every where in the province, on rich spots; hence there is much of it; and some villages have been known to make a thousand crowns in a year of their thread and linen. If it is wished that the hemp be very fine, they do not water, but only spread it on the grass; but in general water it. Use their own seed, and furnish much to their neighbours; but have that of flax from Flanders. Sow beans among flax for supporting it; others do this with small boughs of trees. Some also sow carrots among their flax; which practice, I suppose, they borrowed from Flanders. Hemp is always dunged; and always sown on the same spots, which sell at the same price as gardens; a common and execrable practice in France. A journal gives on good land, ninety-five pounds, and one hundred and three pounds of toup; price last year, ready for spinning, 16s. the pound; the toup 11s. now higher: also two razeau of seed (each one hundred and eighty pounds of wheat.) The journal equals sixty-five English perches.

ALSACE....*Strasbourg*....Product three quintals, at 27 livres the quintal, the arpent (5l. 12s. per English acre.)

*Schelestadt*....Produce two quintals, ready for spinning, at 36 livres to 48 livres the quintal (5l. 16s. 3d. per English acre.) Water it for cordage, but not for linen; grass it only, as whiter.

AUVERGNE....*Clermont*....In the mountains; price of hemp, ready to spin, 15s. to 18s. the pound; spun 24s. fine, 30s.

*Izoir*....Produce of hemp, per cartona, one hundred and fifty pounds rough, at 5s. the pound, which is one hundred and thirteen pounds ready for spinning; but bad hemp loses more. The seterce is eight cartoni, of one hundred and fifty toises, or forty-three

thousand two hundred feet. Hemp grounds sell equally with <sup>of</sup> gardens (11l. 11s. 6d. per English acre.)

*Briude*....Hemp yields a quintal raw, per cartona: female is worth 40 livres the quintal, male 30 livres: also eight coups of seed, at 6s. Average produce, 35 livres or 36 livres in all.

DAUPHINE....*Loriol*....Chinese hemp succeeds well with Monsieur Faujas de St. Fond, and perfects its seed, which it rarely does in the king's garden at Paris. He thinks it an error to sow it, like other hemp, in the spring; for he is of opinion, that it would seed even in England, if sown in autumn. He has found by experiment, that it is excellent for length and strength, if sown thick enough to prevent its spreading laterally, and to make it rise without branching.

PROVENCE....*Marseilles*....Price of hemp; Riga, first quality, 36 livres the quintal; ditto, second quality, 33 livres. Aneona, first quality, 33 livres; ditto, second quality, 30 to 31 livres. Piedmont, three group, 26 livres; four group, 28 livres.

From these notes it appears, that hemp or flax is cultivated in small quantities, through every part of France; generally for the uses of domestic manufactures among the lower classes. A very interesting political question arises on those diffused fabrics, and on which I shall offer a few observations under the chapter of manufactures.

#### MADDER.

ALSACE....*Strasbourg Fertenheim*....Much of this plant is cultivated in various parts of Alsace, where the soil is very deep and rich, especially on that which they call limoneuse, from its having been deposited by the river. They dig the land for it three feet deep, and manure highly: the rows are six to nine inches asunder, and they hoe it clean thrice a summer. The produce of an arpent, of twenty-four thousand feet, is forty quintals green, before drying, and the mean price 6 livres the quintal (16l. 12s. 6d. per English acre.) Such is the account I received at Strasbourg; but I know enough of this plant by experience, to conclude, that such a produce is absolutely inadequate to the expences of the culture, and therefore the crop is probably larger than here stated; not that the low rate of labour should be forgotten.

DAUPHINE....*Pierre Latte*....Planted here in beds; but it is very poor, and apparently in a soil not rich enough.

*To Orange*....Much ditto; all on flat beds, with trenches between, but weedy and ill cultivated. The price is 27 livres the quintal dry. Some just planted, and the trenches very shallow: dig at three years old. Price 24 livres the quintal, dried in the sun. The roots are small and poor.

*Avignon*....Price 24 to 30 livres; but there is no profit if it be under 50 livres. It is three years in the land. Sow wheat after it; but if it were not well dunged the crop is poor. A good deal on flat beds, eight feet wide, with trenches between, two broad and two deep, which are digged gradually for spreading on it.

*Lille*....An eymena in three years gives five quintals, at 20 to 24 livres the quintal, but a few years ago was 50 to 70 livres. The expences are very high, 120 livres. At 4l. a cwt. which equals a French quintal, madder paid a proper profit for inducing many English cultivators to enter largely in it; but falling to 40s. and 50s. per cwt. some were ruined, and the rest immediately withdrew from it. But in France we

find they carry on the culture; it is however weakly and poorly done; with so little vigour, that common crops, well managed, would pay much better.

#### MAIZE.

The notes I took on the subject of this noble plant were very numerous; but as there is reason to believe that its culture cannot be introduced, with any prospect of advantage, in this island, I shall make but a few general observations on it.

In the paper on the climate of France, I have remarked, that this plant will not succeed in common cultivation, north of Luneville and Ruffec, in a line drawn diagonally across the kingdom; from which interesting fact we may conclude, that a considerable degree of heat is necessary to its profitable cultivation, and that all ideas of introducing it in England, except as a matter of curiosity, would be vain. It demands a rich soil or plenty of manure, and thrives best on a friable sandy loam; but it is planted on all sorts of soils, except poor gravels. I have seen it on sands in Guienne, that were not rich, but none is found on the granite gravels of the Bourbonnois, though that province is situated within the maize climate. The usual culture is to give two or three ploughings to the land; sometimes one ploughing, and one working with the heavy bident-hoe; and the seed is sown in rows at two feet or two and a half, by one and a half or two; sometimes in squares. Some I have seen near Bagnere de Bigore, in rows, at three feet, and eighteen inches from plant to plant. The quantity of seed in Bearn, is the eighth part, by measure, of the quantity of wheat sown. It is universally kept clean by hoeing, in most districts, with such attention, as to form a feature in their husbandry of capital merit. In August, they cut off all that part of the stalk and herbage which is above the ear, for feeding oxen, cows, &c. and it is perhaps the richest and most saccharine\* provender that the climate of France affords: for wherever maize is cultivated, no lean oxen are to be seen; all are in high order. The crop of grain is, on an average, double the quantity commonly reaped of wheat; about Navarren in Bearn, more than that; and there the price (1787) is 54s. to 55s. the measure, holding 36 pounds to 40 pounds of wheat; but in common years 18s. to 20s. Whether or not it exhausts the land is a question; I have been assured in Languedoc, that it does not; but near Lourde in Guienne, they think it exhausts much. Every where the common management is to manure as highly as possible for it. In North America it is said to exhaust considerably; † Monsieur Parmentier contends for the contrary opinion; ‡ wherever I found it, wheat succeeds it, which ought to imply that it is not an exhausting crop. The people in all the maize provinces live upon it, and find it by far more nourishing than any bread, that of wheat alone excepted. Near Brive, in Quercy, I was informed that they mix one-third rye, and two-thirds maize to make bread, and though yellow and heavy, they say it is very good food. A French writer says, that in Bresse, maize cakes cost nine and two-thirds deniers the pound, but that a man eats double the quantity of what he does of bread made of wheat. § A late author contends, that it is to be classed among the most wholesome articles of human food. ||

\* A real sugar has been made from it. *Spec. de la Nature*, vol. ii. p. 247.

† *Mitchel's Present State of Great Britain and N. America*, p. 157.

‡ *Memoire sur le Mais*, quarto, 1785, p. 10.

§ *Observations sur l'Agriculture*, par M. Varenne de Fenille, p. 91.

|| *Instruction sur la Culture & les Usages des Mais*, octavo, 1786, p. 30.

Every one knows that it is much cultivated in North America; about Albany, in New York, it is said to yield a hundred bushels from two pecks of seed;\* and that it shoots again after being killed by the frost, even twice; that it withstands the drought better than wheat (this is questionable;) does much better on loose than on stiff soils, and not well at all on clay. In South Carolina it produces from ten to thirty-five bushels per aere.† On the Mississippi two negroes made fifty barrels, each one hundred and fifty pounds.‡ In Kongo on the coast of Africa, it is said to yield three crops a year.§ According to another account, great care is taken to water it where the situation will admit;|| this I have seen in the Pyrenees; but most of the maize in France, even nineteen parts in twenty are never watered. About Douzenac, in the Limousin, they sow it thick to mow for soiling, and at Port St. Marie on the Garonne they do the same, after the harvest of other grain, which is the most profitable, and indeed admirable husbandry. This is the only purpose for which it can be cultivated in northern climates. It might be sown in England the first week in June, and mown the end of August, time enough to eat a late crop of turnips, or as a preparation for wheat.

## MUSTARD.

ISLE OF FRANCE....*Petiviers*....At Denainville, near this place, I saw them mowing mustard, in full blossom, to feed cows with.

ARTOIS....*Lilliers*....Much all the way to Bethune; sow spring corn after it.

## ORCHARDS.

NORMANDIE....*Falaise*....Many apple and pear trees are scattered over the country. They never plant them on the best lands, as they are convinced that the damage to the corn, &c. is at least equal to the value of the eyder; but on the poorer soils they consider it as an improvement, forming a fourth, or third, and in some cases even a half of the value of the land.

BRETAGNE....*Doll*....A eyder country; but reckon the trees at no real value beyond that of the land, for they spoil as much as they produce.

*Rennes*....A common proportion is to plant thirty trees upon a journal (about five roods English) which, if well preserved will yield on an average five to ten barriques of cyder every year; and the mean price 12 livres the barrique, which is one hundred and twenty pots; this year good orchards give forty or fifty per journal, but they have produced none, or next to none, for four years past. The damage the trees do to the corn is so great, that, in common expression, they say they get none. The cyder is made by the press, which is of the same kind as Jersey, I suppose, brought from this country. The ground apples, and wheat or rye straw in layers under the press, and reduced to such a desiccated state that they will burn freely immediately out of the press.

LORAINNE....*Blumon to Savern*....The whole country spread with fruit trees, apples, pears, &c. from ten to forty rods asunder.

AUVERGNE....*Vaires*....The valley of this place, situated in the Limagne, so famous in the volcanic history of France, is much noted for its fine apples, particularly the rennet blanche, the rennet gris, calville, and apy, all grafted on crab stocks.

\* Kalm's Travels in North America, vol. ii. p. 245.

† Modern Univ. Hist. vol. xvi. p. 25.

‡ Description of South Carolina, octavo,

‡ Du Pratz History of Louisiana, vol. i. p. 306.

|| Mem. de l'Acad. des Sciences, 1759, p. 471.

## OLIVES.

ROUSSILLON....*Bellegard to Perpignan*....Reckoned to pay one livre each tree.

*Pia*....The land under them fallowed every other year, and sown with corn: they are pruned in the fallow year, yielding no fruit; a crop being only in the corn year.

LANGUEDOC....*Narbonne*....Olives pay, in general, 3 livres each tree per annum; some 5 livres. Many fields of them are planted in rows, at twelve yards by ten.

*Beziers*....The trees on the farm that was Mons. l'abbé Rozier's, are seventeen yards by two.

*Pinjean*....Some trees so large and fine are known to give eighty-four pound of oil in a year, at 10s. the pound, or 42 livres; but they reckon in common that good trees give 6 livres one with another; this epithet *good*, shews that the common average of all trees is much lower. In planting, if they mean to crop the land with corn in the common manner, that is one year in two, the other fallow, they put one hundred trees on eight seterees, of land; but if they intend to have no corn at all, the same number on four seterees; under corn, the eight seterees yield forty septiers of corn, each one hundred pounds at 9 livres (7s. 10½d.) The seteree is about half an acre, as I conclude, from the best intelligenc I could procure. This proportion is one hundred trees on four English acres, or twenty-five per acre: if they were all good, the produce in oil would be 150 livres, and of wheat 90 livres, in all 240 livres or 10l. 10s.; the half only of which is annual produce, or 5l. 5s. which seems not to be any thing very great, even supposing the trees to be all good, which must be far from the fact.

*Montpellier to Nismes*....The trees are three rods asunder, by one and a half; also two by one and a half; both among vines; also two square; also one by one and a half.

*Pont de Gard*....Planted at one rod and one and an half; their heads almost join. They are all pruned to flat round heads, the centre of the tree cut out, cup-fashion; and these formal figures add to the ugliness of the tree.

VIVARAIS....*Aubenas*....In passing south from Auvergne, here the first olives are met with.

DAUPHINE....*Piere Latte to Avignon*....Many; but seven-eighths dead from the frost, and many grubbing up.

PROVENCE....*Aix*....Land planted with olives sells at 1000 livres the carteree, whilst arable only 600 livres, but meadows watered 1200 livres. Clear profit of a carteree of olives, 40 livres (21,600 feet, at 40 livres, it is 3l. 2s. 1d. per English acre.) Gathering the olives 40 livres 10s. the quintal: pressing 2 livres: cultivation 18 livres the carteree: the wood pays the pruning.

*Tour d'Aigues*....The olive, pomegranate, and other hard trees as they are called here, bear fruit only at the end of the branches; whence, they conceive, results the necessity of their being pruned every other year. Thirty years ago the common calculation of the produce, per olive, was 5s.; but now, the price being double, it may be supposed 10s.

*Toulon*....They have great trees in this neighbourhood that are known to yield 20 livres to 30 livres a tree, when they give a crop, which is once in two years, and sometimes once in three. Small trees yield 3 livres, 5 livres, and 6 livres each, and are much more profitable than mulberries, for which tree the soil is too dry and stony. Olives

demand as great an expence in buildings, presses, coppers, backs, &c. as vines. Pressing comes to 3 livres a barrel. Crop of a large tree, eight to ten pannaux. Olives, in Provence, never pruned into the hollow cup-form, which is so general in Languedoc: they appear here in their natural form.

*Hyeres....* They produce considerable in twenty or thirty years, and some have been known to be a hundred years old. I saw, going to Notre Dame, some that resisted the frost of 1709. A good tree of thirty years gives, when it bears, three pannaux of olives; the pannaux holds thirty pounds to thirty-two pounds of wheat, and the common price is 24s. the pannaux. They have great trees that give a mot or twenty pannaux, or 24 livres each tree. When fields planted with olives are bought, they are measured by the square canne or toise; a canne of good land, well planted, 30s.; middling, 20s.; bad, 10s.; but there are some that sell to 60s.; consequently a middling arpent is 900 livres.

*Antibes....* The largest trees I have seen in France are between this place and the Var, as if the near approach to Italy marked a vegetation unknown in the rest of the kingdom.

The culture of this tree is found in so small a part of France, that the object is not of very great consequence to the kingdom; one should, however, remark, that in Provence, where the best oil in Europe is made, there might be twenty trees to one that is found there; whence we may conclude, that if it were so profitable a husbandry, as some authors have represented, they would be multiplied more. The most important point is, their thriving upon rocky soils and declivities, impenetrable to the plough; in which spots too much encouragement cannot be given to their culture.

#### ORANGES.

*PROVENCE....Hyeres....* This is, I believe, the only spot in France where oranges are met with in the open air; a proof that the climate is more temperate than Roussillon, which is more to the south; the Pyrennees are between that province and the sun; but Hyeres lies open to the sea; so indeed does the coast of Languedoc; and so does Antibes; but there is a peculiarity of shelter at Hyeres, from the position of the mountains, that gives this place the advantage. I always, however, doubt whether experiments have been made with sufficient attention, when these nice discriminations are pretended, that are so often taken on trust without sufficient trial. The dreadful frost of last winter, which destroyed so many olives, attacked the oranges also, which were cut down in great numbers, or reduced to the mere trunk; most of them, however, have made considerable shoots, and will therefore recover.

The king's garden here, in the occupation of Mons. Fine, produced last year 21,000 livres in oranges only, and the people that bought them made as much by the bargain; the other fruits yielded 700 livres or 800 livres; the extent of this garden is twelve arpents; this 1808 livres per arpent, besides the profit (94l. 7s. 7d. per English acre.) A fine tree will produce one thousand oranges, and the price is 20 livres to 25 livres the one thousand for the best; 15 livres the middling; 10 livres the small. There are trees here that have produced to the value of two louis each; and what is a more convincing proof of great profit, a small one, of no more than seven or eight years, will yield to the value of 3 livres in a common year. They are planted from the nursery at two or three years old, and at that age are sold at 30s. each; and it is thought that the flowers, sold for distilling, pay all the expences of cultivation; they must, however, be

planted on land capable of irrigation, for if water be not at command, the produce is small.

#### POMEGRANATES.

PROVENCE....*Hyeres*....The hedges are full of them, and they are planted singly, and of small growth: the largest fruit sell at 3s. or 4s. each; middling, 1s. little ones, one liard. A good tree, of ten or fifteen years, will give to the value of 2 livres or 3 livres a year.

#### PINES.

GASCOIGN....*Bayonne*....The great product of the immense range of waste, as it is commonly called *landes*, is resin: the *pinus maritimus* is regularly tapped, and yields a produce, with as much regularity as any other crop, in much better soils. I counted from fifty to eighty trees per acre, in some parts; but in others from ten to forty; those with incisions for the resin are from nine to sixteen inches diameter. Some good common oak on this sand, twelve to fourteen inches diameter, but with bodies not longer than from eight to ten or twelve feet.

*St. Vincent's*....Here pines are cut for resin, at the age of fifteen to twenty years; the first year at about two feet from the ground, the second to four feet, the third to six feet, and the fourth to eight or nine feet: and then they begin again at bottom, on another side of the tree, and continue thus for one hundred years: the annual value per annum in resin, 4s. or 5s. When they yield no longer, they cut into good plank, not being spoiled by tapping. Much tar also is made, chiefly of the roots. Cork trees are barked once in seven years, and yield then about 15s. or about 2s. per annum. Men are appointed, each to a certain number of trees, to collect the resin, with spoons, out of the notches, cut at the butt-end of the tree to receive it.

*Dax*....Pines pay 4s. a year in resin. Pine woods, with a good succession of young ones; from one rod and a half to three asunder.

*Tartass*....Several persons united in asserting that the pines give one with another 4s. to 5s. each, from fifteen to one hundred years old, and are then sold on an average at 3 livres each; that taking the resin was so far from spoiling the tree, that it was the better and cut into better planks. This surprising me, I sought a carpenter and he confirmed it.\* They added that an arpent of pines was worth more than an arpent of any other land in the country; more even than of vines: that it would sell according to the trees from 500 livres to 1000 livres, while the inclosed and cultivated sands would not yield more than 300 livres, or at most than 400 livres. The arpent I found by measuring a piece of two arpents, to be 3366 English yards (500 livres is 31l. 10s. per English acre.)

*St. Severe*....Pass several inclosures of sandy land, resembling the adjoining wastes, sown with pines as a crop; they are now of various heights, and very thick. See some very good chesnut underwood on a white sand.

GUIENNE....*Langon*....Many of the props used for their vines here, are young pines, the thinnings of the new sown ones; are sold for 36 livres to 40 livres the thousand, or twenty bundles, each fifty pines.

\* M. Secondat makes the same observation, Mem. sur l'Hist. Nat. du Chene. Folio. 1785. p. 35. The same assertion is made in Memoire sur l'Utilite du Defrichement des Terres de Castelnaude-Medoc. 4to. 1791. Reponse au Rapport, p. 27.



*Cubzac to Cavignac....* On the poorest lands sow pines, which are not an unprofitable article of culture. At five years old they begin to thin them for vine props; and the small branches are sold in faggots. At fifteen years the produce is more considerable; and at twenty-five the best trees make boards for heading casks. I saw a journal and half, the boards of which yielded 1200 livres. They sow one hundred and thirty-five pound of wheat-seed on a journal. Several crops of sown pines very thick.

BRETAGNE.... *Quimperley to L'Orient....* Pines abound in this country, and seem to have sown themselves all around; but none are cut for resin.

*To Vannes....* Such a scattering of them, that I apprehend all this country was once pine land.

AUVERGNE.... *St. George....* In the mountains, see immense pine planks laid by way of fences, not less than sixty feet long, and two and two and a half feet broad.

*Fix....* Dr. Coffier has them in the mountains eighty feet high, and ten feet round.

PROVENCE.... *Cuges to Toulon....* In the rocky mountains of this coast, there are pines, and such as are of any size are cut for resin; but they stand too thin to yield an acreable produce of any account.

*Cavalero to Frejus....* The mountains here are covered chiefly with pines, and have a most neglected desert appearance.

*To Estrelles....* The same; and hacked and destroyed almost as badly as in the Pyrenees.

Pines are justly esteemed a profitable crop for the landlord, for they yield a regular and certain revenue, at a very little charge; no repairs, and no losses by failure of tenants. But, in regard to the nation, pines, like most of the poor woods of France, should be reckoned detrimental to the public interest, since a kingdom flourishes by gross produce and not by rent.

#### POPPIES.

ARTOIS.... *Lillers....* Much cultivated for oil; they are called here zulette. Get as good wheat after them as after coleseed.

*Aras....* Many here; they are reckoned to yield more money per arpent than wheat; equal to coleseed; which, however, is a very uncertain crop.

LORRAINE.... *Nancy to Luneville....* Some fine pieces on a poor gravel.

ALSACE.... *Savern to Wiltenheim....* Many poppies; some fine crops, and very clean.

*Strasbourg....* Product three sacks, at 24 livres per arpent, of twenty-four thousand square feet (4l. 19s. 9d. per English acre.) Manure for them, and sow wheat after.

Our ideas of the exhausting quality of certain plants, are at present founded, I believe, but upon that half-information which is scarcely a degree above real ignorance. It is a common observation, that all plants whose seeds yield oil, are exhausters of soil; an observation that has arisen from the theory of oil being the food of plants. Experiments upon both have been so few and unsatisfactory, as to be utterly insufficient for the foundation of any theory. Coleseed, seeded in England, is almost generally made a preparation for wheat; so it is in France, and we here find the same effect with poppies. It can hardly be believed, that wheat, which demands land in heart as much as almost any other crop, should be made to follow such exhausting plants as the theory of oil would make one believe these to be; it is the organization of the plant alone that converts the nourishment into oil; which, in one plant, turns it to a saccharine substance, and, in another, to an acid one; but the idea that plants are fed by oil, and that they exhaust in proportion to their oil, is absolutely condemned by the olive, which

yields more oil than any other plant, and yet thrives best on dry arid rocky soils, of absolute poverty, as far as oil is concerned. We shall be wholly in the dark in this part of agriculture, treated as a science, till experiments have been greatly multiplied.

#### POTATOES.

ANJOU....*Angers to La Fleche*....More than is common in France.

LORRAINE....*Pont a Mouson*....Throughout all this part of Lorraine there are more potatoes than I have seen any where in France; twelve acres were at once under the eye.

*To Nancy*....Many cultivated through all this country, but degenerated, by being sown too often on the same land; and for want of new sorts. A journal yields twenty toulins, or about twenty-four bushels English; and  $2\frac{1}{2}$  journals are equal to an arpent de France, which makes the acreable produce miserable. Price now 3 livres the toulin; was only 25s.

*Luneville*....More still; they plant them, after one ploughing, in April: for seed, cut the large ones only; but sell the smaller ones uncut. Always dung much. Every man that has a cow keeps the dung carefully for this crop; and such as have no land plant on other people's, without paying rent, that being the preparation for wheat. the crop of that grain is, however, very moderate, for the potatoe pumps much, to use the French expression, i. e. exhausts greatly. Poor light soils answer best for them, as they are found not to do on strong land. Product per journal, thirty to fifty rasaux, which measure contains one hundred and eighty pounds of wheat. I found an exact journal, by stepping, to be one thousand nine hundred and seventy-four English yards, or about sixty-five rods. At forty rasaux, each three English bushels, it is nearly about three hundred bushels English per acre. The price is now 7 livres the razal, heaped; when low, 3 livres; and in common, 4 livres 10s. The culture increases much.

ALSACE....*Savern to Wiltenheim*....Many and good potatoes.

*Strasbourg*....Produce of an arpent, of twenty-four thousand feet, seventy-five sacks to one hundred, at 36s. to 60s. (at  $2\frac{1}{2}$  livres, and ninety sacks, it is 15l. 10s. 7d. per English acre.) Sow wheat after them, if manured, otherwise barley. In the mountains they pare and burn for them.

*Schelestadt*....Produce fifty or sixty sacks, at 3 livres, but 4 livres or 5 livres sometimes (fifty-five sacks, at  $3\frac{1}{2}$  livres, are 13l. 5s. 10d. per English acre.) In planting, they think the difference is nothing, whether they be set cut or whole. The people eat them much.

*Besfort*....The culture continues to this place.

FRANCHE COMPTE....*Besancon*....And a scattering hither.

*Orechamps*....Now lose the culture entirely.

AUVERGNE....*Villeneuve*....In these mountains they are cultivated in small quantities.

VELLAY....*Le Puy to Pradelles*....Ditto.

*To Thuytz*....They are met with every where here.

DAUPHINE....*St. Fond*....Many are cultivated throughout the whole country; all planted whole; if sliced, in the common manner, they do not bear the drought so well. They are plagued with the curl.

These minutes shew, that it is in very few of the French provinces where this useful root is commonly found; in all the other parts of the kingdom, on inquiring for them, I was told, that the people would not touch them: experiments have been made, in

many places, by gentlemen with a view to introduce them for the poor, but no efforts could do it. The importance, however, would be infinite, for their use in a country in which famine makes its appearance almost periodically, arising from absurd restrictions on the corn trade. If potatoes were regularly cultivated for cattle, they would be ready for the poor, in case of very high prices of wheat; and such forced consumption would accustom them gradually to this root; a practice in their domestic œconomy, which would prevent much misery for want of bread. This object, like so many others, can only be effected by the exhibition of a large farm, highly stocked with cattle, by means of potatoes; and the benefit, in various ways, to the nation would make such an exhibition exceedingly advantageous. But such establishments come not within the perview of princes or governments in this age: they must be enveloped in the mist of science, and well garnished with the academicians of capitals, or nothing can be effected.

#### RACINE DE DISETTE.

ISLE OF FRANCE....*Dugny*....This plant, the beta cycla altissima of Linnæus, Mons. Crette de Paleuel has cultivated with attention: he has tried it by transplantation, as directed by Mons. l'abbé de Commerell; also by sowing the seed broadcast where it remains; and likewise seed by seed, in squares of fifteen inches; and this last way he thinks is the best and most profitable. The common red beet, which he has in culture, he thinks yields a larger produce; but it does not yield so many leaves as the other, which is stripped thrice in the summer by the hand, an operation which may answer where labour is excessively cheap; but I have my doubts whether the value in England would equal the expence of gathering and carriage. Cows and hogs, Mons. Crette has found, will eat the roots readily, but he has made no trial on it in fattening oxen or feeding sheep.

ALSACE....*Schelestadt*....The culture is common in this country: I viewed three arpents belonging to the master of the post, which were good and clean. They gather the leaves by hand for cows, and then return and gather again, and the roots are the best food for them in winter; they come to eight and ten pounds, and are sown and planted like tobacco.

#### RICE.

DAUPHINE....*Loriol*....Sixty years ago the plain of Livron, one mile from Loriol, and half a league from St. Fond, more than a league long and a league broad, was all under rice, and succeeded well, but prohibited by the parliament, because prejudicial to health.

#### SAFFRON.

ANCOUMOIS....*Angouleme*....The best land for this crop is reckoned that which is neither strong nor stony, but rich and well worked; plant the rows six inches asunder, and two inches from plant to plant; sow wheat over the planted land, and gather the saffron among the wheat; blossom at All-Saints, when they gather it. In a good year, and on good land, a journal yields three pounds, which sells, when dear, at 30 livres per lb. but it is sometimes at 16 livres: lasts two years in the ground, after which it is removed. They assert, that the culture would not answer at all if a farmer had to hire labour for it: all that is planted is by proprietors.

## TOBACCO.

**FLANDERS....**Most farmers, between Lillie and Montcassel, cultivate enough for their own use, which is now (November) drying under the eaves of their houses.

**ARTOIS....***St. Omers....*Some pieces of tobacco, in double rows, at eighteen inches and two feet intervals, well hoed.

*Aire....*A crop is worth three times that of wheat on the same land, and at the same time prepares better for that grain than any thing.

**ALSACE....***Strasbourg....*Much planted in all this rich vale, and kept very clean. Product eight to ten quintals per arpent of twenty-four thousand feet, at 15 to 30 livres per quintal (nine, at 23 livres, is 14l. 6s. 2d. per English acre.) Sow wheat after it; and the best wheat is after tobacco and poppies.

*Benfeldt....*Great quantities here, and all as clean as a garden.

*Schelestadt....*Produce six quintals to eight per arpent, at 16 livres the quintal (8l. 15s. 7d. per English acre.) This they reckon the best crop they have for producing ready money, without waiting or trouble. There are peasants that have to six hundred quintals. They always manure for it. They sow it in March on a hot bed covered with mats; begin to plant in May, and continue it all June and the beginning of July, at eighteen inches or two feet square, watering the plants in a dry season. When two feet high, they cut off the tops to make the leaves spread. Their best wheat crops follow it.

Tobacco, as an object of cultivation, appears in these notes to very great advantage; and a respectable author, in France, declares, from information, that, instead of exhausting the land, it improves it like artificial grasses;\* which seems to agree with my intelligence; yet the culture has been highly condemned by others. Mr. Jefferson observes thus upon it: "it requires an extraordinary degree of heat, and still more indispenably an uncommon fertility of soil: it is a culture productive of infinite wretchedness: those employed in it are in a continued state of exertion, beyond the powers of nature to support: little food of any kind is raised by them; so that the men and animals, on these farms, are badly fed, and the earth is rapidly impoverished. The cultivation of wheat is the reverse in every circumstance: besides clothing the earth with herbage and preserving its fertility, it feeds the labourers plentifully; requires from them only a moderate toil, except in the season of harvest; raises great numbers of animals for food and service, and diffuses plenty and happiness among the whole. We find it easier to make an hundred bushels of wheat than a thousand weight of tobacco, and they are worth more when made."† This authority is respectable; but there are circumstances in the passage which almost remove the dependence we are inclined to have on the author's judgment. The culture of wheat preserving the fertility of the earth, and raising great numbers of animals! What can be meant by this? as to the exhausting quality of wheat, which is sufficient to reduce a soil almost to a *caput mortuum*, it is too well known, and too completely decided to allow any question at this time of day; and how wheat is made to raise animals we must go to America to learn, for just the contrary is found here; the farms that raise most wheat have fewest animals; and in France, husbandry is at almost its lowest pitch for want of animals, and because wheat and rye are cultivated, as it were, to the exclusion of other crops. Tobacco

\* De l'Administration Provinciale par M. le Trone. Tom. i. p. 267.

† Notes on the State of Virginia, p. 278.

cannot demand an uncommon degree of heat, because it has been cultivated on a thousand acres of land successfully in Scotland: and as to the demanding of too great exertions, the free hands of Europe voluntarily addict themselves to the culture; which has nothing in it so laborious as reaping wheat. I take the American case to be this; ill husbandry, not tobacco, exhausted the land; they are now adopting wheat; and, if we may judge from the notions of the preceding quotation, that culture will, in a few years, give the finishing stroke to their lands; for those who think that wheat does not exhaust, will be free in often sowing it, and they will not be long in finding out what the result will prove.

Mons. Bolz, in Swisserland, says, that they are disgusted with the culture of tobacco, because it exhausts their lands; half an arpent gave five to six quintals of \* leaves. Estimated grossly, this may be called a thousand weight per acre, which Mr. Jefferson compares with one hundred bushels of wheat; a quantity that would demand in England, four acres of land to yield: and, as American crops do not yield in that proportion, it is one acre of tobacco being as expensive as five or six of wheat, which surpasses comprehension.

The Strasbourg produce of nine quintals, in the notes above, equal 15 cwt. per English acre. The Schelestadt produce of seven quintals is about 12 cwt. per acre.

Dr. Mitchel, many years before Mr. Jefferson, gave the same account of the exhausting quality of tobacco.†

The cultivation is at present spreading rapidly into countries that promise to be able to supply the world. In 1765, it was begun to be cultivated in Mexico, and produced, in 1778, to the value of 800,000l. and in 1784, 1,200,000l.‡

#### TURNIPS.

**GUIENNE....***Anspan to Bayonne....*Raves are, in these waste tracts at the roots of the Pyrenees, much cultivated; they manure for them by burning straw, as described under the article manure; weed, and, as they told me, hoe them; and have some as large as a man's head. They are applied entirely to fattening oxen. Maize is sown after them. The people here knew of the orders given by the king, for cultivating this plant, but I could not find they had had any effect. The practice obtained here before the two last severe years, which were the occasion of their increasing it, much more than any orders could do.

**FLANDERS....***Valenciennes to Orchies....*Many fields of this root, but quite thick, though it was said they have been hoed; these are all after crops, sown after corn.

**NORMANDIE....***Caen....*In going to Bayeaux, many, both flourishing and clean, though too thick; but on inquiry, found them all for the market, and none for cattle or sheep. I thought the colour of the leaf differed from our own, and got off my horse more than once to examine them. They are the raves of the south of France; the roots, which ought to have been of a good size, were carrot shaped and small.

**BRETAGNE....***Belle-Isle to Morlaix....*Here is an odd culture of raves amongst buckwheat; sown at the same time, and given to cows and oxen, but the quantity is very inconsiderable.

*Morlaix....*Get their best turnips after flax, sometimes to a very good size; but, for want of sufficient thinning the crops, in general, very small roots must be produced:

\* Mem. de la Societe Oeconomique de Berne, 1763, Tom. i. p. 87.

† Present State of Britain and North America, octavo, 1767, p. 149, 151.

‡ Bourgoanne's Travels in Spain, vol. i. p. 368.

yet the leaves large, healthy, and vigorous. They sow them also among buckwheat; but the product is trifling, and the use but momentary, as they plough the land for wheat.

ANJOU....*Migname*....If one were to attend only to conversation, without going into the fields, a stranger would be persuaded that the culture of turnips flourished here; they actually give some, and cabbages too, to their cows, for every man has a serap: but sown quite thick, and the largest I saw not bigger than a goose egg; in general, not a fourth of that size; and the largest piece I saw was half an English acre. They have, in like manner, patches of a sort of kale, which is the chou de Poitou; this is instead of the chou d'Anjou, of which the marquis de Turbilly speaks so much: and which is quite neglected in this country now, in favour of this Poitou cabbage, that is found to produce many more leaves. To me it however appears inferior to the chou de Vache of Flanders.

To *La Fleche*....A scattering of miserable raves all the way.

ALSACE....*Schelestadt to Colmar*....Some scattered pieces but in very bad order; and none hoed, which they ought to have been three weeks before I saw them.

AUVERGNE....*Issoire*....Raves are cultivated for cattle, but on so small a scale, that they scarcely deserve mention. They sow them also among buckwheat, which is drawn by hand, when in blossom, for forage, and the raves left. No hoeing, but some are weeded.

*Brioude*....Many raves, and cultivated for cattle: common to two pounds weight.

*St. George's to Villeneuve*....Many raves, but miserably poor things, and all weeds.

Perhaps the culture of turnips, as practised in England, is, of all others, the greatest desideratum in the tillage of France. To introduce it, is essential to their husbandry; which will never flourish to any respectable extent, and upon a footing of improvement, till this material object be effected. The steps hitherto taken by government, the chief of which is distributing the seed, I have reason to believe failed entirely. I sent to France, at the request of the count de Vergennes, above an hundred pounds worth of the seed; enough for a small province. When I was at Paris, and in the right season, I begged to be shewn some effects of that import, but it was all in vain. I was carried to various fields, sown thick, and absolutely neglected; too contemptible to demand a moment's attention. Not one acre of good turnips was produced by all that seed. It is with turnips, as in many other articles; a great and well cultivated English farm, of seven hundred or eight hundred acres, should be established on an indifferent soil; and two hundred acres of turnips cultivated upon it, and eaten on the land by sheep, should every year be exhibited: and a succession of persons educated on such a farm, dispersed over the kingdom, would do more to introduce the culture than all the measures yet attempted by government.

#### WALNUTS.

BERRY....*Verson to Vatan*....Many of these trees spread over the country which yield a regular revenue by oil.

QUEREY....*Souillac*....Walnut oil eake the finest food of all for fattening oxen. They export pretty largely of this oil, the trees being every where.

ANGOUMOIS....*Rignac*....Walnuts spread over almost every field.

*Ruffec*....A common tree yields a boisseau of nuts; sold at 3 livres or 4 livres; but a good tree three boisseau. All for oil, which the people eat in soups, &c.

POITOU....Many through all parts of the province, which I passed in crossing it. Oil universally made from them. This year (1787) all were so frozen, that the crop will

be very small; sometimes get sixteen boisseau a tree, even to twenty boisseau; the boisseau sells generally at 20s. There is, on an average, one tree to an acre. One tree gives five or six measures of nuts, and each measure makes something more than a pint of oil, which sells at 18s. or 20s.

**ANJOU....** Across this whole province they are found every where, but none through Bretagne.

**ALSACE....Isenheim....** Great numbers spread all over the country; for oil.

**BOURBONNOIS....Moulins....** Some estates have a good many scattered trees; the oil sells at 12s. the pound.

**AUVERGNE....Clermont....** Many in every part of the country; a prime tree will, in a good year, give twenty pounds and even thirty pounds of oil, one of ten years six pounds; common price 6s. per pound.

**Lempde....** Here they finish; as we advance from this village, no more are met with.

#### VARIOUS PLANTS.

**QUERCY....Brives....** Figs we met with here for the first time; they are scattered over the vineyards, and wrapped up in mats, to preserve them from the frosts.

**Creissensac....** Gicys much cultivated here; it is the lathyrus setifolius. Also jarash, the vicia latharoides. They sow them both in September and the spring, which are generally used, mown green, for soiling.

**Souillac....** They have no meadows in many districts of this country, but supply the want by the above-mentioned plants, which are always used green. They do not answer equally in hay, as it is said that the leaf falls off in drying.

**Cahors....** Near this place meet with four new articles of cultivation; one a vicia sativa varietas; another the cicer arietinum; the third the ervum lens; and the fourth the lupinus albus.

**Caussade....** Here the trifolium rubens is cultivated, and continues through all the Pyrenees. On all these articles I must however observe, that they do not seem to equal, for soiling, the common winter-vetch, which we cultivate so much in England; nor lucern, so successfully sown in France.

**GUIENNE....Triticum Repens.** Upon the banks of the Garonne I met women loaded with the roots of this plant, going to sell it at market; and they informed me it was bought to feed horses with. It is applied to the same use at Naples. It grows with great luxuriance at Caygan Solo, in latitude 7;\* and being the great plague of English husbandry, may be called a universal grower. It seems, from a late account,† as if they cultivated it in the island of Nantucket, in America.

**ISLE OF FRANCE....Dugny....** Mons. Crette de Paleuel gave me some notes of experiments he had made on various plants, in drying them for hay.

The epilobium angustifolium makes hay that is readily eaten by sheep, and loses half in drying. They are very fond of the hay of the spirca ulmaria, the lithum salicaria, thalictrum vulgare, pucedanum silaus, and centaurea jacea; all these lose half, when made into hay; the althæa officinalis two-thirds. Mons. Crette is of opinion, from his trials, that these plants may be very useful in cultivation, for hay. He found, at the same time, that an arpent of wet meadow gave thirteen thousand two hundred pounds of green herbage, which lost two-thirds in drying. An arpent of winter-vetches seven-teen thousand eight hundred pounds green.

\* Forest's Voyage to New Guinea, p. 16.

† St. John's Letters of an American Farmer, octavo. 1782. p. 207.

The common sun-flower he has also cultivated ; he plants it in rows, at two feet asunder, and one foot from plant to plant ; an arpent containing sixteen thousand two hundred plants ; the leaves he gives to cows, the flowers may be used for dying ; of the stems he makes vine props, or for French beans, and afterwards burns them ; and of the seed he makes oil, which leaves a cake good for fattening cattle. Six perch of land, each of eighteen feet square, has given him twenty-two boisseau of seed, the boisseau  $\frac{1}{2}$  of the septier, that contains two hundred and forty pounds of wheat ; but the crop exhausts the land exceedingly, and small birds devour the seed greedily.

The same gentleman compared cabbages and potatoes, in alternate rows : an arpent gave (half the ground) sixty-two septiers of potatoes, which weighed fourteen thousand eight hundred and eighty pounds ; the cabbages on the same land, in number five thousand four hundred, weighed twenty-five thousand five hundred pounds.

*Dammartin*.... Summer-vetches cultivated here, they are mown for hay, and yield eight hundred to one thousand bottes per arpent, one thousand one hundred have been known.

*Artois*.... *La Recousse*.... Winter-vetches are found on every farm, on the good land from Calais to St. Omer : oats are mixed, to keep them up ; and every one soils his horses in the stable.

*Ass*.... Some hops here.

*Anjou*.... In the way from Angers to La Fleche, the number of citroules is very great, even to acres, and the crop extremely abundant ; the metayers feed their hogs with them.

*Auvergne*.... *Brioude*.... Jaroussc every where sown, the end of August or beginning of September, for hay.

*Dauphine*.... *Loriol*.... The melilotus sibirica, from Mons. Thouin, at the king's garden at Paris, makes, in the garden of Mons. Faujas de St. Fond, a most superb figure ; nobody can view its prodigious luxuriance without commending the thought of cultivating it for cattle. The coronilla varia, a common plant here, and of such luxuriance, that it is hardly to be destroyed. The hedysarum coronarium does well here.

*Provence*.... *Cuges*.... Capers are here met with for the first time, in going from Marscilles to Italy. It is a low bush, planted in squares of about five or six feet. This year they yield nothing, because damaged by the frost ; but, in common, more profitable than vines ; they mentioned one pound per tree, at 30s.

*Toulon*.... Capers are not so profitable as vines. The bushes here are planted at  $6\frac{1}{2}$  or 7 feet square ; and a good one will give  $1\frac{1}{2}$  or 2 pounds of capers ; but the price varies prodigiously, from 30 or 40 livres, to 120 livres the quintal ; average 30 livres, or from 6s. to 20s. the pound.

*Hieres*\*.... Capers are here planted in squares, at six, seven, and eight feet ; each good bushel yields two pounds from 6s. to 24s. the pound ; but in a gross estimate of a whole crop, are not supposed to pay more than 6s. to 10s. per bushel.

*Grasse*.... Here is one of the most singular cultures to be met with, that of plants for making perfumes ; whole acres of roses, tuberoses, &c. for their flowers, and a street full of shops for selling them : they make the famous otter of roses, as good and as clear as from Bengal ; and it is said now to supply all Europe.

*Lyonnois*.... The fromental of the French (avena clatior) is cultivated in this part of France, and in some districts of Franche Comte. The seed is commonly sold by the

\* The natural historian of Provence mentions a singular profit by this plant, at Hieres, of two hundred cannes square giving 200 livres net, while the same breadth, in common husbandry, only 18 livres. Mem. pour servir a l'Hist. Nat. de la Provence, par M. Bernard, octavo, tom. i. p. 329.



seedsmen, at Lyons, of whom I bought some to cultivate in England. The first person who mentioned it publicly was, I believe, Mons. Miroudot, who wrote an essay upon it, in which he fell into an error, copied by many of his countrymen,\* namely that of calling it the ray-grass of the English. The great botanist, Haller, was mistaken in supposing it the *avena flavescens*.† King Stanislaus made some experiments on it in Lorraine. In Bretagne‡ it has been found to yield ten times the produce of common meadows. That it is very productive cannot be doubted, but it is a very coarse grass: however, it merits experiments, and ought to be tried upon a large scale, as the qualities of plants cannot be ascertained upon a small one.

Citroules, in this province and the neighbouring ones, are cultivated largely, and rarely fail. They may be preserved until the beginning of January: oxen, cows, and hogs eat them freely; for lean cattle they are given raw, but commonly boiled for fattening: from ten pounds to twenty pounds a day, given to cows, soon shews the effect in the quality of milk. For fattening an ox, in Bresse,§ with them, they mix the citroule with bran or pollard, or flower of buckwheat, and boil them together, and give thirty-five pounds to forty pounds to each beast per diem. In some places they apply them to feeding carp. The poor people eat them in soup, in most parts of the kingdom, but not in great quantities.

#### CHAP. XXVI...OF THE WASTE LANDS OF FRANCE.

**SOLOGNE....**There is, in this province, such a large mixture of waste, even in the most cultivated parts, and cultivation itself is carried on upon such barbarous principles, that there will not be much impropriety in considering the whole as waste; to every spot of culture called a farm, a much greater proportion of rough sheep walk and wood (eaten down and destroyed) is annexed; so that any good farmer, who got possession of one thousand or one thousand five hundred acres, would conclude the whole as waste, and treat it accordingly: by much the most unproductive and poorest part of such a tract would, in every case, be the lands at present under the plough. I may, in confirmation of this general idea, add, that there are many absolute wastes in France, that yield as good, and even a better produce than all Sologne, acre for acre. I know no region better adapted for a man's making a fortune by agriculture, than this; nothing is wanted but capital, for most of the province is already inclosed.

**BERRY....Chateauroux....**Leaving this place for the south, enter vast heaths of ling and furz, but much mixed with trefoils and grasses. Some small parts of these heaths are broken up, and so ill ploughed, that the broom and furz are in full growth. After this another heath, of several miles extent, where the landlords will not give leave either to build or break up, reserving the whole for sheep, and yet not stocked; for the people assert, that they could keep twice the number, if they had them.

**LIMOUSIN....To Limoges....**The mountainous heaths and uncultivated lands are commons, and therefore every metayer sends his sheep in the common flock of the village.

**BIGORE....Bagneres de Luchon....**The waste tracts of the Pyrenees, by which are to be understood, lands subject to common pasturage, are so much subject to the will of the communities, that these sell them at pleasure. Formerly the inhabitants appropri-

\* Bomarce Dict. d'Hist. Nat. tom. ii. p. 565; v. p. 225.

† Mem. de la Soc. de Berne. 1770, p. 16.

‡ Corps d'Observ. de la Soc. de Bretagne. 1759, 1760, p. 44, 45.

§ Observ. et Exp. par Fenille, p. 86.

ated to their own use, by inclosure and cultivation, what portions they pleased; but this obtains no longer; at present the communities sell these wastes, and fixing a price on them, nearly to their value, new improvements are not so common as heretofore.

*LANGUEDOC....Narbonne to Nismes....* This vale, which is by far the richest of Languedoc in productions, is of no considerable breadth, yet the quantity of waste neglected land in it is very great.

*Monrejeau to Lann Maison....* Vast wastes, covered with fern; the soil good; and land projecting into it cultivated to advantage.

*Bagneres de Bigorre....* These immense fern-wastes continue for many miles, with many new improvements in them. They belong to the communities of the villages, which sell portions of them to any persons willing to buy. The price most common has been 20 livres the journal, of one hundred and twenty-eight cannes square, the canne eight pans, the pan eight inches and four lines, four journals making an arpent. The method of improving has been, first to burn all the fern and rubbish, then to mattock it and sow rye, which is pretty good; then oats for six, seven, or eight years, according to circumstances; after that they summer-fallow and take wheat. Some they leave to grass and weeds, after those eight crops of oats; a detail of the husbandry of barbarians! They have all a right of commonage on the wastes, as long as these continue uninclosed; consequently can keep cattle, and especially sheep, to any amount in summer; yet, in their inclosed improvements, they give not a thought to raise winter food! Such stupidity is detestable. The parish of Cavare has 104,000 arpents of these wastes, without one metayer; all are peasant proprietors, who buy morsels as it suits them. The improvements are exempted from tythes for ten years, but not at all from king's taxes, which is shameful.

*BEARN....Pau to Moneins....* Vast wastes of rich soil, covered with an immense product of fern, to the amount of five or six waggon loads an acre.

*St. Palais to Anspan....* Vast wastes, belonging to the communities of the parishes, that sell them to whoever will buy: a common price 120 livres per arpent; but after they are brought into culture, they sell for at least 300 livres. The advantages of this system, which extends through the whole region of the Pyrenees, is prodigious: it excludes the rights of commonage, because all is enclosed as fast as bought; and enables every industrious man, that has saved a little money, to become a land proprietor, which is the greatest encouragement to an active industry the world can produce; it has, however, one evil, that of too great a population.

*Bayonne to St. Vincents....* In this line I came first to the landes of Bourdeaux, because they extend from the gates of Bayonne to those of Bourdeaux, and of which I had read so much, that I was curious to view and examine them; they are said to contain 1,100,000 arpents.\* They are covered with pines, cork-trees (only half the value of pines) broom, whins, ling, and furz; the soil sand, but the growth of trees shews a moist bottom. There is a good deal of cultivation mixed with the waste this first stage. There is much land also under water, a sort of sandy fern. Pass a great space, without trees, covered with dwarf furz, ling, and fen. Others before Dax; one of them of five or six miles long, by two or three broad: much rough grass and ling on it: but none of these tracts appear half stocked.

*Dax to Tartas....* This district is a deep white sand, the whole of which has evidently been lande, but part of it enclosed and improved; much is, however, yet rough. Singular scene of a blowing sand, white as snow, yet oaks growing in it two feet diameter; but a broken ground discovers a bed of white adhesive earth, like marl, which explains the wonder.

\* De la Necessite d'occuper tous les gros Ouvriers, 8.

Learn at Tartas, that these immense wastes, the *landes*, without pines or wood, are to be purchased, at all times very cheap indeed, of the king, the great lords, and of the communities of many parishes, even so low as 3 livres per arpent, with an exemption from tythes, and from taxes for twenty years. But every one here reckons them so bad, that all the money spent would be sure to be lost; yet it is admitted that there is a bed of marl or clay under all the country. This opinion is chiefly founded on the attempts of Mons. Rollier, of Bordeaux, having made a trial of cultivating them, and succeeded very ill. I guessed how such improvements had been attempted, and told my informants what I supposed had been done; and my guess proved exactly right: corn—corn—corn—corn; and then the land pronounced good for nothing. It does not signify telling such people, that the great objects in all improvements of wastes, are cattle, and sheep, and grass, after which corn will be sure. Nothing of this kind is comprehended from one end of France to the other.

As I shall here take my leave of these *landes*, I may observe, that so far as they are covered with pines, they are not to be esteemed wastes; but, on the contrary, occupied with a very profitable culture, that does not yield less than from 15s. to 25s. an acre annual revenue. Of the very extensive tracts not so employed, and which are to be purchased at so cheap a rate, they are among the most improveable districts in the kingdom, and might be made, at a very small expence, capable of supporting immense flocks of sheep.

*Cavignac to Pierre Brune*....Many sandy wastes, with white marle under the whole.

*To Chersac*....Great wastes, of many miles extent, covered with fern, ling, and shrubby oak; all greatly improveable.

*To Montlieu*....Ditto. Many of these wastes belonged to the prince of Soubise, who would not sell but only let them; the consequence has been, that no improvements have been wrought.

*La Graule*....The wastes in this country are sold at 10 livres the journal, and less; some better at 30 livres. The journal here is to the English acre as ten to thirty-eight; it consists of ten carrux, each eighteen feet square.

NORMANDIE....*Vologne to Cherbourg*.... Mons. Doumère, of Paris, having bought of Monsieur, the king's brother, three thousand arpents, part of fourteen thousand sold at the same time, being parcel of an ancient but much neglected forest, has made an improvement here, which so far deserves attention, as it shews the principles on which the French improvers proceed. He has brought into culture seven hundred verges, which form his present farm, around a house for himself, and another for his bailiff, all built, as well as many other edifices, in much too expensive a manner; for these erections alone cost 2500 louis d'or. Such unnecessary expenditures in building is generally sure to cripple the progress in much more necessary matters. The first business in the improvement was to grub up the wood; then to pare and burn; and manure with lime, burnt with the furz, fern, and heath of the land; the stone was brought from Vologne: as soon as it was cleared, it was fallowed the first year for wheat. Such infatuation is hardly credible! A man, in commencing his operations in the midst of three thousand acres of rough ground, and an immense pasturage for cattle and sheep, begins with wheat; the same follies prevail every where: we have seen just the same course pursued in England, and prescribed by writers. Such people think cattle and sheep of no importance at the beginning of these improvements. This wheat, limed at the rate per arpent, of seven or eight tonneux, of twenty-five boisseau, each eighteen pots of two pints; four boisseau of seed sown, and the crop forty boisseau. After this wheat sown,

five boisseau of oats, the crop forty. Then barley, seed four boisseau, produce twenty to twenty-five boisseau. With this barley clover sown; mown the first year twice, and pastured the second; being then ploughed for wheat, which is inferior to the original crops; then oats and fallow again. From all these crops it is sufficiently evident, that French farmers esteem corn, and not cattle, the proper support of a new improvement. The soil which has been thus reclaimed is on a stone quarry in general; a friable sandy loam, covered with a strong spontaneous growth (where not forest) of furz, fern, and in some places, heath; mixed with much grass, and even clover and millefolium; which, if properly stocked by cattle, well fed in winter, would be of considerable value in its present rough state.

Though the methods pursued have not been calculated on the best principles, yet there is certainly a considerable degree of merit in the undertaking. Last year's crop of wheat produced forty thousand gerbs; and this year (1787) there is one piece of oats, of eighty verges, which gives twelve thousand gerbs, at fifteen boisseau per hundred; each boisseau forty pounds, and the price at present 45s. The present stock, two hundred and seven wethers, ten horses, twenty-one working oxen, ten cows, one bull, six young cattle, are certainly fine, for a spot where ten years ago, Monsieur Baillio, the bailiff, who has executed the whole, and who seems to be a truly excellent man, was in a hovel, with no other stock than a dog. The whole improved would now let at 15 livres the verge,  $2\frac{1}{2}$  to the arpent.

BRETAGNE....*Combour to Hede*....Pass an immense waste for a league, but to the left a dead level, boundless as the sea; high lands at one part, seemingly eight or ten leagues off. Every part which the road passes has been under the plough, for the ridges are as distinct as if made but last year; and many ruined banks of hedges cross it in various ways. The spontaneous growth, furz, ling, and fern; the soil good, and equal to valuable crops, in a proper management. The king has part, Monsieur Chateaubriant part, and other seigneurs also; but every body I talked with says, it is good for nothing. Would to heaven I had one thousand acres of it at Bradfield! I would soon put that assertion to the test.

*Rennes*....The waste lands, which, in almost every part of the province, extend for many leagues, are almost every where to be bought, in any quantity, of the seigneurs, at 10s. the journal, which is to the English acre as 47 to 38, with a small quit-rent per annum.

*St. Brioux*....Inquiring here into the period of the cultivation which I every where remarked on the landes of Bretagne, I was told, that it was no ancient culture, but common for peasants, who took them of the seigneurs, to pare and burn, with the ecoubou; exhaust, and then leave them to nature; and this for forty, fifty, and sixty years back. Rented for ever at 20s. to 30s. the journal.

*St. Nuzaire to Savanal*....Immense bog marked on all the maps of Bretagne, and filling the space of many leagues, covered with vast growth of bog myrtle, and coarse grasses, three or four feet high; what a field for improvement, in a climate that gives such a spontaneous growth!

*To Nantes*....In the landes, which, strange to say, extend to within three miles of Nantes, there was an improvement attempted some years ago; four good houses of stone and slate are built, and a few acres run to wretched grass, which have been tilled but all savage, and become almost as rough as the rest; a few of the banks have been planted. This may be the improvement I heard of afterwards at Nantes, made by some Englishmen at the expence of a gentleman, and all the parties ruined. I inquired how the improvement had been effected: pare and burn; wheat; rye; oats!!!

Thus it is for ever; the same methods, the same failures, the same folly, and the same madness. When will men be wise enough to know that good grass must be had, if corn is the object.

*Nantes....* I have now travelled round the vast province of Bretagne, and may observe, that so large a proportion of it is waste, as to be difficult to calculate; I have passed tracts of land, of three, four, five, and even eight miles in extent, without any cultivation, and I have heard of much more considerable, even to fourteen leagues in length. I have marked one district in the map, which contains some hundred thousand acres. Three-fourths of the province are either waste, or so rough as to be nearly the same thing. This is the more surprising, as here are some of the first markets in France; that is to say, some of the most considerable commercial towns; and every where the vicinity of the sea. These enormous wastes, which are said to exceed two millions of arpents,\* are found, as I have remarked, in my notes on the great roads, within four miles of such a city as Nantes: vast districts are to be had on leases, or rather property for ever, on the payment of very slight fines. The soil is generally very improveable, I mean convertible to cultivation, at a very small expence, and with great facility; contrary to the assertion of every body in the province, who have been so used to see it desolate; that they cannot readily believe it capable of a better husbandry than being burnt, exhausted, and left to nature. The means of improving these wastes are absolutely unknown in France, and not much better understood in England. The profit of the undertaking, however, when properly pursued, upon the never-failing principle of grass, sheep, cattle, corn; instead of the common blunder, which puts the cart before the horse (if I may use a vulgar proverb) will be found great and rapid.

*ANJOU....Turbilly....* In the journal part of this work, I have explained the motives which carried me out of my road, to view the wastes of this vicinity, and particularly the improvements of the late marquis of Turbilly, described at large in his *Memoire sur les Defrichemens*, which has been so often cited in almost every language.

The immense heaths, or landes, are in general a sandy or gravelly loam; some on a gravel, others on a clayey, and others on a marley bottom, and others again, on imperfect quarry ones: the spontaneous growth would predominantly be every where forest, particularly of oak, if it were inclosed, and preserved from depredation. At present, it is wood browsed and ruined, fern, furz, broom, ling, &c. &c. In the desert state in which the whole country is left at present, the value is nothing else but what it yields to a few cattle and sheep; not the hundredth part of what might be kept, if any well regulated provision were made for their winter support. I passed ten miles over these heaths; they were, in some directions, boundless to the view, and my guide assured me, I might continue travelling upon them for many days. When at Tours, I was told of their extending much in that direction also. The climate is good. There are many streams that pass through these wastes, which might be employed in irrigation, but no use whatever made of them; there are marl and clay under them for manure, and there is every where to be found plenty of pasturage, for the immediate summer food of large flocks. In a word, there are all the materials for making a considerable fortune, except skill and knowledge.

Such was the country in which the late marquis of Turbilly sat down, at an early period of life, determining to improve his estate of three thousand arpents in these deserts; with all the necessary activity of disposition; every energy of mind; and that animated love of laudable attempts, to give life and efficacy to the undertaking. Some meadows

\* De la Necessite d'occuper tous les gros Ouvriers, par Mons. Boncerf. 1789. p. 8.

and plantations, which he made, succeeded well, and remain; but, of all his improvements of the heaths, to the inconsiderable amount of about one hundred arpents, hardly any other traces are now to be seen, except from the more miserable and worn-out appearance of the land; which, after cropping, was of course left in a much worse condition than if it had never been touched. The fences are quite destroyed, and the whole as much land as before improvement. This flowed from the unfortunate error, so common, indeed so universal, among the improvers of waste lands, and unexceptionably so in France, that of improving merely for the purpose of getting corn. Pyron, the labourer who worked in all the marquis's improvements, informed me, that he pared and burnt, which is the common practice of all the country, and then took three crops of corn in succession; that the first was very good, the second not good, and the third good for nothing, that is, not above three times the seed: from that moment there was an end of improvement, it only crawled, during many years, to the amount of one hundred acres, whereas, if he had begun on right principles, he would in all probability have improved the three thousand; and others copying his modes, the whole country might by this time have been under cultivation. It was reckoned a vast effort in him to fold two hundred and fifty sheep, and this was the best engine he had in his hands, but giving the fold for corn, it was lost as soon as exerted. Instead of two hundred and fifty sheep, the marquis should have had five hundred the first year, one thousand the second, one thousand five hundred the third, and two thousand the fourth; and all his paring, burning, manuring, folding, exerted to raise turnips (not their contemptible raves) to winter-feed them; with so much burning, folding, and eating off the turnips, the land would have been prepared for grass, and when once you have good grass, good corn is at your command. Thus corn was the last idea that should have entered his head: instead of which, like other French improvers, he rushed upon it at once, and from that instant all was ruined.

The particular advantages of the spot are considerable, if ever an improver should arise, with knowledge enough to pursue the methods that are adapted to the soil and situation. The hills of all the country are so gentle, that they are to be tilled with great ease, offering the advantage of perennial streams, that run at present to waste in the vales. There are rich veins of white marl, with an under-stratum, in many places, of clay. There is a hill of shell-sand, for improving the stiffer soils and the moory bottoms. There is lime-stone at the distance of half a league, and plenty of peat to burn it. The Marquis of Galway's father spread some of the shell-sand on a small poor field, and had an immediate luxuriance of crop in consequence. The present curé of the parish has tried the marl with equal success. But both these manures, and indeed any other, would be absolutely lost, if a succession of corn crops were immediately to follow. It is this valuable under-stratum of clay and marl which gives such a growth to wood. In passing from La Fleche to Turbilly, I was amazed, in some spots, at the contrast between the apparent poverty of the surface soil, and the oaks scattered about it; they are in general eaten up by cattle, yet the bark is clean and bright, and this year's shoots four and even five feet long. A common mode, and indeed the only one of attempting improvements here, is to permit the peasants to pare and burn pieces of the heath, to take five crops in succession, but to leave the straw of the last, to fence the piece around, and to sow whatever seeds of wood the landlord provides, usually oak, for a copse, which in this villainous way succeeds well; but as such copses are fenced with a ditch and bank only, and never any hedge planted, they are presently open and eaten.

MAINE.... *Guesselard*.... The landes of Anjou extend over a great part of Maine also. Here they told me, that the extent in that neighbourhood is hardly less than sixty

leagues in circumference with no great interruption of cultivation. The account they give of the soil is, that it is absolutely good for nothing but to produce wood, which it will do very well. The seigneurs fief it out for ever, in any quantity, at the rent of half a bushel of oats an arpent (the bushel thirty pound of wheat) and some at 10s. to 20s. The peasants pare and burn, and get a very fine crop of rye, then another poor crop of rye, and after that a miserable one of oats; reckoning in common that a burning will give just three crops; after which the land is strictly good for nothing, but is left to nature to recover itself. The price of paring and burning 30 livres per arpent. I can hardly record these instances of barbarism with tolerable patience without dealing execrations, not against a poor unenlightened peasantry, but against a government possessing in demesne immense tracts of these lands, without ever ordering any experiments to be made and published, of the best methods of improving them. But had it come into any such project, and had those experiments had French conductors, they would have been merely with a view of getting corn! corn! corn!

*To Le Mans....* Much of these wastes here resemble the sands of Sologne; upon a dead level, and water standing in many places; yet the soil a sand; and in spots even a running one: it arises from the same circumstance which makes them productive of oak timber, wherever preserved, viz. the bottom of clay and marl.

*BOURBONNOIS....Moulins....* Three-fourths of the whole province waste, or heath, or broom, or wood.

*St. Pourcain....* As I quitted the Bourbonnois in this vicinity, entering Auvergne, it will not be improper to remark, that the whole province, as well as that of Nevernois, ought, respecting all the purposes of improvement, to be deemed waste. The culture that is carried on, without any exception, on the arable lands, is only fallowing for rye; and, after two or three rounds, the land is so exhausted by this blessed system, that it is left to weeds: broom is the prevalent spontaneous growth in such a case; and if the broom be left for a number of years it becomes a forest. This rye-course produces the landlord for his half (as all is in the hands of metayers) about 2s. 6d. or 3s. an acre through the whole farm, by corn, cattle, &c.; and at such rates a vast proportion of the province is chiefly to be bought. Considering that the lands are all inclosed; that wood enough is every where found; that the country is furnished with a sufficient quantity of buildings; that the roads are excellent; that it enjoys a navigation to the capital; that markets are good and prices high; that there is marl or clay under the sands and sandy gravels; that the climate is one of the finest in Europe; and the country highly pleasant and beautiful: when all these circumstances are well weighed, it will be admitted that no part of France is so eligible to establish a great and profitable improvement; but, as I must again repeat it, the whole province appears waste to the eyes of an English farmer.

*AUVERGNE....Brioude....* The mountains in this neighbourhood too much cultivated; the earth is, by such means, washed away by storms, and torrents drive away every thing.

*VIVARAIS....Pradelles....* Pare and burn old turf in these mountains. Great tracts burnt, exhausted, and left to nature to recruit.

*To Thuytz....* Cultivation is carried on in these mountains to an incredible height; and is all by hand. In some cases earth is carried by hand in baskets, to form the terraced beds that yield a difficult and scanty crop, that is brought away on the back. Nothing could possibly support such exertions but the whole being small properties; every peasant cultivates his own land.

PROVENCE....*Tour d'Aigues*....The mountains here are all calcareous, yet they are, from a vicious culture and management, destroyed and abandoned, and yield subsistence to a few miserable goats and sheep only; such mountains in the Vivarais, the President remarks, are covered with superb chesnuts, that yield a good revenue; this country would do equally well for them, as appears from the very fine ones found in the park of Tour d'Aigues. The cutting of every bush for burning the earth is the cause; this species of culture loosens the surface; and renders it a prey to torrents; so that all is washed into the rivers, and becomes the destruction of the plains. The Durance, in its whole course of near two hundred miles, has destroyed on an average to the breadth of half a league.

#### GENERAL OBSERVATIONS.

In the preceding notes mention is made of great tracts of country so miserably cultivated, that the whole would by a good English farmer be considered as waste. This is particularly the case in Bretagne, Maine, Anjou, Sologne, Bourbonnois, &c.; and it is this circumstance which reduces the general average product of France to so low a pitch, as appears in the chapter which treats of it, notwithstanding the immense tract of twenty-eight millions of rich land, the products of which are of course very high. Here then ought to be the great effort of a new system of government in France. The revolution has cost immense sums; and has occasioned a happy defalcation of the revenue, provided it be replaced wisely and equally on some object of general consumption, and not on land: but the public burthens of the kingdom are so heavy (proportioned to its consumption and circulation) that every attention should be exerted to increase and improve the contributing income; and this can in no way and by no methods be effected so well and so easily as by spreading improvements over these immense wastes, which are such a disgrace to the old government. The wastes alone are calculated in these sheets at 18,000,000 of English acres; if to these we add the tracts in the above-mentioned provinces, which, though cultivated, are no more productive than wastes, and much of them not of equal profit, we cannot reckon for the whole less than 40,000,000 of acres that are in a waste state; not absolutely unproductive, but which would admit of being rendered four, five, six, and even ten times more so than they are at present. This extent is nearly equal to that of the kingdom of England; whence we may judge of the immense resources to be found in the improvement of the agriculture of France; and the wisdom of the measures of the national assembly ought to be estimated in proportion to their exertions in this respect rather than in any other. If they give a ready, immediate, and absolute right of inclosure; an exemption from all taxation whatever, for twenty-one years; and by a wise system of imposts, the future prospect of not being too much burthened; if such be their encouragements in addition to the great ones already effected, particularly in the abolition of tythes, they may expect to see in a few years great undertakings on these desolate tracts. But the policy of a good government will not, in this point, do the whole; it may encourage buildings, inclosures, manuring, and the investment of large capitals; but if these soils be attempted to be cultivated, as they have hitherto always been in France, failure, bankruptcy, and ruin will be the consequence; and the lands after a few years left in a worse state than they are in at present. The government should therefore not omit taking the necessary steps to have instructions well diffused for the cultivation of these immense tracts of country; not in the spirit of the



old \* system, by printing memoirs, which if followed, probably would spread more mischief than benefit, but by the exhibition of a farm in each considerable district, under a right management, and in that degree of perfection of culture which is applicable to the practice of all mankind, of the poor farmers as well as of rich ones; every other species of perfection does well enough for gentlemen to commend, but is not adapted for farmers to imitate. One large farm taken entirely from waste in Bretagne, another in Anjou, a third in Sologne, a fourth in Bourbonnois, and a fifth in Guienne, would be sufficient. If these farms were cultivated on right practical principles, on those of utterly disregarding corn till the ample support of sheep and cattle (but particularly the former) in winter, by means of green crops, and in summer by grasses, gave such a command and facility of action, that whatever corn was then sown, would in its produce be worthy of the soil and climate of France, yielding ten for one on these wastes, instead of five or six for one, the present average of cultivated lands in that kingdom. If this were done, I say, the profit of such improvements would be equally great and durable; the practice exhibited would take deep root in the respective provinces; and extensive and speedy improvements would be the consequence. By such a policy, the national assembly would prove themselves genuine patriots; the kingdom would flourish; population, which at present is a burthen, would be rendered useful, because happy; and the consumption and circulation of these provinces increasing, would give a spur to those of the whole society; the weight of taxes would lessen as the basis enlarged that supported it: in a word, every good effect would flow from such undertakings, if properly executed, that can add to the mass of national prosperity, and consequently the most worthy the attention of an enlightened legislature.†

Attempts have been made to improve these wastes, but always with ill success; I saw a neglected farm gone back nearly to its pristine state, not far from Nantes; the marquis of Turbilly's in Anjou had no better success; and equal failures attended those that were tried on the heaths of Bourdeaux; and I heard of some others, similar undertakings in different parts of the kingdom; but in general they were all equally unsuccessful; and no wonder, for all were conducted on the same plan, with no other object in view than corn; but this is the least important of the products, as it hath been observed, that should be found on new improvements. A French writer,‡ who speaks

\* The edict exempting new improvements from taxation was in the right spirit. We are informed by Mons. Necker, that, from 1766 to 1784, no less than 950,000 arpents were declared *defriches*. De L'Administ. des Fin. octavo, T. iii. p. 233. There can be no doubt but the greater part of these are long since abandoned again to nature. I never met with a single person in France who had half an idea of improving waste lands; and I may add that of all other practices in the agriculture of England, this is the least understood. See my "Observations on the present State of Waste Lands, octavo." In regard to the excellent edict above-mentioned, there occurs a proof of the gross and consummate ignorance one meets with so often in France on all agricultural subjects. In the *Cahier du Tiers Etat de Troyes*, p. 38, they demand the abrogation of this edict as prejudicial to the nourishment and multiplication of cattle. Even the nobility of Cambray, *Cahier*, p. 19, are against cultivating commons. The nobility of Pont a Mousson, *Cahier*, p. 38, declare that the encouragement of inclosures and *defrichemens* is prejudicial to agriculture; shame on their folly! The clergy are wiser, for they demand that the possessors of wastes shall either cultivate them themselves, or let others that are willing on reasonable terms. *Cahier de Meun & Moret*, p. 22; and that all commons shall be alienable for the prosperity of agriculture. Bayonne, Art. 51. And some of the Tiers Etat also; all commons to be divided. Cotentin MS. And new *defrichemens* to be exempted from all taxes for twenty years. Nimes, p. 19. La Rochelle, Art. 17. MS.

† At present (August 1793) we know what the blood-hound government of France have done for agriculture: completely ruined all that was good in it.

‡ Experiences and observations sur les *Defrichemens*. Par Mons. le Dosseur. Lamballe, 1775, quarto, p. 26, 28, 33. This gentleman tells us that paring and burning should be practised only on a calcareous

from experience, as well as the marquis of Turbilly, prescribes this course ; 1, dig, at the expence of 20 livres per arpent of 46,000 feet, in winter, and summer-fallow, with many ploughings and harrowings, for 2, wheat ; 3, oats ; 4, fallow ; 5, wheat ; 6, oats, &c. &c. This gentleman, who tells us he broke up and improved four hundred and fifty arpents, has not explained how real improvement is to be made without sheep or cattle. Where is his winter food in this preposterous course ? If these four hundred and fifty arpents be really improved, they have cost him five times more than they are worth ; but I suspect they are improved a la Turbilly. It is mere romance to think of improving wastes profitably without a great flock of sheep. The ideas of French improvers seem rooted in a contrary spirit ; to the present moment, there is no other plan than the old one of corn. A publication of the year 1791, *Memoire sur l'Utilite du Defrichement des Terres de Castlenau de Medoc*, speaks of the same methods ; deraciner ; labourer ; berser ; ensemencer ; froment ; seigle, p. 5. The same views in every part of the kingdom ; but when you inquire for cattle, you have, on some hundreds of acres, seven cows, three mares, four oxen, and no sheep ! (p. 4.)

As the subject is one of the most essential in French agriculture, I will very briefly sketch the right principles on which alone waste countries can be improved to profit. The rapid view which is practicable for a traveller to take, will allow no more than an outline ; fully to explain the process would demand a distinct treatise. 1. The buildings, upon which so much money is generally so uselessly employed, should in a private undertaking, be adapted to that sized farm, which lets in the country most advantageously ; but in a public undertaking, they should be adapted to that sized farm which is most favourable to a beneficial cultivation of the soil ; in the latter case from four hundred to six hundred aeres. This attention to the scale of the buildings flows from the plan of the improvement, which is that of letting the land in farms, as fast as it is well improved and brought into the cultivation, in which it ought afterwards to remain. But whatever the size of the future farms may be, the strictest attention ought to be had to keeping this part of the expenditure as low as possible, it contributes little to the productiveness of the land, except what arises from convenient offices for cattle and sheep. 2. The next object is to buy a large flock of sheep, to feed on the lands in their waste state, that are to be improved ; five hundred would be a proper number to begin with. These sheep should be, as nearly as possible, such as the South Downs of England ; of the French breeds, the most profitable, and the best to procure, would be those of Rousillon. It is of more consequence to have a breed not too large, and well clothed with a short firm fleecce, than larger or more expensive breeds. 3. The first summer should be entirely employed in paring and burning, and cultivating at least one hundred acres of turnips and rape, for the winter support of the sheep and plough oxen. After the turnip season is past, the paring and burning to continue for rye, artificial grasses to be sown with rye. 4. Begin, as early in the spring as possible to pare and burn fresh waste, first for a crop of potatoes, on fifteen to twenty acres, and then for two hundred aeres of turnips. The turnip land of last year to be sown with oats, on three ploughings ; and

soil, for in Bretagne the peasants get but two or three crops of corn by it ; and if more, much dung is requisite. But if they can have two crops of corn, cannot they have one crop of turnips ? Cannot they have grass, which seems never to be in his contemplation, though almost the only thing that ought to be in view. De Serres knew better, he recommends paring and burning, describes the operation, and answers the objection of those who urged a shorter continuance of the profit, by shewing, that such cases proceed from improper management, and do not occur, if the laws of good tillage be pursued, *au cultiver & au reposer. Le Theatre D'Agriculture, par D'Olivier de Serres, quarto, 1629, p. 64 to 70.*

with the oats, over fifty acres, clover-seed to be sown. After the turnip season is past, continue paring and burning for rye as before. The labourers employed in the summer on paring and burning, to work in the winter on ditching, for forming inclosures; the banks to be planted with white thorn, and willows for making hurdles. This is sufficient to state the leading principles of the undertaking. Economy in the execution demands that the labourers employed should have work constantly; in summer paring and burning, and managing the hay and corn harvest; and in wintering ditching, quarrying, if there be lime-stone on the premises, for burning lime for manure, and if not, digging and filling marl, or chalk, or other manures which may be found under the surface. In like manner the number of masons and carpenters should be so regulated, in proportion to the works, so as to find constant employment through the building season.

The courses of crops will explain the whole business of tillage. On the land pared and burnt, and planted with potatoes in the spring, the following rotation: 1, potatoes; 2, oats; 3, turnips; 4, oats, and grass seeds for laying down.

On the land pared and burnt, and sown with turnips at midsummer: 1, turnips; 2, oats; 3, turnips; 4, oats or barley, and grass seeds for laying down.

On the land pared and burnt, and sown with rye in autumn: 1, rye; 2, turnips; 3, oats; 4, turnips; 5, oats, and grass seeds for laying down.

All the turnips to be fed on the land with sheep, by hurdling, except the small quantity that would be wanted for the plough oxen.

All the grasses to be mown the first year for hay, and then pastured by sheep, for two, three, four, or more years, according to circumstances. When they wear out, or betray indications of a want of renewal, they may be broken up with a certainty of yielding grain in plenty, but not two crops of white corn ever to be sown in succession: by white corn is understood wheat, rye, barley, and oats.

A very easy, and, in some cases, effectual method of improving heaths, is by grubbing up the plants that grow spontaneously, and spreading lime upon the waste without any tillage, sowing grass seeds and covering them by the sheep fold: it is surprising what a change is thus effected at the smallest possible expence: soils apparently miserable, have been made at once worth the rent of 20s. per acre.

It is not possible to give more than an outline in such a sketch as this; variations, arising from a difference of soil, will occur, which, though not considerable, must be marked with care, or useless expences will often be incurred. The method just hinted at is particularly applicable upon those wastes, which are in culture sterile, from abounding with the vitriolic acid; the case of many in Bretagne; where pudding stone is found in some districts at six or eight inches under the surface: cultivation on such by the plough may be so tedious and expensive, that the mere paring and burning, and application of calcareous manure, lime or marl, with grass seed and fold, as above mentioned, would be much the best improvement, as I have myself experienced in a country more vitriolic and sterile than any wastes I saw in Bretagne.

The progress of the flock of sheep will, by its procreation, shew what may be the given progress of such an improvement, providing turnips in the proportion of one acre to five sheep, which will allow enough for oxen and other cattle, and supposing the losses upon a flock to be five per cent.

If the breed of sheep be good, all the ewes should be saved for increasing stock, and the wethers should be kept until two years old and past, sold fat at from two to three years. On such a plan a flock increases rapidly, perhaps more so than the capital employed. But the conductor of such an undertaking would of course proportion his flock to his money, so that all the works might be constantly going on, without stop or

break ; to effect which, would demand no inconsiderable foresight and knowledge of the business.

By the plan of letting the lands, as soon as brought into complete cultivation, the capital employed in the undertaking would be exerted to the utmost force and advantage in spreading the improvement over the greatest possible breadth of waste. If the lands were all to be kept accumulating into one farm, it would grow too vast to be managed with profit ; but, by letting, the principal attention, exertion, and force of capital would be always employed where most wanted and most useful ; and it is hardly to be believed by those not accustomed to such observations and inquiries, how great a tract of country might, in twenty years, be improved.

Planting colonies of foreigners upon wastes, has been a favourite method pursued in several countries, particularly in Spain and in Russia ; such speculations have rarely answered the immense expences bestowed upon them. The lands are usually but half improved ; the husbandry introduced is almost sure to be bad ; and the jealousy with which the new settlers are viewed by the natives, prevents their practice from ever being imitated. Such a mode of improvement as is here sketched would be infinitely more beneficial ; what was done would be well done, all would be executed by natives, for the only foreigner employed in the business should be the director. There would be no probability of the improvement not being durable and spreading widely, for the lands not being let until the cultivation was completely in train, the profit as well as the method would be seen by every one.

By executing the improvement of a waste on these principles, ten thousand pounds would have an infinitely greater effect than an hundred thousand expended in any other method : in the German colonies, established in the Siera Morena in Spain, and in various others in different parts of Europe, much attention has been paid to the establishing of little farms only. I do not want to view such, to know that the improvement is beggarly, and the husbandry contemptible : no waste can be really improved, and to the best advantage, but by means of the sheep, powerfully applied ; all other methods are costly, slow, and of weak effect ; but no little farmer can have a stock sufficient. This paltry idea, of establishing nothing but little farms, is the result of most impolitical ideas respecting population, which ought never to be the object of a moment's attention. If it exist idle, or beyond the proportion of employment, it is the source of poverty and wretchedness ; it is valuable only in proportion to regular and active employment ; find that employment, and you will have an industrious active population in spite of every obstacle. But small farms and little divisible properties, increasing the people without increasing employment, has no other tendency than to propagate idle beggars, and to disseminate modes of husbandry calculated to exhaust the land, and keep its cultivators in misery. This is not theory but fact, of which almost every province in France abounds with glaring instances. But of this more in another chapter.

There is another sort of waste land, that abounds also very much in France, I mean marshes : it is asserted that there are from 1,200,000 to 1,500,000\* arpents of them in France. The improvement of these is vastly more expensive and more difficult than that of landes, heaths, moors, &c. The drains demanded for them require a considerable capital. These ought to be converted to meadow and rich pasture, by means of draining. Where they admit it, the cheapest improvement of such is by irrigation ; the general drainage of great marshes, if not trusted by the assemblies of the departments to

\* Rapport du Comite d'Agriculture, &c. 7 Fev. 1790, par M. de Lamerville, depute de Berri, p. 3. De la Necessite d'occuper tous les gros Ouvriers, 1793, par M. Boncerf. p. 3.

the conduct of some one able director, should be done by commission; by constituting a company as in England, and paying the expence by a tax on the lands drained. If the rage for small farms continue, these marshes, in proportion as the soil is boggy, will admit of being divided into small portions, that is of thirty to sixty arpents, but it should be under an absolute prohibition of the plough. The bog, which I saw in passing from Auvregnac to Nantes, and which seems from its appearance on the map of Bretagne, to be of a vast extent, is highly susceptible of improvement, and every acre of it might be converted into rich meadow.

#### CHAP. XXVII.....OF COALS IN FRANCE.

**LIMOUSIN....***Limoges....*I was here assured that a vein of coal has been found at the depth only of twelve yards, which is seventeen feet thick, but it is no where used, either in houses or in manufactures; the iron forges are all worked with charcoal. If this is fact, what a want of capital it proves!

**FLANDERS....***Valenciennes....*There are mines worked here. The manco of two hundred and forty pounds sells for 23s. 9 den. and the worst of all at 12½s.; the largest of all at 35s. and 36s.; they are more abundant at Mons. Wood is burnt here at the inns, and all the better private houses, but the poor burn coal: the mines they say, are seven hundred feet deep; the coal is drawn up by four horses; they have four steam engines.

*Lille....*Coals, the raziere, 3 livres.

*Dunkirk....*English, the raziere of three hundred pound, 8 livres. These are burnt in every house in the town, and are one-third cheaper than wood: there is a canal to the coal pits at Valenciennes, but the distance too great, and locks too numerous and expensive to rival the import from England.

*Bethune....*Pits within a few leagues. Price here 44s. to 46s. the raziere, which, I have been told, holds about nine English pecks, but the raziere of St. Omers holds one hundred and ninety-five pounds of wheat.

*Rouen....*The boisseau of twenty-two pots, each two bottles, 3 livres 10s.

*Isigny....*A mine newly opened, at which the coals sell at 14s. 1 liard the boisseau of ninety pounds to one hundred pounds.

*Carentan....*Coals of the country only for blacksmiths, 14s. the boisseau of eighty pounds dry at the mine, but wet are ninety pounds or one hundred pounds; they are not half so good as what is brought from England.

*Cherbourg....*In the manufacture of blown plate glass, a great quantity of Newcastle coal is burnt; thirteen keel, or one hundred and three chaldrons cost, all English charges included, about 7500 livres; the French duty 3600 livres; and port charges, &c. make it in all about 11,000 livres, which being near 5l. a chaldron seems an enormous price, at which to buy fuel for a manufacture. The coals of the Cotentin, they say here, are good for nothing.

*Granville....*The blacksmiths burn Guernsey coals.

*Auray....*English coals 3 livres the boisseau of about three English pecks, which the blacksmiths use for particular purposes.

*Nantes....*French coal 300 livres the twenty-one barriques, each double wine-measure, or four hundred and eighty pints, but one barrique of English is worth two of it.

A coal mine worked by a Mons. Jarry, at Langein, five leagues from Nantes. Another at Montrelais, near Ingrande; and at St. George, near Saumer. The French coals used in the foundery, near this city, come to 34 livres the two thousand pounds.

*La Fleche*....Price 16s. the boisseau, of thirty pounds, wheat; they are from Angers.

*Rouen*....Mons. Scannegatty works the common borer with a windlass in boring deep for coals, for which purpose he has been employed by government: he shewed me the model of one made at Paris, three hundred feet long, with this he has bored one hundred and sixty feet, much of it in hard rock, without accident; his objection to shafts is the water rising, he would use shafts until he comes to water, but after that must bore. He says the badness of the coal in the mine near Cherbourg, arises merely from being ill worked; they have got at present only to the surface coal, instead of piercing through the bed. M. Scannegatty asserts the consumption of English coals in the generality of Rouen to be two millions a year. The price is 40 livres for six and a half barriques, each barrique one hundred and fifty pounds, or nine hundred and seventy-five pounds, or about 80 livres a ton.

*Elbauf*....Consumes 200,000 livres a year in English coals.

*Nangis*....Brought from Berri. Price 4 livres the English bushel.

LORRAINE....*Pont a Mousson*....From Sarbruck 18 livres the thousand pounds. At the mine 5 livres.

ALSACE....*Befort*....Price at the mine, four leagues from this place, 12s. the hundred pounds; here 16s. They are used only by blacksmiths.

BOURGOGNE....*Chagny*....Coals from Mont Cenis; at the mine 6 livres the wine queu; here 10 livres. Nobody burns coals in their houses.

*Mont Cenis*....At the mine a ban 10s. It is remarkable, that at the inn here and at every house, except those of the common workmen, wood is burnt: which shews the absurd prejudices of the French in favour of that fuel, in spite of price.

BOURBONNOIS....*Moulins*....Price 30s. the bachole, of which four makes a poincon.

AUVERGNE....*Clermont*....Price 10 livres the raze of two feet two inches, by one foot six inches, and nine inches deep. Used only in stoves or by blacksmiths, they are from Brioude.

*Brioude*....The raze, of one hundred and fifty pounds, 16s. but the best is 20s.

*Fix*....The carton of fifty pound 14s.

VIVARAIS....*Costeros*....The quintal 50s.

*Thuytz*....The blacksmiths here burn charcoal, yet are near the coal mine which I passed in the vale; it is a stone coal; the price 7s. the hundred pounds.

DAUPHINE....*Montelimart*....Large coal 1 livre 15s. the one hundred and fifty-five pounds; small, for blacksmiths and manufacturers, 22s. the one hundred and fifty-five pounds. The mine is at Givors near Vienne, at five leagues from Lyon; there is a canal to Vienne, but with a toll. Coak, made of coal, for melting, 5s. the quintal.

*Pierre Latte*....Coals 3 livres the measure of about six pecks; none used by blacksmiths.

PROVENCE....*Tour d'Aigues*....Price 40s. the quintal; 16s. or 18s. at Aix. At the mines three leagues from Aix, 5s.

*Marseille*....Coals from Givors in Dauphine near Lyon, 33s. for two hundred and ten pounds, of Favcau in Provence, 40s. to 24s. for three hundred pounds. Of Valdonne 41s. ditto; used in the soap fabric and sugar refineries. Of England 42s. to 45s. on board the ship, for two hundred and ten pounds; on shore 60s. for one hundred and ninety-five pounds.

**LYONNOIS....Lyon....**Coals 30s. the one hundred and thirty pounds. The mines are six leagues off, price there 24s. for one hundred and sixty pounds: there is a canal from the pits to the Rhone.

The want of vigour in working the coal-mines in France, is to be attributed to two causes; 1. The price of wood has not risen sufficiently to force this branch of industry; and, 2. The want of capital which affects every thing in that kingdom, prevents exertions being made with the necessary animation. But these evils will correct themselves; the gradual rise in the price of wood, which so far from being an evil, as it is universally thought in France, is only a proof of national improvement, will by degrees force the consumption of coals; and when these are in the necessary demand, they will be produced in greater quantities.

#### CHAP. XXVIII.....WOODS, FORESTS, TIMBER, AND PLANTING, IN FRANCE.

**Pyrenees....**A considerable proportion of these mountains is under wood, and a much larger has been; for the destruction of them making every day is not credible to those who have not viewed them. Passed frequently through several woods near Bagnere de Luchon, in which the woodmen were at work, riving and cutting beech staves for casks; I was shocked to see the destruction they made, which could not have been more wasteful or lavish if they had been in the midst of an American forest. Large and beautiful beeches are cut off, three, four, and five feet high, and those noble stumps left to rot; whole trees, which on trial would not rive well, left for years, and now rotting untouched: and in working those we saw, nothing but clean cuts taken, three or four feet perhaps in fifty, and the rest left on the ground in the same confusion in which it fell. The destruction so general in this noble forest of Lartigues, that it is almost destroyed; there is young growth for succession; and in ten or twelve years it will be a bare mountain with a few miserable shrubs browsed by goats and other cattle. In some tracts which I passed, at a few leagues distance towards the walks of the Spanish flocks, there are some forests destroyed in such a shameful manner, that to a person, from a country where wood is of any value, must appear incredible; several scores of acres so utterly destroyed that not a tree remains standing; yet the whole a forest of stumps, three, four, and six feet high, melancholy and shocking to behold. The torrents every where roll down as much wood as stone, and present a spectacle of similar ruin; the roads are formed of fragments of trees, and are guarded against the precipices by whole ones laid and left to rot; you no where pass many yards without thrusting your cane into bodies, rotten, or rotting; all is ruin, waste, and desolation; and the very appearance one would suppose a wood to carry, in which a foreign enemy had, with the most wanton malice, destroyed every thing.

These woods are commons belonging to the communities of the parishes, upon which every inhabitant assumes the right, and practices the rage of depredation. So careless of the interests of posterity, or rather so inflamed against every idea but that of the present moment, that, in the general opinion, there will be an undoubted scarcity in thirty years, amidst what have been, and yet are, in some districts very noble forests. The communities sometimes sell woods; an instance occurred lately, that of Bagnere de Luchon sold a fall for 14,000 livres, but worth, it is said, 35,000 livres, in which some pilfering might take place; this was to pay their share of the new bathing-house. Is it possible that such a recital can be given of a country that imports pot-ash from the distance of two thousand miles?

The number of saw mills in these mountains, turned by torrents, is considerable ; they are of a very cheap and simple construction, but exceedingly incomplete, having no mechanical contrivance for bringing the tree to the saw, a man constantly doing it by pressing with his foot on the cogged wheel.

LANGUEDOC....*Lunel*....At the palais royal inn there is one among many stables which is covered by twelve large beams, sixteen or eighteen inches square, and forty-five feet long. The whole country is at present quasi such trees as these, denuded.

GASCOGNE....*St. Palais to Anspan*....An oak here sells for 30 livres, which would in England sell for 45s. to 50s.

ISLE OF FRANCE....*Lieusaint*....In the royal forest of Senars, the oak copses are cut every twenty years, and sell at 600 livres the arpent (the cord of wood selling at Paris, at 50 livres) which makes 30 livres a year, but from this carriage is to be deducted, and there will remain about a louis d'or.

*Liancourt*....Woods here form a considerable portion of the whole country. They are in general cut at twelve years growth, but in some parts at fifteen and twenty ; they sell at twelve years from 100 livres to 200 livres the arpent (about one acre and a quarter :) at 150 livres, it may be called 12 livres per annum ; as they are on the poorest land this is much more considerable than the same land would let for, but it is much inferior to what the product of the same lands would be under a tolerable system of cultivation. The quantity of forest spread over the country, in almost every direction, makes timber cheap : oak, ash, and elm sell at 30s. the cubical foot, a larger foot than that of England. The poorest family 60 livres a year in wood.

*Clermont*....Near this place, in the forest of la Neuville eu Haye, belonging to the king, there is an undertaking now (1787) going forward, which does honour to government : it is a plantation of oak for timber. The land is inclosed with pales, wired to the rails in the French manner, instead of nailing : the land is all trenched two feet deep, for which the workmen are paid according to the soil, 20s. to 40s. the square perch of twenty-two feet, and they earn about 22s. a day : as it was an old forest where they work, there are many roots, for extracting which they are allowed something more. The soil in general is a good light loam, except in some parts on a pure white sand. The whole expence by contract (fencing excepted) digging, planting, filling vacancies, and hoeing twice a year, for five years, is 300 livres the arpent, of about one acre and a quarter. The fence is 3 livres the toise, or about 1s. 2d. a yard, running measure : sixty arpents are done, and they are still at work. I viewed the oaks with pleasure ; they are most of them remarkably fine ; they thrive well and are very healthy ; some are five years old from the seed, and others five years old from transplanting ; the plants then three years old : these are the largest, but not more so than three years' difference in age ought to make them ; they are in rows at about four feet. There is also a small inclosure of chesnuts and Bourdeaux pines (*pinus maritimus*) sown four years past, which are now five feet high, which is a vast growth. The only enemy which the oaks have hitherto met with is the cock-chaffer grub, which has killed some.

*Dugny*....Mons. Crette de Paluel has planted many thousands of the poplar with success, and has cut them when only twelve years old, large enough for building. Several of his farming offices, very well and substantially built, are of this wood, erected twelve years ago : and the timbers are now as sound as at the time of using ; but he has found that when exposed to the weather it does not last.

NORMANDIE....*Bon*....The seat of the marquis de Turgot, elder brother of the celebrated controleur-general. A large plantation of foreign trees, in which nothing is so remarkable as the superiority of the larch to every other plant.



*Falaise*....Woods at twelve years growth, pay 8 to 10 louis an acre, or 22 livres a year.

*Harcourt*....The larch and Weymouth pine of eighteen years growth, have thriven beyond any thing. I measured a larch of that age, three feet six inches in circumference, at five feet from the ground; and a Weymouth two inches larger. Woods throughout Normandy, on an average, pay 20 livres the Norman acre (10s. 6d. per English acre.)

*La Roche-Guyon*....There is nothing in this country that pays better than plantations of willows for yielding vine props. The duchess D'Enville has a piece of three and a half arpents, which yields 400 livres a year, by being cut every third year. New ones are set as the old wear out; the heads are cropped at three years old, and the great product is from nine to eighteen years of age. Lombardy poplars planted by the present duchess, of twenty-four years growth, are worth 11 livres each, standing only six feet asunder: it would be useless to apply calculation to this fact, to see what the acreable produce would be: for if a man had a few acres to sell every year, he would be able to get no more than the price of a very bad fire wood, not saleable till after every better sort in a country was consumed. Could a demand be found the profit would be enormous. They grow on the level of the Seine. They are cut into boards ten inches wide, which sell at 2s. the foot.

ISLE OF FRANCE....*Columiers*....Woods at nine years growth, worth 180 livres the arpent (9l. the English acre.)

CHAMPAGNE....*Marcuil*....At twenty years growth, worth 300 livres the arpent (10l. 10s. per English acre) at one and a half or two leagues from the Marne, but if further, 4 livres per arpent per annum deduction.

*Epernay*....It is possible to go from hence to Alsace, with no great interruption, through forest all the way.

LORRAINE....*Braban*....Woods are cut at twenty years growth, and the produce 12 livres per arpent per annum (18s. 4d. per English acre.)

*Metz*....Woods cut at twenty to twenty-five years growth, 120 livres the journal.

*Luneville*....Woods cut at twenty-five or thirty years growth, from 40 livres to 100 livres net the journal, one thousand nine hundred and seventy-four English yards.

FRANCHE COMPTE....*Besancon*....Cut at twenty-five years growth, and yields 150 livres to 200 livres the cutting, or 8 livres per annum per arpent; near the forges of the city, to 300 livres (10l. 10s. per English acre.)

*Orechamps*....A little auberge consumes from twenty to thirty waggon loads, each 8 livres in a year at one fire.

BOURGOGNE....*Auxonne*....Pass a wood felled and corded, twelve cords per English acre; the cord eight feet by four feet, and two high; and the price 8 livres. A little aubergiste consumes to the amount of 200 livres a year one fire. It would cost a poor family 80 livres a year, if they bought fairly all they burn. Calculate

Four millions of families, at one cord, and at ten per acre,	400,000 acres.
Cut at twenty years, - - - - -	8,000,000
At two cords, - - - - -	16,000,000
At three ditto, - - - - -	24,000,000

*Dijon*....Consumption of one fire, five or six mœul for the poor, the mœul four feet cubical. Of the whole town of twenty-four thousand people, forty thousand mœul. Best oak timber, 3 livres the cubical foot. Inferior to 20s. Elm dearer than oak; used for wheel carriages only. Pine one-third cheaper.

BOURBONNOIS....*Moulins*....Copses cut at fifteen years growth, and sell at 50 livres the arpent, of forty-eight thousand three hundred and eighty-four feet; no expence except cutting. Oak timber, 18s. to 20s. the cubical foot. Planks of nine, ten, and eleven inches wide, 45 livres to 60 livres the hundred toise (six feet)  $\frac{1}{2}$  inch thick. Laths 14s. the faggot, of fifty-two, and five feet long.

AUVERGNE....*Riom*....One fire, and a very poor one, 80 livres, if bought.

*Clermont*....A poor family, to steal none, must have ten cord, or 60 livres, and charcoal to the amount of 15 livres; but in general they steal, or collect as well as they can.

VIVARAIS....*Pradelles to Thuytz*....Great woods of pines in these mountains, with saw mills for cutting them.

DAUPHINE....*Loriol*....Oak 12s. the hundred pound.

PROVENCE....*Tour d'Aigues*....Wood thrives greatly in this country. The president has a great many oaks, and some of a vast size; also black poplar and beech. One by the farm-house, thirteen feet eleven inches, French, in circumference, at five feet from the ground, and eighty feet high. Here also are ever-green oaks, five hundred years old. He has platanus of a vast growth, in twenty-five years, and the *morus papyrifera*, of a great size. The poorest family in this country consumes sixty quintals of wood a year, stolen or bought; generally the former. A bourgeoisie, that has soup every day at one fire, one hundred and fifty quintals.

*Frejus to Estrelles*....The pines, &c. in these mountains, hacked, plundered, and destroyed, almost as wantonly as in the Pyrenees: and spots every where burnt by the shepherds, though prohibited, in order to procure herbage for their flocks.

PRICE OF WOOD AND CHARCOAL, &c.

	Price per Paris load of 140 fl. liv.
1787....LIMOUSIN.... <i>Limoges</i> ....Charcoal 30s. the quintal.	
ANGOUMOIS.... <i>Verteuil</i> ....Cord of wood 10 livres near a navigation; 3 livres at a distance.	
ISLE OF FRANCE.... <i>Montgeron</i> .... Cord 44 livres.	
FLANDERS.... <i>Lille</i> ....Ditto 60 livres.	
<i>Dunkirk</i> ....Ditto 60 livres the load of one hundred measures.	
1788....NORMANDY.... <i>Caen</i> ....Charcoal 20s. the raziere, of forty pound of wheat.	
Cord of beech wood, six feet long, four broad, and four high, 24 livres	35
Other woods 18 livres to 20 livres, - - - - -	27
Faggots of three and a half feet round, and five feet long, with large wood in them, 60 livres to 80 livres per hundred.	
BRETAGNE.... <i>Rennes</i> ....Cord eight feet long, four high, and two and a half broad, 15 livres to 17 livres, - - - - -	28
<i>Landerneau</i> ....Cord eight feet by four feet, and two and a half high, 24 livres,	42
<i>L'Orient</i> ....Cord eight feet by four feet, and two and a half high, 20 livres,	35
<i>Auray</i> ....Charcoal 3 livres the barrique. Iron 5s. the pound. A horse shoe 12s.	
<i>Auvergnac</i> ....Cord of wood, 28 livres, - - - - -	49
<i>Nantes</i> ....Ditto 30 livres to 36 livres, - - - - -	57
Swedish iron 280 livres the thousand pound. Hemp 50 livres the hundred ditto.	

	Price per Paris load of 140 feet liv.
<i>Ancenis</i> ....Cord 24 livres,	42
ANJOU.... <i>Angers</i> ....Cord eight feet long, four feet high, and four broad : a double cord, 40 livres,	42
Faggots 18 to 24 livres the hundred.	
<i>La Fleche</i> ....Cord 16 to 21 livres,	39
Charcoal 70 to 80 livres the forty-two barriques.	
MAINE.... <i>Guescelard</i> ....The cord, six feet by 3½ feet, and 3½ high, of pine, 6 livres,	12
Ditto of oak, 14 livres,	26
NORMANDY.... <i>Gace</i> ....Charcoal 52s. the barrique. Iron 23 livres the hundred pound, or 1 liard less than 5s. the pound. They charge 8s. the pound for heavy work, and 32s. for shoeing a horse.	
<i>Elbæuf</i> ....The cord eight feet by four feet, and 2½ high, 24 livres,	42
<i>La Roche Guyon</i> ....Cord eight feet by four feet, and four high, is 30 livres,	32
ISLE OF FRANCE.... <i>Nangis</i> ....Cord twelve feet by four feet, and four high : price 24 to 28 livres,	18
CHAMPAGNE.... <i>Mareuil</i> ....Cord eight feet long, five feet high, and three feet seven inches broad, sells, oak 36 livres,	31
White woods 24 livres,	21
Charcoal 50s. the tonneaux, of two hundred pints of Paris (quarts.)	
<i>Epernay</i> ....The cord 40 livres,	40
<i>St. Menehoud</i> ....Cord eight feet by four feet, and 3½ inches : 18 livres 10s. ; in the town 19 livres ; but twenty-five years ago it was 7 livres to ten feet,	24
LORRAINE.... <i>Braban</i> ....Cord eight feet by four feet, and four high, is 19 livres,	20
<i>Mar-le-Tour</i> ....Cord eight feet by four feet, and four high, is 16 livres ; the best 21 livres,	20
<i>Metz</i> ....Charcoal 30s. the sack : cord eight feet by four feet, and four high ; is 32 livres ; of beach and hornbeam,	35
Of oak, 22 livres,	24
<i>Pont a Mousson</i> ....Cord eight feet by four feet, and 4 high : in town 16 livres 10s.	18
In the forest 12 livres.	
<i>Nancy</i> ....Cord floated oak 20 livres ; other sorts 23 livres,	28
Not floated oak 26 livres ; beech and hornbeam 34 livres,	37
<i>Luneville</i> ....Cord eight feet by four feet, and four high : now 24 livres to 28 livres.	
Beech,	28
Oak 22 to 23 livres,	24
ALSACE.... <i>Strasbourg</i> ....Cord six feet by six feet, and three high : price 27 livres,	38
<i>Schelestadt</i> ....Cord six by six feet, and three high ; price 24 livres,*	31
<i>Isle</i> ....Cord eight feet by four feet, and four high : price 12 livres, yet many iron forges,	14

\* Some sold six feet by six feet, and six high.

	Price Paris of 140 feet. liv.
FRANCHE COMPTE.... <i>Besancon</i> ....Cord eight feet by four feet, and four high, floated, 16 livres 10s. - - - - -	18
Not floated, 25 livres, - - - - -	27
<i>Orchamps</i> ....Iron; all used by blacksmiths; is of the country; 5s. the pound. Charcoal only used in making it, at 40 livres the load of four horses, about fifty or sixty bushels; there are forges spread over the whole country: one within three leagues, which, with its furnace, uses fifty loads of wood per diem. Shoeing a horse 40s.	
<i>Dijon</i> ....Cord $7\frac{1}{2}$ feet by four feet, and $4\frac{1}{2}$ high, at 26 livres the mœul, a cube of four feet, and the price 13 livres, - - - - -	26
Price of carriage 20s. per thousand pound for each league.	
<i>Chagny</i> ....Mœul, cube of four feet, 13 to 16 livres, - - - - -	31
Iron: tier of wheels 7s. the pound and 8s. for the nails. Price of iron 5s. 1 liard.	
<i>Moulins</i> ....Cord, two to a coche, 30 livres. Charcoal $3\frac{1}{4}$ s. to 3s. the English peck. Iron 1 liard under 5s. per pound. Cast ditto 3s.	
<i>Clermont</i> ....Cord three feet eleven inches, by seven feet four inches circumfer- ence; price 6 livres, about one-fourth of a Paris cord, - - - - -	24
Charcoal 2s. the pound.	
<i>Fix</i> ....Iron $5\frac{1}{2}$ s. the pound.	
<i>Montelimart</i> ....Charcoal 5s. the hundred pound.	
<i>Pierre Latte</i> ....Wood 20s. the hundred pound.	
<i>Avignon</i> ....Wood 18s. to 20s. the hundred pound. Charcoal 3 livres the hun- dred pound.	
<i>Tour d'Agues</i> ....Charcoal 45s. the hundred pound.	
<i>Marseille</i> ....Wood 3 livres 17s. for three hundred pound, and 8s. carriage from the ship.	
In winter the same, 5 livres. Charcoal, by shipping, 50s. the quintal, one hun- dred and twenty pound; by land 70s.	
<i>Lyon</i> ....Oak, the mœul, three feet eight inches square, 23 livres.	
General average, - - - - -	30
To these data may be here added, that the woods and forests of the kingdom amount to 19,850,515 acres, and that the average annual produce may be reckoned 14s. an acre. It here appears, that the average price per cord, of one hundred and forty cubi- cal feet, is 30 livres.	
The price of wood has risen considerably in France. Price of the lignier, equal to two Paris voies, at Bourg, in Bresse.	
In 1688, - - - - -	3 liv. 0s.
1718, - - - - -	3 12
1748, - - - - -	7 10
1778, - - - - -	9 0
1789, - - - - -	21 0*

The scarcity of wood in France, as marked in this rise of price, has occupied at least an hundred pens during the last ten years: almost all the cahiers complain heavily of it, and in that of the clergy of Meux, they call it a real calamity. There is hardly a society of

\* Observations sur l'Agriculture, par Ma. Varenne de Fenille, octavo, p. 141.

agriculture in the kingdom, that has not offered premiums for memoirs that should explain the causes of such an alarming want, and point out the best means of remedying it. The opinion is universal; I have met but one mind upon the topic, which, considering the talents for political œconomy, surprised me a good deal; for I must declare myself of a directly contrary opinion, and venture to assert, that the price of wood is too low in France; that it has not risen so rapidly as it ought to have done; and that all ideas of encouraging plantations, to prevent a further rise, are ignorant and mischievous, and founded in a total misconception of the subject, for want of combining those circumstances which bear upon the question. The rent of arable land, in France, calculated separately, and rejecting the parts left waste, and in neglect, is 15s. 7d. an acre; but the rent of woods is only 12s. How then in common sense can any one complain of a price of wood, which, instead of being at its present rate an injury to the consumer, is actually a material one to the landed interest, who do not make by their woods nearly what they would do by the land if it was grubbed, cleared, and converted to cultivation; and I am so well persuaded of this, that if I was the possessor of woods in France, I would most assuredly grub up every acre that did not grow upon land impracticable to the plough; and I should do this under the firmest conviction that my speculation would be profitable. If tillage improves, and freed from tythes and inequality of taxation, no one can doubt but it will improve, the price of wood ought to rise very considerably to prevent landlords, who are well informed, from grubbing up; and let it be considered how vast a premium there is to induce them to such a conduct, in all woods where the growth is ancient, as forty, fifty, sixty, and a hundred years, at which age many are found in France: the money which the sale of such would produce, placed at interest, and the land converted to tillage, would in most instances treble, and even quadruple, the revenue to be gained from the same land while cropped with wood. Nor is it to be forgotten, that fresh wood-land is generally fertile, possessing stores that, with good management in respect to cropping, may be made to last at least twenty years, and in some measure for ever. We may safely determine that the price of wood is not risen to a fair par with other land products, until it can no longer be the interest of the land owner to grub up, and till woods yield as good a revenue as the lands around them, well cultivated. It is an undoubted fact, that the price is not yet risen near to such a par.

There is yet another, and equally unquestionable proof, that the price of wood is much too low in France, and that is the coal mines, found in almost every part of the kingdom, remain for the greater part unworked; and that the people burn wood even in the immediate vicinity of such mines; I was myself served with wood at all the inns, at and near the coal mines wrought, of Valenciennes, Mont-Cenis, Lyon, Auvergne, Languedoc, Normandie, Bretagne, Anjou, &c. &c. Is it possible to suppose that this would be the case if wood was risen to its fair par with other commodities?

The conclusion to be drawn, from this state of facts, is sufficiently clear, that the legislature ought not to take any steps whatever to encourage the production of wood, but leave it absolutely free to rise gradually to that fair price to which demand will carry it; and that the societies and academies of agriculture, composed of citizens, that is to say, commonly of mere consumers, uninterested in the production, ought to cease their unjust and impertinent clamour against the price of a commodity which is much too cheap. Whenever the price of wood rises too high, coal mines will every where be effectually worked, and the people in sight of them most assuredly will not burn wood.

We have of late had, in England, the same vulgar apprehension of a want of wood, especially for ship building, which has disgraced France. No wonder timber has been

destroyed in both kingdoms, while the price was inadequate to the expence of raising it. Timber for ship building, as well as cord-wood, should at least bear a proportion with corn, meat, butter, wool, &c. which the ground might yield if not occupied in a different manner. The comparisons made are by landlords, who look only at rent, but the national interests require that produce should be consulted. The argument commonly used, by the proprietors of the landes of Bourdeaux, against cultivating them is, that they yield at present, in pines, a better rent in resin than they would do for cultivation, which is certainly true, if the culture introduced was not good; but what a loss to the nation to have lands employed to yield, like all the woods of the kingdom, a gross produce of 16 livres per acre, instead of 40 livres, the produce of arable land? Those who contend for encouragement to planting, because wood is dear, call for the marvellous improvement of converting land, which now yields 40 livres, to the state of yielding 16 livres! It is just the same in England; our societies offer premiums for planting, and, as far as those premiums are claimed, or induce men to think planting an improvement, they are attended with the mischief and absurdity of preferring a small to a great produce. There are tracts of impracticable land, I will not say waste, because nine-tenths of our waste lands, like those of France, are susceptible of cultivation, and therefore it is a public nuisance to plant them: it may be profitable to the landlord to plant quick growing trees, because he considers only rent, but societies and the nation should look at produce, and consequently discourage all planting.

The common argument, that is founded on the supposed necessity of a royal navy, I should be sorry to bestow three words upon; for I hold every idea of a great naval force to be founded on very questionable theories. Injurious to other nations in its object, which is that of extending to the most distant parts of the globe, the mischievous effects of ambition, and all the horrors that attend the spirit of conquest, when flowing from the worst spirit of foreign commerce. A great navy affords the means of spreading what may to Europe be called a domestic quarrel to the most distant regions of the globe, and involving millions in the ruin of wars, who are in justice as unconcerned in the dispute as they are removed by distance from the natural theatre of it. And whatever commercial necessity, founded upon the worst principles, may be urged in the support of it, yet the expence is so enormous, that no nation, it is now well understood, can be formidable both at land and sea at the same time, without making efforts, that throw our own burthens, by means of debts, on our innocent posterity. Mr. Hume remarks, that the British fleet, in the height of the war of 1740, cost the nation a greater expence than that of the whole military establishment of the Roman empire, under Augustus, while all that deserved to be called the world was in obedience to his sceptre; but in the late war, the expence of our fleet amounted to more than the double of what attracted the notice of that agreeable and profound politician, for the naval expence of 1781 arose to 8,603,884l.

The ambition of statesmen is ready at all times to found upon a great commerce the necessity of a great navy to protect it; and the next step is, the supposed necessity of a great commerce to support the great navy; and very fine arrangements, in political œconomy, have been the consequence of this mischievous combination. The delusive dream of colonies was one branch of this curious policy, which cost the nation, as Sir John Sinclair has calculated, two hundred and eighty millions! Rather than have incurred such an enormous expence, which our powerful navy absolutely induced, would it not have been better had the nation been without commerce, without colonies, without a navy? The same madness has infested the cabinet of France; a great navy is there also considered as essential, because they have in St. Domingo a great colony; thus one

nuisance begets another. The present century has been the period of naval power. It will cease in the next, and then be considered as a system founded on the spirit of commercial rapine.

But whatever necessity there may be for navies, there is none for raising oak to build them, which it is infinitely better to buy than to cultivate. There is no prospect of exhausting the oak of the north, of Bohemia, Silesia, Poland, Hungary, and the territories on the Adriatic, for centuries to come; the price will rise as carriage becomes expensive, but the supply will remain for ages. So long ago as the beginning of the last century, we used fir for building, from the scarcity of oak;\* and notwithstanding the immense consumption since, the countries that supply it promise to continue that supply for five centuries to come.

A vessel of the first rank is said, in France, to demand sixty thousand cubical feet of timber; † but a later account makes it much more considerable.

Cubical feet....	First species,	Quantity in a Ship of 116 Guns.	Quantity in a Ship of 74 Guns.
	- - -	77,520	47,356
	Second ditto,	39,840	16,161
	Third ditto, - - -	5,896	12,300
	Fourth ditto, - - -	1,250	1,780
	Fifth ditto, - - -	180	19
	Plank, - - - - -	1,995	1,497
		-----	-----
		126,681	79,113
	Fir, - - - - -	8,449	6,338 ‡

The common price of oak 3 livres the foot.

I cannot quit the subject of woods without remarking, that many of the nobility, in France, have given that attention to the introduction of exotic trees, which would have been a thousand times better applied to improving the agriculture of their districts: I saw many places, the owners of which affected to make a reputation by their evergreens, and other plantations, while living in the midst of lands, under a cultivation disgraceful to the kingdom, and the same even on their own farms. For one sol that France will ever be improved by their exotics, it was in their power to have improved her many louis, by very different exertions.

CHAP. XXVIII....ON SOME ŒCONOMICAL PRACTICES IN FRANCE.

SOME scattered minutes, not absolutely useless may perhaps better be thrown together than burnt; for ingenious men sometimes catch hints from a slight mention of practices, and apply them to uses not at first thought of.

BUILDING.

LANGUEDOC...*Montauban to Toulouse*....At a brick-kiln, observe that they burn only faggots of vine-cuttings.

\* "And now of late, for want of other timber, we begin to use fir for building of houses." An Old Thrift newly revived, or the Manner of Planting, &c. by R. C. quarto, 1612. Black letter. p. 7.

† Recherches sur la Hauille d'Engrais. Tom. ii. p. 25.

‡ Encyclopedie Methodique, quarto. Marine. Tom. i. part 1. p. 163.

*Bagnere de Luchon*....For building the new bathing-house erecting here, by the states of Languedoc, they work the limc (burnt from a fine blue hard stone) with gravel instead of sand, of which they have none in the country; and, on examination, I found this gravel to be a true lime-stone one, the same so often met with in Ireland. I could not find that the mortar was the harder or better for this; but, on breaking, rather softer than that of sand. They have here a very effectual method of cementing stone; when squared blocks break, they join them very easily, by applying this cement; resin, three-fourths; sulphur and wax, one-fourth; powdered stone, of the sort to be joined, enough to give it the right consistence when melted. This holds the stone so firmly together, that the solid part will break rather than at the junction.

NORMANDY....*Carentan to Coutances*....They build here the best mud houses I have any where seen; very good ones, of three stories, are thus raised: and considerable offices, with large barns. The earth and straw well kneaded together, are spread, about four inches thick, on the ground, cut in squares of nine inches, and these tossed from a shovel to the man on the wall, who builds it; it is finished, layer by layer, and left for drying, as in Ireland; the layers three feet high, and the thickness of the walls about two feet; they make them projecting about an inch, which they cut off, layer by layer, perfectly smooth; if they had the English way of white-washing, they would look as well as our lath and plaster houses, and be vastly better and warmer. In good houses, the doors and windows are in stone work.

*Bernay*....Mud walls to inclose gardens, and for fruit, well built and thatched at top.

CHAMPAGNE....*Epernay*....Mons. Paretclaine's new oak floor, which is the common fashion of France, of short scantlings, in a sort of Mosaic, costs 40 livres, the square toise of six French feet, including joists and all. They are dove-tailed along the sides, but nailed at the ends, the nails knocked in, and a plug of wood driven in and plained off.

#### LIME.

LANGUEDOC....*Bagnere de Luchon*....The lime-kilns here, while burning, have a remarkable smell of burning sulphur, from the quantity of that mineral with which the lime-stone is mixed. They build their kilns oval, swelling in the middle, with a mouth, not quite at the bottom, where they put in the wood: the upper part is covered with stones, in order to keep the heat in. They are twenty-four hours burning the lime. When burnt, stop the mouth close, and leave it to cool, which takes three days; after which, they take the lime out. A kiln holds four hundred septiers, which may be supposed the septier of Paris. They carry, with a pair of oxen, but two septiers. Sell it at 40s. to 45s. the septier. Such a quantity of lime takes six hundred faggots to burn, and a little other wood.

FLANDERS....*Armentiers to Montcassel*....Heaps are lying in some of the fields, ready for spreading. It is burnt in the country.

MAINE....*La Fleche to Le Mans*....Lime burning; the price 5 livres the pipe; of two barriques.

*Beaumont*....Lime-stone plentiful, yet lime 10 livres the pipe.

*Alencon to Nonant*....Lime-stone every where, yet lime 16 livres the tonneaux, of two pipes.

BOURBONNOIS....*Moulins*....Lime 55s. the poincon, thirty inches high, and twenty-two diameter.

VIVARAIS....*Pradelles*....Lime 9s. the measure of thirty-two pounds.



## FENCES.

**NORMANDY....*Pays de Caux*....**The fences here resemble more the double banks and ditches of Ireland than any I have seen: parapet banks are thrown up out of a double ditch, sloped; and upon them are planted a hedge, and one or two rows of trees; and the soil is so rich, that all thrive to such a pitch, as to form hedges forty or fifty feet high, and perfectly thick. By means of some small inclosures of this sort around every house, every habitation is a redoubt, and would make the country very defensible, for a small army against a great one.

***Pont L'Eveque*....**Many of the rich pastures here are so well fenced, that one can no more see through a single hedge, than through a wood; yet there are many willows in them, with only a mixture of thorns and bramble; but they are so well trained, and of such a luxuriant growth, as to be impenetrable to man or beast.

In fencing little is to be learned in France, yet a considerable portion of the kingdom is inclosed. In England we have carried that art to a perfection of which the French know little. It is only in a few districts, where gates and stiles are regular; in others, a few bushes put in a gap supply the place. Whenever the French have invested in their agriculture, the sums it ought to attract, at least three or four thousand millions of livres more than in at present, these objects will receive an attention which they have not yet commanded. They are by no means unimportant; and as far as connected with inclosing, in general, are essential to prosperity.

## FISH PONDS.

**SOLOGNE....**This province abounds very much with ponds of all sizes, which let at from 5 livres to 12 livres the arpent.

**BOURBONNOIS....*Moulins*....**Through every part of this province, which I saw in crossing it, in two directions, the number of fish ponds is very considerable. The country, though in extensive views flat to the eye, is, on a nearer examination, found to swell into a variety of gentle inequalities, which form vallies, with small brooks, springs, or streams, in them, as eligible for a residence, and agreeable to the eye, as it would be beneficial to cultivation, if they knew how to apply them. Mounds are made across these little vales, to form ponds; and there are mills at their heads, when the streams are considerable enough. These ponds are from two or three to ten, twenty, and thirty acres, and some a great deal more. They are all fished regularly every second or third year, and the fish sold, at so much a thousand, to the merchants, who send them, by the Allier, Loire, canal of Briare, and Seine, to Paris. On one estate, I saw eight ponds, that paid 800 livres; on another, four paid 800 livres; and on a farm of about four hundred acres, four ponds paid 1000 livres. Water deceives one so much in guessing the superficies, that I may be erroneous (for nothing is measured in this province;) but I should guess, that land under water paid 20 livres an acre at least, instead of 3 livres, which is the more common net produce of the country; and at the same time that the proprietor receives this superior benefit, his table is, by terms of the contract with the merchant, who stocks the ponds himself, allowed to be amply supplied.

**BRESSE....**The ponds of this little province and Dombes, cover sixty-six leagues square of country, and are found terrible to population, from the effect they have

on the climate.\* In 1764, ponds in France generally let at 5 livres to 7 livres per arpent.†

The management of ponds is vastly better understood in France than it is in England, both as to stocking, adapting the sort of fish to the soil, clearing the ponds, emptying, fishing, &c. &c. In all catholic countries, fish is of more importance than in protestant ones, and this occasions more attention being paid to them.

#### LEAVES.

LANGUEDOC....Gathering, the end of July, leaves of mulberries, for feeding cattle.

POITOU....See them gathering elm leaves for cattle, particularly for mules, the first week in September.

TOURAINÉ....Clipping elm trees to feed cows, in September.

Near Clarey, they gather the vine leaves in September; we saw them spread, in large quantities, by the sides of the roads, with many women, girls, and boys, gathering and drying: they are for winter provender for their cows; this custom is general through the country. They make an infusion of these leaves in hot water, by boiling them with some bran; which mixture they give to their cows, in snowy or frosty weather, with straw. Was a cow fed with leaves alone, it would require eight or ten arpents to support a cow the whole winter; they reckon them very beneficial for this useful animal. Leaves are sometimes sold, in which case, such a heap dry as would equal thirty pounds of hay, sells for 20s. but all this varies according to the year. An arpent produces seven or eight times that quantity.

ISLE OF FRANCE....Among the winter provision which Mons. Crette de Paluel, of Dugny, makes for his sheep, is that of faggots, cut in summer while in full leaf, and housed as soon as dry; these he has found to be of considerable use, and to answer the purpose perfectly well. When given to the sheep they pick off every leaf carefully. Such a practice well deserves attention in England.

DAUPHINE....About Montelimart the leaves of all mulberries are gathered in November for feeding sheep. A gentleman, near the same place, feeds a flock of Spanish and half bred sheep, with faggots cut in summer from full leaved trees.

PROVENCE....The president de la Tour d'Aigues making elm faggots, in September, for his sheep; a common practice: poplar also and oak; indeed all sorts are thus applied. Olives are also excellent; one of twelve years growth will thus yield to the value of 12s. every second year, on good land, more than the expence.

For the better understanding this subject I beg to refer the reader to an excellent and useful memoir on the subject, by Mr. Professor Symonds, inserted in the Annals of Agriculture, vol. i. p. 207.‡

This is one of the œconomical practices of France, which well deserves imitation in England: not gathering leaves, for I question whether it would answer the expence of labour, but cutting faggots in summer instead of winter; drying them like hay before binding, and then stacking and thatching for feeding sheep. I made a stack of them in 1789, but the two following winters were so open and mild, that I could not experience the benefit. I shall, however, make other trials on the practice, for I

\* Observ. sur L'Agricult. par Mons. Varenne de Fenille, p. 270.

† Chanvalon Manuel des Champs. duodecimo, p. 363.

‡ See also Mem. de la Soc. Roy. d'Ag. de Paris. 1785, Trimestre d'ete. p. 22.

have not the least doubt of its answering as well here as in France. Leaves are very nourishing, but astringent, and wholesome for sheep, and such stores might be got at easily when the ground is covered with snow, to the great saving of hay. Considering the immensity of leaves that fall to waste, in a woodland country, it is certainly an object that well deserves attention.

#### THRESHING.

ROUSSILLON....LANGUEDOC....Through all the southern parts of this province, they tread out the corn with horses and mules; a man in the centre of the threshing floor, in the open air, drives them round, and other men supply the floor, and clear away the straw. In some conversation I had on this method, between Narbonne and Nissau, I was assured that it was far preferable to the use of flails. That twenty-four mules or horses, and twelve men, would depique, as they term it, one hundred and fifty septiers of wheat in a day. That some farms produce two thousand septiers of corn; what would flails do for such a quantity? I examined the wheat, and did not find it more damaged than with flails; but the climate is to be remembered, which makes the grain much harder than any with us. Seeing some flails going also, I demanded the reason, and was told that the master would sometimes have particular parcels of straw threshed so, to get the corn that was left in it, if he suspected too much; at others the labourers desire to do it for themselves, which is sometimes granted.

DAUPHINE....Loriol....But Mons. Faujas de St. Fond has tried threshing the corn all at once with flails, and finds it much better than with horses, &c.

Monrejeau to Lann Maison....The oats are all mown to the standing corn; one woman follows each scythe, gathers and lays them in gavels, ready to be bound afterwards in sheaves.

Orange to Avignon....The same method of threshing with horses, &c. prevails here; and they stack their straw very neatly, plastering at top with white clay, mixed with straw and water.

PROVENCE....Là Tour d'Agues....Seeing a large quantity of the President's wheat spread on cloths, for drying in the sun, and inquiring what it meant, I found it was washed, as all is, of which the best bread is made; owing, beyond all doubt, to the mode of threshing, which renders it so foul that this operation is necessary.

#### CHAP. XXIX....OF TILLAGE, AND IMPLEMENTS OF HUSBANDRY IN FRANCE.

NOT an object of the first consequence, but of too much importance to be neglected by a farming traveller. In a climate in which the sun has power to burn up weeds, with only a scratching of the soil, and in a territory where harsh, obstinate, churlish clays are almost unknown, perfection of implements, and great powers of tillage, are not so necessary as in the less favourable climate and soil of England.

#### OF THE TILLAGE, AND LAYING OF LANDS.

PICARDIE....Calais....Lands well and straight ploughed; three horses.

Montreuil....All turn-wrest ploughs; which, from having two breasts, go alone almost as well as with holding; I saw a man leave his plough to chat with the driver of a load of bark, and the five horses went on and performed their work as well without as with him: the double breast occasions the cutting double work. The man,

while I held it for a bout, told me that his master expected him to plough 30 measures thrice in the summer.

*Bernay*....A pair of horses.

*Abbeville*....Very badly, with four asses or two horses. Feed their asses with hay and oats.

*Piquigny*....Women ploughing with a pair of horses.

PAYS DE BEAUCE....*Toury*....Do not give their first stirring to their fallows until May. Plough well, straight, and clean.

SOLOGNE....*La Ferte*....Plough their poor sands all on three feet ridges; and assert that without them they should get no corn, as they preserve the sand from plastering in rains: this is an odd idea, as plastering such sharp sand is usually a means of improvement; but showers here certainly fall with much greater violence than with us; their crops, however, are so beggarly as to give no weight to their opinions. Their teams of horses are kept out all the year, as they have the pasturage of the landlord's woods for them. What a barbarous system! Plough an arpent a day with three. Plough also with six oxen, and this in sand.

*To La Motte Beuvron*....Plough with eight bullocks, and on sand! Buckwheat is given before winter, mixed with oats; if alone, before it has had a sweat, it gives the cholick; but afterwards, alone safely.

*Nonan le Fusilier*....For two years past, chaff cut at the post, of rye straw, mixed with buckwheat, for horses, and found excellent: the scarcity of forage alone drove them to this useful experiment.

*La Loge*....Through all Sologne the land is ploughed on to the two-bout ridge of three feet, and they never stir it in any other way.

*Salbris*....Plough their sandy gravels with six or eight oxen, that are pretty good, selling for six or seven louis each.

BERRY....*Verson*....Tillage all done with oxen, harnessed by the horns; a pair draw a plough; some are not bigger than our Alderney cows; the furrow about four inches deep, but hardly to be called a furrow, so irregularly and ill cut. They are now ploughing up oat stubbles for wheat; an Englishman can hardly conceive what work they make; they give four of these wretched scratchings for every crop.

NORMANDIE....*Argentan*....Wretched ploughs drawn by four oxen.

LIMOUSIN....*Limoges*....Plough throughout the province with oxen or cows, harnessed by the horns.

QUERCY....*Pellecoy*....Walked from the road to a peasant at plough with two cows, about as big as Alderneys; it is not possible for an English farmer to conceive how badly; trenches three and a half or four inches broad, and two deep, were scratched parallel to each other, and the earth driven aside by two mould boards, some one way, some another; no coulter to the plough: they do about an English rood a day. A shim, where there are no stones, and a Kentish nidget, where there are, would do the work much more effectually, and ten times as quickly. But their burning sun destroys weeds better than such tillage. Their hoeing is excellent and effective, and to this their crops are more owing than to their ploughing.

*Caussade*....The lands ploughed as straight as in Suffolk; all by oxen or cows.

LANGUEDOC....*Montauban*....Plough with oxen, without either reins or driver.

*Toulouse to St. Lyce*....The ploughs better, the mould boards being larger. The fields are thrown into stetches or flat lands. Ploughs are ox-hoeing the vines, each ox walking in an interval with a row between them, and yoked with a sliding yoke, to vary the distance

from ox to ox, and baskets at their mouths to prevent their biting the vines. The rows at five feet, and the plants at two.

*Bagneres de Luchon....* They ox-hoe the rows of their maize. All oxen yoked by the horns.

**ROUSSILLON....***Bellegard to Perpignan....* Plough with mules yoked; also with asses in the same way. Earth-boards of the ploughs are to the left.

*Pia....* Day's work of a man, his plough and team, 3 livres.

**LANGUEDOC....***Narbonne....* Of many ploughs now going (July) most are drawn by mules in yokes; the plough beam fastened to the centre of the yoke; earth-board to the left. They plough well.

*Pezenas to Montpellier....* The oxen all yoked by the horns. Ploughing olive grounds with one horse; the plough of an odd construction, the beam dividing and forming shafts for the horse.

**BEARN....***Pau to Moneins and Navareins....* All this country is ploughed with oxen that are good, and in good order.

**GUIENNE....***Agen to Aguilhon....* Plough with very fine cream-coloured oxen, a pair to a plough. All draw by their horns.

*Tonneins....* A pair of very fine oxen plough a journal a day; that measure contains 33,750 square feet, and is to the English acre as 33 to 38. The plough beams all fasten to the yokes.

*To La Motte Landron....* They are now (August) ploughing for jarouche and forage, (by the last is meant oats for soiling) and are very attentive in the ordering and finishing their lands, and covering the seed; breaking the clods with a wooden beetle and rake, so that the high ridges are brought down in such a manner as to admit the scythe, and at the same time the furrows are kept open.

*Barsace....* They are now ox-hoeing their vines quite clean; and see one piece of osiers ox-hoed.

**POITOU....** A pair of oxen without either driver or reins.

**TOURAINÉ....***Montbazou....* Horse ploughs; saddles on the horses with a bar like a curricule, one from saddle to saddle, to which the beam of the plough attaches. A bad plan, as by this means the horse does not draw from his shoulders, where his strength and weight lie.

**SOLOGNE....***Chambord....* The poor sands of this country are laid on the three feet ridge of two-bouts, and rye and buck-wheat sown on them; the furrows are as wide as the ridges, and yield nothing but weeds.

*La Chapelle La Reine....* Plough with two horses, and no driver, yet the price per arpent is 5 livres, one hundred perch twenty-two feet.

**ISLE OF FRANCE....***Mellun....* Plough into broad flat lands, and very straight. Many ploughs with three horses, one before a pair; no driver.

*Liancourt....* In the general arrangement of their farms, they reckon three horses to a plough, though they never use more than two at a time; and a plough to seventy-five arpents (one and a quarter acre) twenty-five of which are fallow; and a common calculation here is 1500 livres rent per plough, which makes 20 livres per arpent. They never used oxen until the duke of Liancourt introduced them from England.

*Paris to Villers Coterets....* The whole way the lands are ploughed quite flat, with a turn-wrest wheel-plough, and much of the wheat is overflowed, for want of furrows to carry off the water from the late rains.

**PICARDIE....***La Fere....* Four horses in the ploughs, and no driver.

*St. Quentin to Cambrai....* Thirty-five horses to a farm of eight hundred septiers; and twenty horses on one of four hundred. The latter proportion is seventeen on four hundred English acres.

FLANDERS....*St. Amand....* This season (November 1, 1787) the wheat here, owing to the excessive rains, is put in as badly as possible. The lowest and wettest fields are perfectly flat, and half of them, in parts, overflowed. Furrows are drawn, as marks for digging, which is doing, through all the country, with a narrow spade of five inches wide, and eight long; these furrows are from six to eight yards asunder, but done poorly, miserably crooked, and the whole unsightly.

*Lille....* There is a minutia of labour and attention given to land in this country, which must, in the nature of things, result from that over-population, which is found every where in France on small properties. I saw many men and women hoeing up the land with great mattock-hoes, almost a foot square, with long handles; by which they are lifted high, that in the fall they may cut four or five inches deep. They work by lines that mark out beds, five or six feet broad, along which other men dig out trenches, a full spit deep, spreading the earth over the beds. Wheat seed is then sown, and covered by a man's drawing a wooden harrow over it: another follows with a hoe to cut clods, and level inequalities. I calculated in my mind what this would cost me in Suffolk, and I made it amount to 3l. 10s. per English acre. Such operose methods are not in practice here, because the labour which comes to market is cheap, since such labour, like every thing else in Flanders, is what is commonly called dear: it springs alone from the population that is attached to the possession of land in property; and is, relative to any other country, a system of trifling; a waste of labour not greatly better than picking straws. Perhaps it is owing to this over-population of the fields, that Flanders, with the richest soil in Europe, cannot feed her own towns, but is forced to import large quantities of wheat from Artois and Picardie, where large farms enable those provinces to spare to the wants of their more subdivided neighbours.

About four or five miles from Lille begins another method of laying their lands; it is that of ploughing them up in very broad high arched beds, of all breadths from four rods to ten or twelve. When inclosures are small, a whole one is formed into but one land; and in larger fields, there is a drain left at every parting furrow, which is either planted with a row of alders or willows, or dug into a trench and laid to grass. In a land ten or twelve rod wide, the centres may rise four or five feet higher than the bottoms of the furrows; the slopes on each side very gentle and regular; and so equal, that all water is effectually drained off. I discoursed with some farmers on this method, stating objections and hearing their answers. They insist that no other method of laying land dry is so effective, cheap, durable, or commodious. That all the methods I mentioned are known and practised in some part or other of Flanders, but that all the best husbandmen have one opinion, are united in thinking this mode superior to all others. That planting alders or willows (which are always kept low by constant cuttings) or having grass in the furrows, are not necessary parts of the system, and that the furrows, in a few years after throwing up the lands, are as good as the rest of the field. The neatness and regularity with which the system is executed, is extraordinary; the borders, headlands, and sides of the fields, are so dug away, that a small one has the form of a feather-bed, the feathers of which are driven towards the middle. I never saw this system so well executed as here, though I have known it copied in England; not in the highlands of many of our counties, which are on comparison a barbarous method, but in the practice of a few individuals who had seen the effect in Flanders.

*Armentieres*.... Passing this town, meet with another exertion of industry, that deserves attention. Many stubbles were ploughed into beds eight or ten feet wide, and the furrows digging out, and the earth spreading on the beds. I supposed this was for wheat, but on inquiry found that these fields were intended for beans. They leave the land, thus prepared, till March, and then plant without further tillage. As spring tillage is thus avoided on wet land, the system must be admitted to be excellent.

*Mont Cassel to Berg*.... The lands not raised so high as those above described, nor with equal skill or attention, and this wet season (November) shews the consequence of it; they cannot get on to their lands to sow wheat, but most of the high lands are sown, and some of them green.

ARTOIS.... *Lillers to Bethune*.... The lands broad and arched; but gently. From Arras to Bethune, all the way, the greatest attention to plough the land the moment the corn is carried, yet much is now uncut and ripe.

*To Arras*.... They are now (August 8) ploughing the stubbles of such corn as is carried, with one horse, that walks, not in the furrow, but on the unploughed land, by the side of it: the plough beam very short, with a foot; no coulter; a well-curved breast and throat; but too wide in the heel: stir shallow, and do not make good work; do about a measure a day.

NORMANDY.... *Rouen*.... All the harrowing is done in this country by men leading many horses. I saw one man leading seven horses, each drawing a harrow: the horses are tied one behind another, obliquely, so as to be out of danger of the harrows.

BRETAGNE.... *Rennes*.... Plough with four horses and a driver; or two horses and two oxen.

*Vannes*.... The common plough team, two oxen; always harnessed by the horns, and a little horse, a mere pony, before them; if no horse, the oxen are led by a woman. They use awkward, ill made, but light, wheel-ploughs.

*Auvergnac*.... The farmers (metayers) have here the Essex custom of digging away the borders and margins of all arable fields, and carrying them on to the land, which they practice very exactly, as it is done in that county.

ANJOU.... *Migniame*.... They plough deeper, in common, than ever I saw in any part of either England or France; eight or nine, and even ten inches deep; using six or eight good oxen of the Poitou breed; but it is done, in one respect, badly, their depth obliges them to carry a furrow a foot wide, yet their share is not six inches; and they do every thing on four-foot ridge-work. The great strength of the team is most wanted for the roots of the fern, which are now lying about the land in heaps.

*La Fleche to Le Mans*.... They are now ploughing sand land, very slowly, with four bullocks and two horses. Preposterous!

NORMANDY.... *Beaumont*.... Two bullocks and two horses, to draw thirty bushels of dung.

*To Alençon*.... Plough with four or six bullocks, or horses, and a driver.

*Bernay*.... Wheel-ploughs; with two horses, and no driver. The rich loams here are on broad lands, very well arched.

*Tostes*.... Wheel-ploughs; three horses, and no driver.

*To Dieppe*.... Ditto; well ploughed, flat and deep.

BRIE.... *Neuf Moutier*.... Mons. Gibert, a considerable farmer and proprietor, keeps fifteen horses for three hundred arpents of rich loamy clay (three hundred and seventy five acres English.)

CHAMPAGNE.... *Chalons to Ove*.... Plough with one horse.

*To St. Menehould....* Plough with four horses, without a driver; turn-wrest ploughs.

LORRAINE....*Mars la Tour to Metz....* Fallows dunged, after ploughing with six horses (July.)

*Luneville to Blamont....* Broad lands, and some arched, but no water-cuts; consequently the crops much damaged, whenever rain falls. Plough with four, six, and eight horses, cows, and oxen; all mixed sometimes. I have seen women holding the plough, and a boy driving: wheels, but not turn-wrest.

ALSACE....*Saverne to Wiltem....* Here is a remarkable custom, of both waggons and ploughs being driven by postillions.

*To Strasbourg....* The lands broad and arched, as in Flanders.

*To Schelestadt....* The same lands on the flat rich vale.

*Colmar to Issenheim....* Oxen here improve much on the preceding country: they are harnessed by the horns, drawing singly in lines, and also mixed with horses.

*To Befort....* Plough with a pair of oxen, without line or driver. Arched broad lands.

BOURGOGNE....*Dijon....* Plough with six horses.

*Bourbon Lancy....* Plough with six oxen, that draw by the horns. A level country; a sandy gravel.

BOURBONNOIS....*Chavannes....* All the arable thrown into one bout-ridges, about sixteen inches broad.

AUVERGNE....*Riom to Clermont....* Plough with a pair of oxen.

*Clermont to Issoire....* Ploughing with oxen only; some of them good; all draw by the horns.

*Fix to Le Puy....* Miserable ploughing; the plough has one long handle; and the man holds a long light pole in the other hand for a goad: a pair of little oxen.

DAUPHINE....*Montelimart....* Plough with two mules.

There is no part of England where lands are laid so neatly as in Flanders; but the French have no other province that partakes of this perfection; Alsace is in a similar system, but not so well executed. In general the tillage of the kingdom is most miserably performed; and many of the provinces are, in this respect, so backward, that to English eyes they appear to be pitiably conducted.

The principal question that arises upon tillage is the comparative advantage of using horses or oxen. Both have had their advocates. The principal opponents to oxen were the œconomistes, that fanciful sect, of very worthy and ingenious men, who, from their chambers at Paris and Versailles, offered opinions upon every part of the farmer's business. They divided the arable lands of France into those managed in the great and little culture: in the former the tillage done with horses, and in the latter, with oxen; and as Flanders, Picardy, Normandy, &c. where horses were in use, being also let at money rent, those provinces were necessarily more at their ease than Sologne, Berry, Limousin, and others in the hands of metayers. This comparison is often made in the writings of the œconomistes, and abundantly more stress laid on the nature of the team than it deserves; they gave many calculations to show, that horses were more advantageous, but all founded on false data; for they allowed only two horses to a plough, but four or six oxen, forgetting that in Guienne, Quercy, part of Languedoc, &c. a pair of oxen plough as well as any pair of horses; an omission this the more extraordinary, because those provinces are among the best cultivated in France: the district of the Garonne is like a garden, and the oxen large, vigorous, beautiful, and in fine order, the very contrary of the miserable half starved beasts, described by the



marquis de Mirabeau, Mons. Du Pont, Du Quesnay, and other œconomistes. The comparison has been made in England with great accuracy: and the opinion now is, that oxen are the most beneficial and the most profitable: and that a pair of good oxen will plough as much in a day as a pair of good horses. The other œconomical points of the comparison are all in favour of oxen.

But though the superiority, both in saving to the farmer, and in national benefit, is clearly in favour of oxen, yet there want improvements to be made in training and working them. Some step well, and move with as much freedom and activity on a walk as horses, but this is not the case with the generality; they are trained to go too slowly, and demand, for light work, more hours than horses. This is certainly owing to negligence and idleness of workmen and farming servants, for I am well persuaded, from circumstances I have remarked in them, that they are capable of great activity and quick motion. I have had them of a large size, which have taken leaps that no horse in the world would attempt, a proof not of activity only, but of great muscular strength.

Accustoming them to more speed, even to a trot of five or six miles an hour, is certainly as practicable, in the cool climates of Europe, as it can be in the burning ones of Asia. The fact that they draw coaches at that rate, in the East Indies, seems to have been long ascertained. The Targuzinian Tartars ride on their oxen: \* the Nogayan Tartars, of Koundour, do the same: † Mandelsloë ‡ rode on an ox part of the way from Agra to Delhi, that carried him seven leagues in four hours: in Kachemire they saddle, bridle, shoe, and ride them as fast as horses; § they also draw their coaches: at Surat, in riding them, they take care their horns are not more than one foot long, to avoid being struck when flies bite; they never shoe them but in rough places; in the caravan from that city, they carry three hundred to three hundred and fifty pounds: || a camel carries nine hundred to one thousand pounds: ¶ but in a late account, of great authenticity, five hundred and six hundred pounds is mentioned as the common load of a camel in crossing the Arabian deserts: \*\* the hackrees, a sort of coach, is drawn in Hindostan by oxen; which, when well trained and managed, will maintain their rate against horses at full trot; those of Guzerat and Cambay are as large as Lincoln beasts, and white: †† the oxen that are rode in Formosa, go as well and as expeditiously as the best horses, by being trained young: ††† the Hottentots train oxen to gallop and even run down an elk. §§

If such quickness of movement could be given to the oxen of France and England, it would be a very considerable object, for it would get over the principal objection to them, and would at the same time render them applicable to a great variety of uses, to which at present they are never put.

#### OF THE IMPLEMENTS OF HUSBANDRY.

PICARDIE.... The harrow teeth of wood, all the way from Calais to Clermont. Turn-wrest ploughs, and bad.

\* Isbrandt Ides. Harris' Voyages, vol. ii. p. 936. † Russia; an Account of all the Nations which compose that empire, octavo, 1780, vol. ii. p. 85. ‡ Harris, vol. i. p. 764. § Ib. p. 814, and Le Blanc's Travels, p. 54. || Harris, vol. i. p. 827. ¶ Ib. vol. ii. p. 883.

\*\* Phil. Trans. vol. lxxxii. part 2. p. 136. †† Grose's Voyage to the East Indies, p. 249.

†† Grozier's General Description of China, octavo, vol. i. p. 226.

§§ Sparman's Cape of Good Hope, quarto, vol. i. p. 230.

SOLOGNE....The ploughs have all a broad double finned share, and double mould-boards, with wheels; the whole ill constructed.

BERRY....The plough very ill made; it has two scraps of something like mould-boards, and a long ground-rest, at the end of which is an iron share, four inches wide, something like the shim which they use in Kent for earthing up beans; a hole for a coulter, but I saw none used. Nothing can be worse than its work. They have also turn-wrest ploughs, something like those of Kent, but bad. Beyond Argenton, the beam of the plough fastens to the yoke of the oxen; the plough has a chissel-rest and point, and no other mould-board than two small sticks, stuck in it, with a circularly bent one behind; these sticks answered the purpose of two mould-boards, but very badly; the handles so low, that the body of the ploughman is in a bent position to hold them.

LIMOUSIN....The ploughs which I saw near St. George, &c. have one mould-board on the left side; the share long, and one and a half inch broad; the beam reaches to the yoke, and consequently saves traices. They plough better than in La Marche.

QUERCY....The same long beams to ploughs that reach to the yoke; have two very bad mould-boards; the share long and narrow, with no coulter; but the land excessively stony.

LANGUEDOC....*Montauban to Toulouse*....The plough much better than many I have seen in France; it has a broad coulter, and a short nosed share; one mould-board, and that to the left; the plough beam, like many others, fixes to the ox-yoke.

*To Noe*....Meet waggons for the first time; the wheels shod with wood, that is, wood upon wood. The oxen all clothed with linnen against the flies, one tape under the tail and another round the neck. The price of these waggons new is 60 livres (2l. 12s. 6d.) they carry, with a pair of oxen, two casks of wine, containing four barriques, which is twenty quintals, or about a ton English. Some pairs of oxen will draw forty quintals.

GUIENNE....*Tonneins*....The ploughs have very long hollow or fluted mould-boards for lifting the furrow, in order to make sharp high two-bout ridges.

ANGOUMOIS....*Barbesieux*....Wheel-ploughs.

ISLE DE FRANCE....*Melun*....Large heavy wheel-ploughs, with breasts as wide and thick in the throat, as the heel is broad; must go very heavy for the horses.

*Commerle*....Wheel-ploughs drawn by a pair of horses.

*Dugny*....One of the best implements I saw in France, was the chaff-cutter of Mons. Crette de Paleul; it consisted of two cylinders, with edges that worked into the vacancies of each other, and, sucking in the straw delivered very rapidly, cut it into coarse chaff; one man fed the machine, by spreading the straw on an inclined plane; and a boy drove a single horse, which turned the machine. A tolerable mechanic, improving on the idea, would produce a much more powerful cutter than any yet invented.

FLANDERS....*Lille*....Many waggons loaded with chalk stones, &c. with the principal part of the load laid on the hind wheels, and a very small portion on the fore ones; a good sense that reproaches our barbarians in England.

ARTOIS....The short scythe which they use through this province, and all over Flanders, is one of the most useful implements that can be seen: they call it the pique: it is much like the representation given by Mr. Walker in the Annals of Agriculture, only the handle here is much shorter; a man cuts an arpent a day in general with it, and sometimes more; he cuts and rolls into bottes an arpent of vetches; (called here, mixed with oats, dravin;) and he cuts an arpent of any sort of white corn, others following to bind with straw bands made at home. This is a most œconomical system. The short handle of the pique is made to rest against the elbow; he holds it with the right hand only, or

rather hand and arm; and in his left he has a stick with a hook at the end of it, with which he draws or holds the corn in the right position to receive the stroke. They use scythes and cradles also for some works.

*St. Omer....* That the pique is much easier to work than a scythe, appears from women and even girls cutting stout crops of tares with it. They give 45s. per measure of oats for cutting with the pique, and a man does three-fourths per day.

*NORMANDY....Harfleur....* I noticed here, what I may have often passed, perhaps, without seeing it, a pierced roller behind and before a cart, which turns in the frame, or in the ladders, by which means a load is corded with a small handspike, almost in a moment; I have known something like it in the ladders of carts in England, but forget where; here they let down a cart behind by raising the shafts in the air, set it against a cask, and wind the cask on to the cart, by means of the fore-roller, easily and commodiously.

*Avanches....* Sea sand is drawn in this country in carts, by a horse in the shafts, and another to lead, with two or three oxen between, and all in a line. About Carentan they attach the rope by which they draw, to the yokes of the oxen, consequently the horse draws them down to the line of his own draught; and their rope to the top of the pole between the two thillers (when they are two) consequently all draw the thill-horses down. A team of five, thus harnessed, does not draw more than from twenty to twenty-four bushels of sea sand: the horses are, however, poor small things; and no wonder, from the number of miserable garran (pony) stallions that infest every stable you enter. The oxen are better, but not large.

*BRETAGNE....Varades....* They are now working their ridges, of three and four feet across, with a great timber triangular machine, drawn by oxen, to answer the treble purposes of harrowing, rolling, and levelling.

*ISLE OF FRANCE....BRIE....Nangis....* Wheel-ploughs, and very good, except singly the breadth, which is sixteen or eighteen inches, and in narrow lands loses a fourth; it only wants to be taken in narrower, and left with the share projecting more from the throat.

*CHAMPAGNE....Mareuil....* Bad turn-wrest ploughs; but have the Brie one, which they prefer when there are root weeds to cut.

*Rheims....* Very light ploughs, with a broad share, and one earth-board, but ill set on; it has wheels on the beam which is little more than a stick. Women are ploughing.

*To Chalons....* Many rollers every where; an implement very uncommon in France.

*St. Menehould to Verdun....* Wheel-ploughs that are not turn-wrests, with well turned mould-boards. This is among the best ploughs I have seen in France.

*LORRAINE....Mars-la-Tour to Metz....* Broad share and good, but too wide at the heel; wheels.

*Pont a Mousson to Nancy....* Here, for the first time, I met with waggons of a peculiar structure, the fore wheels are within four inches as high as the hind ones, and are high enough to enable one horse, for none are drawn by more, to convey eight hundred pounds, to one thousand pounds. Ploughs so wide at the heel that they are drawn by eight horses.

*ALSACE....* All through the part of Alsace which I have seen, they use ploughs with low wheels; the share round and broad, and as wide on the land side as on that of the furrow, which is very erroneous, for they are not turn-wrests, but with fixed breasts, turning the furrow to the left.

BOURBONNOIS....*Moulins*....The common plough a turn-wrest one; but they have another for stirring, called *arcou*, without an earth-board.

AUVERGNE....*Issoire*....The plough only opens a slight furrow, into which the earth falls again, and buries nothing; and without a hot sun would kill nothing: the share a chissel point, one inch wide at one end, and three inches at the other end for stony land, or for that which is free, turning it occasionally end for end. An earth-board on each side, but not more than four inches high.

Upon the implements in general, I may observe that they will in all countries be proportioned to the wealth of the farmers. There is nothing in the kingdom comparable to those which we see in every part of England, where the implements of husbandry are carried to a perfection of which one sees nothing in any other country that I have viewed. The right form and powers of all instruments used in agriculture, depending very much on the application of mechanical principles, were proper objects for the attention of those scientific men that compose academies; I do not know, however, that they have done any thing in this respect in agriculture, though such great exertions have been made in manufactures and ship-building. At one period the ingenuity of mechanical genius in France was employed on agricultural tools; and then, as an ill star would govern, nothing was thought of but drill-ploughs and horse hoes. Fortunately all invented were absolutely good for nothing, which threw such a discouragement on the practice, that the folly was but of short duration; had they been better it would have lasted longer, and would have done so much the more mischief; for the drill husbandry, at its best efforts, is fitter to amuse very ingenious gentlemen, who aim at great products without attending to expences, than to become the steady staple practice of a kingdom, in the hands of men who cannot easily understand refinements; and if they could understand, could much less afford them. Adopting beneficial courses of crops, that will allow a great increase of cattle and sheep; draining, irrigating, manuring; such objects are applicable to common farmers, little and great; but the refinement of drilling, applicable but to certain crops and certain soils, is not adapted to the mass of husbandmen, by whose more plain exertions mankind must be content to be fed.

#### CHAP. XXIX....OF MANURES AND MANURING IN FRANCE.

PICARDIE....Throughout this province, most of the way from Calais to Clermont, the dung is now (May) carried out and ploughed in upon the fallows; it is in a long strawy state, and not one-fifth part rotten; nor half of it ploughed in.

PAYS DE BEAUCE....*Toury*....Many pits of white marl in this rich plain of Beauce, quite to Orleans; the fine loam four or five feet deep on it. They spread it on their lands, but the quantity very small, nor did I see any signs of old pits.

SOLOGNE....*La Motte Beuvron*....The rye-stubbles are (May) collected in heaps on the land, having been left so all winter, to prepare it for rotting for manure. Surely they might find a better way of doing it; housing their sheep, as they do, at noon as well as night.

LIMOUSIN....*Usarch*....Collect leaves to make manure with.

LANGUEDOC....*Nismes to Quissac*....In cultivating wastes, or old neglected pieces, they pare and burn; also collect turfs and clods in heaps, on faggots of box-wood, which they burn.

*Lann-Maison to Bagnere de Bigorre*....Cut from their wastes much fern, which they spread on their cultivated lands, and, setting fire to it, find the ashes equal to a dunging. They also cart much to their stables and farm-yards, to make dung with.

**GASCOIGNE....** *St. Palais to Anspan....* Pass three or four lime-kilns, which my guide assures me are employed in burning for manure, to improve the wastes that abound so much in this country; and I saw several heaps near houses, without any signs of building going forward.

A general practice through these mountains, and almost to Bayonne, is that of manuring for raves, with the ashes of burnt straw. I observed several fields quite black; and, demanding what it was, my guide told me of this common practice here; afterwards I saw them strewing straw thickly over land, part of which had been already burnt on. They do this on a wheat-stubble; but not thinking that stubble enough is left, they add much wheat straw, and setting fire to it, burn the weeds as well as the straw, and clean as well as manure the land. With such quantities of fern on all their extensive wastes, I asked why they did not burn that, and keep their straw? The reply was, that fern makes much better dung than straw, so they burn the straw in preference. As soon as the operation is over, they plough the land, and harrow it in rave seed. One large field, thus treated, I saw ploughing for that crop. They both hoe and hand-weed the raves, and have them sometimes very large; many as big as a man's head. Use them for oxen.

*Fleurange to Leitoure....* Chop their stubbles exactly as in Suffolk, driving it on with their foot: they gather it for making manure.

**TOURAINÉ....** *St. Maure....* Here we found a greater exertion in husbandry than is commonly found in France, that of marling. We saw several large heaps of white marl, and at one of them four or five carts at work, each with three horses. It is found almost every where under the country, at the depth of three to five feet; the soil on which they lay it, is a good loam; adhesive, but not clay. They draw it up by buckets, which is a singular practice for such slight depths. The marl is in some pits white, in others yellowish, which is reckoned the best; it is very soft and fat to the touch. They spread twelve cart loads per arpent, of one hundred chainé, each twenty-five feet square, sixty-two thousand five hundred feet, or more than an acre and an half; and it lasts good about 24 years. The landlords, on leases of nine years, pay the digging, and the tenants the carting. Of the yellowish sort they do not spread quite so much as the white. The same account was given at Montbazou; they spread it on the fallows, after two ploughings; and having ploughed in the marl, manure it with dung, and sow wheat. Make composts also of marl and dung mixed.

*Orleans to Petiviers....* Under the greater part of this country there is a bed of imperfect marl, which is over the calcareous stone of which the roads are made. The farmers spread this marl on their lands, at the rate of ten tomberaux per arpent, which lasts twelve years; some, better than the rest, has been known to last thirty years.

**ISLE OF FRANCE....** *Liancourt....* Within two leagues of Liancourt, there is a navigation from Paris, but no idea, in any part of the country, of bringing manures; no wonder; for they carry flour thither by land carriage; even the millers, who send it regularly, do the same.

**SOISSONNOIS....** *La Fere....* A vast excavation made in a hill, by digging and burning peat for manure: great heaps of the ashes now here. The price the farmers give is 22s. per measure, that holds sixty pounds of wheat, fifteen of which they spread upon an arpent. The effect is very great on all kinds of plants. This peat is unlike any I have seen, resembling an imperfect coal; and the being found, not on a plain, but on hills, for I saw several, and all equally on elevations, distinguish it remarkably from the peats of England. The mine of this hill is nearly exhausted, as the common red loam of the country now appears nearly all around it.

FLANDERS....*Lille*....See many loads of urine and night-soil carrying into the country, by the farmers, for manuring their lands with. It is loaded in casks: each waggon carries ten tonneaux of about half an hogshead English. They lay from sixteen to twenty upon a quartier of land, at the expence of 7 livres: use it for cole-seed, wheat, flax, &c. and find it equally excellent for all sorts of crops.

*Armontieres to Montcassel*....Holes are dug in the sides and corners of many fields, for receiving the urine and night-soil, which is brought from every town, in casks, and kept against the season when it is wanted. Some have small roofs built over, to exclude the sun, wind, and rain; and others covered with straw. The most correct and never-ceasing attention with which they procure and use this manure, deserves the greatest commendation.

*To Berg*....A good deal of land chalked as well as dunged, and ready for wheat. The chalk is in large hard lumps, but broken and spread most curiously; more evenly than ever I beheld any thing similar in England; where the rough and unequal manner in which marl is rather tumbled than spread over the ground, is a reproach even to our best farmers, who permit those labourers, whose families are supported by poor-rates, to execute their work in that manner, to earn ten shillings a week instead of eight.

NORMANDIE....Throughout the part of this province which I have seen, they gather their wheat stubbles, and even bundle it in sheaves: they chop it with an instrument something like a crooked scythe, fixed at the end of a handle of six or seven feet long; but do it much slower than in England, with a common scythe.

*Isigny*....Here, for the first time in France, I saw composts of dung and earth made.

*Carentan*....Use sea-sand for manuring their pastures, spreading twenty loads per verge, each load twelve to sixteen English bushels. The verge equals ninety-six English perches. Mix it also with dung.

*To Coutances*....Manuring with sea-sand continues hither.

*Avanches*....And hither they have banked out half the river, which is a small arm of the sea, in order to build a bridge; and the countrymen are digging out the blue sea-mud, and carrying it away to considerable distances.

BRETAGNE....*Dol to Combourg*....Wheat-stubbles gathered carefully; and a great deal of fern cut now (September 1) and in heaps.

*Hede*....From entering Bretagne, paring and burning every where practised, but the heaps too large and too much burnt.

*Rennes*....The farmers and gardeners buy the town dung, at 4 livres the load.

*Belle-Isle to Morlaix*....The rough land of this country is reckoned to find fuel and manure: one of the reasons for almost the whole of it being in such a rough savage state. They have an execrable custom, well adapted to perpetuate their deserts, that of burning parts for ashes, to carry to their good land.

*Morlaix*....Heaps of shell sand on lays, ready to spread for sowing wheat; the same husbandry is practised on our opposite coast, in Cornwall.

*To Brest*....A most excellent custom of going round all the inclosures with an instrument between a scythe and a wood hook, for cutting up all grass, weeds, and rubbish, on the banks and in the ditches, leaving them in heaps, and then carting them away for making litter and dung; a practice that cannot be too much commended.

*Chateaulin*....Paring and burning, the origin of all the culture there is in Bretagne: and the ruin of the province at the same time. They pare two and a half and three

inches deep; and having exhausted the ashes by three or four crops, leave it to weeds for twenty years before it is fit to burn again.

*Quimperlay....* There is here a most singular husbandry, of which I never saw any traces before. It is to pare the rough land, and not to burn, but to pile it up in heaps regularly square, of about twenty-five or thirty cubical yards in each, and about four of them to an acre; they are squared up very neatly, and then the field is left for some time, to cover itself with a new herbage, which is free from furz and broom, but not quite so from fern; after a time, the heaps being rotten, they are carted and spread, and the land cultivated. Sometimes they cultivate the land before they are spread, as I saw some in pieces of buckwheat. Paring and burning is also practised. This method is inferior to burning; it does not equally destroy grubs, vermin, and weeds; and the double carting is a considerable expence.

*Vannes....* These heaps formed in the spring, and many will be spread this year for rye. Here they consist of three-fourths or seven-eighths of turf, pared off from every hole and corner from commons and bad fields, and carried to the good ones; and if this execrable practice is of any antiquity, it will account for the barren and wretched state of the country. Every poor field is made good for nothing, and the good one cropped, in consequence, till it is almost as bad. These heaps continue about Vannes in amazing quantities.

*ANJOU....Migniame....* The common manuring, ten loads of dung, each three thousand pounds; but not more than four of Angers dung, night-soil, ashes, &c.

*MAINE....Le Mans....* Marl is here used; one hundred pipes are laid on a journal.

*NORMANDIE....Alençon....* Fallows all dunged, with square lumps of dung, quite black, as if cast in a mould; and very thinly, not more than six or seven loads an acre.

*Lessiniolle....* Marl employed here; or rather a hardish imperfect chalk-stone; drawn up in buckets; it lasts twenty years. Stubbles cut close and botted.

*Bernay to Elbœuf....* Marl.

*Rouen....* Mons. Scannegatty, Professor of Physics in the Royal Society of Agriculture here, having observed, that, in calcining gypsum, it was apt, for various uses to be unequally burnt, part being partially reduced to lime, and the rest not sufficiently calcined, invented a furnace for the more equal distribution of the heat; a vault pierced for the fuel, with a long channel beneath, for conveying air, and a door to the mouth of the furnace; at top, various holes by way of chimnies, for the smoke to issue, and which he closes alternately. He knows when the gypsum is sufficiently calcined, by applying a cold bright iron to these holes; it is insufficiently done while any humidity arises.

*La Roche Guyon....* Elm leaves are found to make good dung, but not oak ones; the latter take three years to rot sufficiently.

*ISLE DE FRANCE....Nangis....* There are ass-men, who take marling to do for the farmers, at 18 livres per arpent (to English acres as 32 to 38.) Mons. de Guerchy, after water in a pond, nine crops of oats, and all good.

*To Meaux....* Long dung spread and spreading now (July 2) for wheat next year.

*Neuf Moutier....* Manure their rich elays with the white marl found under them; which has the appearance of consolidated paste. They fallow for wheat, and manure the fallows in June, with long dung almost in the state of straw; a method they contend warmly for; thinking that a greater degree of putrefaction would be loss of quantity and virtue. But there is a circumstance which seems in fact much to condemn this method; it is, that while the wheat crops are to be ranked among the finest in France, and would indeed make a capital figure in England, the oats and barley are wretched, in-

decd (soil considered) below contempt. Does not this seem to prove, that the exposition of the manure, through the year of fallow, to the sun, exhausts it to the amount of the benefit which one crop would receive from it, and that the wheat has it at second hand, and the spring corn at the third?

ALSACE... *Strasbourg*....Gypsum used as a manure for clover with success; does best on clayey lands; there are mills for pounding it. It is said to last good for some time; two or three boisseau, of thirty pounds of wheat per arpent of 24,000 feet between two and three bushels per English acre. If a quantity is used it spoils the land. What mysteries are these about this manure!

*Besfort*....Manure with blue marl.

*To Isle*....The dunghills here are the neatest spectacles I have any where seen; the walls of them are twisted bands of straw, close and regular as a bee-hive, and some are covered at top with leaves and branches of trees to exclude the sun. Admirable! Deserving universal imitation.

DAUPHINE....*Loriol*....Box, in this country, is cut on the mountains, for manuring vines, by burying it fresh at their roots. For mulberries also it is excellent. Three trees were planted at the same time, and in the same soil, one with box, and the other without, and there is now no comparison between them.

M. Faujas de St. Fond has tried gypsum, on a large scale, on sandy land, for sainfoin, with great success.

PROVENCE....*Salon to St. Canat*....Dead olive branches and cuttings, are piled up with clods and rubbish for burning, as in Catalonia.

*Tour d'Aigues*....Paring and burning is practised every where; and, as in Ireland, in corners, holes, wastes, and even ditches, to make heaps of manure for their cultivated lands. They are now (September) burning every where. The common opinion is very much against it; but the President remarks that it has been practised here uninterruptedly, probably for two thousand years, yet the land is no worse than it has always been.

The importance of manuring is well understood in many of the French provinces; where faults are to be found, it is more for exhausting the benefit as fast as possible, than for want of knowing the operation and effect. The best farmers in England spread manures for ameliorating crops, in order that the hoe or the scythe may cut off the weeds that are apt to arise in consequence; and as such crops support cattle, the more manure is spread the more manure is made; it is in arithmetical progression; on the contrary, when it is given for exhausting crops, as wheat or rye, the benefit is soon exhausted, and the increase, so valuable in the œconomy of a farm, does not take place. By means of spreading the dung for those crops that support cattle and sheep, the live stock of a farm may be always gradually increasing; and it is impossible they should increase, without the farm improving, and corn itself augmenting by the ratio of the product arising.

#### CHAP. XXX....AN ENGLISH FARM ESTABLISHED IN FRANCE.

AMONG the most interesting observations which the duke of Liancourt had made, in the various visits he paid to England, was that of the superiority to which the industry of that kingdom was carried beyond the practice of France; and above all, to what a degree of perfection agriculture had attained, founded on experiment, and manifest in an infinitely greater production of corn and of live stock than is to be found in almost any other country, extent and quality of soil considered. Impressed with this fact, he



had long cherished the hope of introducing into his own country this source of increasing wealth, flowing as well from the augmentation of produce, as from that of the people employed to raise it; but sensible at the same time, that the most useful innovations could be introduced by example only; a truth the more applicable to agriculture, from being practised by men of small fortune, little or no education, and consequently full of prejudices, and unequal to the pursuit of any practice, but that of the beaten track; he determined to attempt, as soon as it was in his power, an essay of English agriculture; but as he was desirous of having his example followed, it was necessary that these essays should be so conducted as to ensure success.

His friend, Mons. de Lazowski's residence during three years in England, whither he consented to accompany the sons of the duke, facilitated these means. Mons. de Lazowski, whom I had the pleasure of knowing intimately, acquired that knowledge in agriculture, which much inquiry, assiduous application, and frequent conversation with the best farmers, could give to a mind very capable of, and much accustomed to observation; he was likewise no stranger to the projects of Mons. de Liancourt; and in this instance, as on every occasion, his unexampled friendship made him eager to second his views.

In 1789, Mons. de Liancourt, on becoming the proprietor of a large estate, situated at thirteen leagues from Paris, resolved immediately to execute the plan he had so long projected: he accordingly engaged an English farmer to come over from Suffolk, with his family, and a common labourer; this English colony carried with it every kind of farming implement; they had with them likewise five oxen, a bull, and five cows, from Sussex, to perpetuate that breed, if the country into which they were transported would admit of it; to these were added a Suffolk polled bull and five cows.

The farmer was placed in a farm that had hitherto yielded about two hundred pounds a year; the land was in some parts good, in others, bad; it was so divided in quality and situation, as to render one part fit for the reception of sheep, and the other part for the feeding of cattle; these two objects were those which Mons. de Liancourt was most anxious to attain, in the agricultural system he was about to introduce; because they were most advantageous, in a country surrounded by great markets, and very near to that of Paris; he added a large extent of land to the farm, taken from his park, and from other farms, consisting of about eight hundred arpents; two hundred and fifty of which were appropriated to sheep, and the rest to the feeding of cattle; he designed to have made such additions to each part, as would have enlarged the whole to fifteen hundred arpents; to which, in process of time, he would have nearly dedicated the whole of his park. Whilst the Englishmen were beginning their operations, and forming the labourers of the country to the use of the new sort of plough imported from England, instructing the common workmen as to the construction of the new implements, and teaching the women servants of the farm the management of the dairy, the making of cheese, &c. Mons. de Liancourt had sent two young labourers, out of the environs of Liancourt, to England, who, being placed by me with good farmers in my neighbourhood, qualified themselves to replace, at a future day, the English family, in case these should grow tired of living in France, or to assist them if, as Mons. de Liancourt hoped, they were disposed to remain. The artizans of Liancourt learnt to imitate the implements, the plough and the cart brought from England, and made them very well.

To the cows from England, were added twenty-four more from Normandy and Switzerland; the whole herd, a very fine one, amounted, in 1792, to a hundred and five head, and hopes were entertained of increasing the number to three hundred, and of supplying them completely with a sufficiency of food. The young beasts were not then

of an age to allow of any decision being made, whether the produce of the Suffolk or Sussex breed would best succeed, but the whole afforded the most flattering hopes.

With regard to the flock of sheep; the Spanish ram crossed with the ewes of Berry and the Spanish ewes, and the Berry ram with the Flemish ewes, were the two breeds designed to be established and improved; an English ram from Romney Marsh was also crossed with the Berry ewes, all of which answered perfectly well: the lambs were fine, but as this branch of business had been began later than the other, the prospect of its success, although well founded, could not be entirely ascertained.

The lands had been put into excellent condition, in a country where inclosures were unknown; every field of the farm was inclosed by deep and broad ditches, with well planted hedges; gates were erected in all; the dry lands were irrigated, and the marshy meadows drained, by cuts under ground; old lands, for ages past judged incapable of yielding any produce, were burnt and rendered fruitful; the buildings on the farm were modelled to the new system, and to the management of the culture that was introduced. The two young French labourers were returned from England, and the English farmer (Mr. Reeve) an excellent one, and a very honest man, satisfied with his situation, with his success, and with the treatment he met in the country, thought only of continuing his employment, of increasing his success, and of seconding the intentions of his master. He was ordered to keep an exact and daily register of all the business transacted on the farm, to show it to whoever chose to see it, and to answer all their questions with truth, mildness, and patience, but not to entice any person to undertake an imitation of the English method of farming; Mons. de Liancourt thinking, that in every innovation, nothing less than self-conviction ought to actuate those who attempt it; and that by raising their expectations too highly they risk the success, which sooner or later would not fail to attend their efforts. The cows of the district were covered by the bulls of the farm whenever they were brought, and the produce from them was already found, by the people of the country, to be much finer; the culture of turnips and of cabbages, for the feed of cattle, absolutely unknown before in the district, began to be introduced; some proprietors inclosed their fields: several others had made, for their own use, farming implements after the English model, and found them answer best the purpose; many more hands were employed, of all ages and of both sexes, in the farms; the English were received with pleasure in the country, and treated in the most cordial manner; every thing succeeded to the utmost wish, and these successes were, in great measure, due to the indefatigable and enlightened vigilance of Mons. de Lazowski, whose heart is equal to his capacity.

The events of the 10th of August added the cruel necessity of forcing Mons. de Liancourt to renounce the hope of being useful to his country, as he had every reason to expect from these essays, to the other misfortunes he has experienced from the same cause.

Agriculture was not the only object of improvement he sought to transport out of England into his country; he had likewise began to establish the spinning of cotton, a manufactory of linen, a stocking manufactory, and the fabrication of cards; he had engaged the different artizans in each branch from England, constructed buildings, and sacrificed his gardens to these various establishments; which, in 1792, already employed more than a thousand people in the district of Liancourt; and, although yet far from having attained to perfection, they were productive of the most salutary effects to the lower ranks of people. As these manufactures have remained in the possession of an Irishman, whom he had taken as an associate, Mons. de Liancourt consoles himself with the idea, that the considerable sums of money it cost him to form these establishments,

were not wholly lost to the country he was so anxious to enliven and to enrich by industry. These establishments naturally recel to mind what the marquis de Mirabeau, in his book *De l'Ami des Hommes*, relatés of the duke de la Rouchefoucauld, the grandfather of Mons. de Liancourt, having, in 1754, made a sacrifice of one of the finest orangeries in France, and part of his park, to the inhabitants of his estate at Verteuil, in Angoumois, for the purpose of planting mulberry-trees, and raising of silk-worms, the cultivation of which was at that time scarcely known at Verteuil. This benevolent man had, before his death, the consolation of seeing many good intentions crowned with success; Mons. de Liancourt, on the contrary, has the sensible mortification of seeing the good he intended to do, and which he had so happily begun, destroyed by those very people for whom it was undertaken; and who, by a fatal error, in thinking to hurt him, whose sole endeavours tended to their advantage, have hurt themselves, by destroying an establishment that would have been a germ of national prosperity, and was unique in France.

The destruction brought upon such establishments, by revolutionary anarchy, is one, among a thousand lessons that teach the danger, to the dearest interests of the people, flowing from popular commotions. Little more remains of these agricultural establishments, than the merit of having made them, a source of heart-felt satisfaction to a worthy and patriotic individual. That he may be speedily reinstated in a property, which he lived only to improve and to adorn, is the sincere wish of that gratitude and friendship which pens this faint acknowledgment of merit.

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## ITALY.

### NOTES ON THE AGRICULTURE OF LOMBARDY.

ONE of the most interesting countries in Europe, for the practice of various branches of rural œconomy, merits a much closer and more minute detail than is possible for a traveller to give, who from the nature of his pursuit can do no more than retain a few of the principal features, to point out those circumstances which demand the most studious attention: some of these are so valuable, that years would not be mispent in acquiring a complete knowledge of them. On every subject, except what respects directly practical husbandry, the small number of my inquiries is of less consequence, while the pen is in the hand of my esteemed friend, Mr. Professor Symonds, whose elegant memoirs upon Italian agriculture\* are fraught with information of unquestionable utility. I shall arrange the minutes I made in Lombardy under four heads, which will include all that I think worthy of the reader's consideration.

1. General circumstances of the husbandry.
2. The management of grass lands.
3. The management of arable lands.
4. The encouragement or depression which agriculture receives from various causes.

\* Inserted in the *Annals of Agriculture*.

## CHAP. XXXI....GENERAL CIRCUMSTANCES OF THE HUSBANDRY OF LOMBARDY.

LOMBARDY is one of the richest plains in the world ; for fertility of soil, united with the use that is made of it by watering, it much exceeds every other in Europe ; but for mere natural fertility, I take the plain which extends from Holland to Orleans to consist of a richer soil, and it is also of a greater extent. From the foot of the Alps, near Suza, to the mouths of the Po, are about two hundred and fifty miles, and the breadth of this noble plain varies from fifty to one hundred, containing, probably, about fifteen thousand square miles. The Po bends its stately course through the whole extent, its branches ramifying, in innumerable streams, from the Alps on one side, and from the Appenines on the other ; the prodigious extent of the former range, covered with eternal snows, afford a vast supply of water, preserved most conveniently in those immense reservoirs the Lago Maggiore, Lugano, Como, Isco, Guarda, whose waters are the origin of the greater part of the irrigations of Lombardy. But in the Appenines there are no such reservoirs, nor any extent of snow similar to that of the Alps. Thus the space watered to the north of the Po, is probably ten times more considerable than that to the south of the same river.

The soil of Lombardy is, wherever I viewed it, either sand, gravel, or loam. I met with none, or at least, with very little clay (speaking always as a farmer, and not as a naturalist) and no chalk.

Under this head I shall insert the notes I took concerning, 1, soil ; 2, climate ; 3, inclosures ; 4, farms and tenantry ; 5, rent and price of land.

## SECT. I....OF SOIL.

PIEDMONT....After passing the Alps from Nice, and descending towards Coni, in the level and fertile vale of Piedmont, the soil is every where a rich sandy loam, with small appearance of clay. Wherever rivers, or rather torrents are found, we see great tracts of stone and shingle, which were brought by the water from the mountains. The Dora Baltia offers this spectacle ; from that river to Ciglione, are plains and wastes of gravel. The rice country of Verceil is a sandy loam. The district of the Sesia is gravel. The Tesin is the same. The gravels of Piedmont are all full of round stones, from the size of an egg to that of twice a man's fist.

MILANESE....In the way from Milan to Pavia, great tracts of gravel, which would not be very valuable without water. To the north of the city, about Mozzatta, &c. they have two soils chiefly : a strong loam, a little clayey, blackish, and free from stones : and a gravel mixed with loam, some blackish, dries quickly, and always loose. The Lodizan is a loamy sand, or loamy gravel.\*

STATE OF VENICE....The whole way from Vaprio to Verona, there are very great tracts of gravelly loams ; there are also some sandy ones ; the soil naturally is not deep or rich, though there are tracts that merit both those epithets. The territory of Verona is, in general, indifferent, and would not be of great value, were it not for water, and much industry. The best meadows and rice-grounds not more than nine inches deep on stone and gravel. For some miles from Verona, the stony

\* The Lodizan soil is termed, by the Italian writers, oriola ; a blackish sand, mixed with clay. The Gera d'Adda of geriva, a gravel, composed of sand and reddish gravel, with a little clay. The Cremone, a red ferruginous earth. Sand and gravel every where. Atti di Milano, tom. ii. p. 163.

gravel continues; but towards Vicenza, much fine red and brown, deep, friable, sandy loam, with few or no stones.

**ECCLESIASTICAL STATE....FERRARESE....**In the Ferrarese, between Passo Siene and Bologna, the soil is two feet deep; of a brown sandy loam, with a yellowish hue under which is one foot of sand, and then blue clay, apparently ferruginous. In cutting, not long ago, through a field, for raising a bank, they met with a heap of ancient bricks, five feet deep. From Ferrara to Bologna, the soil is, to all appearance, the richest I ever beheld; deep, friable, and with that degree of tenacity which marks great fertility; it seems to be entirely a deposition of waters, that have brought those fine particles which are held suspended, and which render that fluid turbid: those almost impalpable particles which are long in subsiding.

**TUSCANY....**All I saw of this territory is a rocky stone brash, or gravel. The loams are compounds of it, with more or less vegetable mould; I saw scarcely any tracts, large enough to be worth mentioning, that are exceptions. It is, upon the whole, though improveable, not a fertile soil; and, if olives were not well adapted to it, would be productive of little beside sheep-walk; to which animal, all I saw of this country, is admirably adapted, and would, I doubt not, produce as fine wool as Spain itself.

**MODENA AND PARMA....**A rich sandy or gravelly loam is predominant through these duchies; in many tracts it is deep, moist, and friable, as I saw in the lands which were receiving their autumnal preparation for beans in the spring. In some districts it is of a firm texture, but not clay. Much the same soil, but not equally deep, is found in the ceded provinces of Vogara, Tortona, and Alexandria; but parts of the last more tenacious, and to be ranked among the stiffest I met with in Lombardy.

#### SECT. II...CLIMATE.

**ON** the climate of Lombardy, Mr. Professor Symonds is so full and satisfactory, that the reader can be no where so well instructed.

**PIEDMONT....**The great complaint in Piedmont, is the excessive heat in summer; equal, I was assured, to almost any that was felt on the globe, and of a suffocating quality; while the frosts in winter are as severe, in the contrary extreme. The pestiferous climate of Sardinia is known to every body; though between 39 and 41 degrees latitude; in the southern part of the island, they are not forwarder than in the Milanese: they cut their corn in the north part in July: in the Milanese before the end of June.\*

**MILANESE....**The most remarkable circumstance in the climate of the Milanese, is the mildness and warmth of northern and mountainous tracts, and the severity felt in the plain. This fact is found particularly around the lake of Como; upon all the western coast of that lake, which is about forty miles long, the agrumi, as the Italians call oranges, lemons, &c. are found, exposed to the open air, in good perfection; yet the whole of the lake is bounded by the high Alps, which, immediately to the north, are covered with eternal snows. On the rich plain of Milan, and thence to the Appenines, no such plant can be left exposed; olives are not seen, and oranges, lemons, and bergamots, must be covered in winter. These agrumi are found chiefly on the west coast of the lake, but some are scattered on the eastern. It is the shelter afforded by the

\* Rifiorimento della Sardegna, tom. i. p. 155.

mountains, in peculiar positions, that has this effect. The same circumstance is found in the Lago Maggiore, where the famous Borromean islands are covered with agrumi. In all the Milanese, dry summers for corn (I believe it is the same every where in Europe) are most productive.\*

In an experiment made at Vicenza, in the Venetian State, by the *Academia Agraria* of this city, they sowed wheat October 18, 1787; came up the 28th; the ears appeared May 2, 1788; the flowers May 13; reaped June 19.

TUSCANY....I was at Florence the beginning of November, and the ice was 4 inches thick; a severity never yet known in England. The English were, at the same time, skating at Rome.

One-fifth of all the productions of the earth are calculated to be destroyed by hail and other accidents.

PARMA....In the management of the vines in the Parmazan, there is a practice which shews the constant dread of severe frosts. All the vines are now (in November) turned down, and the end shoots buried † in the earth to preserve them; yet in a wet season they suffer by this treatment, as well as in all seasons, by being stript from the trees, in order to undergo this operation.

Mr. Professor Symonds, in the excellent paper quoted above, removed the common erroneous idea of the fine climate of Italy; I made many inquiries concerning the leading facts, and have every reason to believe, that it is in point of health and agreeableness, one of the worst climates in the world: with the views of a farmer, however, it must be confessed, that the productions which the whole peninsula owes to its climate are very valuable; to omit speaking of Sicily or Naples, I may remark, that planting the poor brashy hills of Tuscany with olives is an advantage unequalled by any thing to be met with in the north of Europe; that the produce of silk throughout Lombardy is an object of the first importance: that rice is found to be an article of almost unrivalled profit: That the productive state of the meadows is indebted almost as much to the heat of the summers, as to the plenty of water; and, for any thing I know to the contrary, the admirable quality of the cheese also. These are all objects of great magnitude, and entirely derived from climate.

### SECT. III....INCLOSURES.

PIEDMONT....It is not very easy, in many parts of Piedmont, to pronounce, on a superficial view, whether the country be open or inclosed; but, on a nearer inspection, the

\* The same remark was made long ago, in 1540;

MDXL Extructum

Annus his bissextilis fuit, et luminare majus

Fere totum eclipsavit

A septimo idus Novembris ad septimum usque Aprilis idus

Nec nix nec aqua visa de cælo cadere

Attamen, præter mortalium opinionem, Dei clementia,

Et messis et vindemia multa.

It is extraordinary, that in 1799 there was an almost total eclipse of the sun, followed by a fine winter, the same as in 1540. There was a small eclipse on the 7th of April, 1540, but an almost total one the 15th of April, 1529, and which, for quantity and duration, was very much like that the 24th of June, 1779. The crop was abundant, as it appears by the prices of the year, in the Ledger of the Cistercian Monks. Wheat, 1537, the moggia, 5 livres. In 1540, ditto, 4 livres. In 1541, ditto, 6 livres. The ducat of gold, or zecchin, then at 5 livres 15s. Campi (*Istoria di Cremona, anno 1540*) speaks of the extraordinary dryness of this year, the abundance of crops, and subjoins, that the corn was cut the middle of May, and the vintage the beginning of August. This is the harvest near forty days sooner than at present, and the vintage two months. *Opusc. Secl. tom. ii. p. 136.*

† The same practice was known among the ancients: See Strabo, lib. vii. and Quint. Curt. lib. vii. c. 5.

greater part by far found to be inclosed; generally by ditches, and, in many districts, with hedges also; which, in some places, are as complete as in the best English counties.

**MILANESE....**Much the greater part of this territory is inclosed, either with hedges or by ditches, which serve as conductors of the water used in irrigation. These, in the Lodizan, and other districts to the south of Milan, are planted so thickly with willow and poplar pollards, that the country looks every where like a wood.

**VENETIAN STATE....**Much of the country from Bergamo to Brescia, is very thickly inclosed with hedges. From Brescia to the Lago di Garda it is the same; but from thence to Verona not equally so.

**ECCLESIASTICAL STATE....BOLOGNA....**The whole Bolognese is inclosed. They make and plash their hedges with the nicest attention: made with dead stakes, about four feet high, and tied in cross lines, with great neatness and strength. This care is, however, exerted for the boundary of the farm only; subdivisions of this kind are rare.

**TUSCANY....**There are no rights of commonage in all Tuscany; thanks to the wisdom of Leopold; every man has a right to inclose his property as he pleases. The Apennines, crossed from Bologna to Florence, are however mostly uninclosed, and almost waste.

**MODENA....**From the city of Modena to Reggio, the inclosures are very neatly formed of well made hedges without any ugly sprawling ones; but all either trimmed or made so often, that they are not suffered to spread.

**PARMA....**To Firenzuola all the country is inclosed.

**PIEDMONT....Tortonese....**The fences from the duchy of Modena hither are greatly declined: there are some hedges every where; but many large fields all the way, with only bad ditches or banks.

Lombardy, upon the whole, must be considered as an inclosed country, and much of it closely so. It would indeed be a glaring absurdity to keep land so extremely valuable in an open state. The importance of inclosing is well understood, and where not practised in perfection, it arises from causes that form exceptions rather than effect the general rule.

#### SECT. IV....OF FARMS AND TENANTRY.

THE predominant feature in the farms of Piedmont is metayers, nearly upon the same system which I have described and condemned, in treating of the husbandry of France. The landlord commonly pays the taxes and repairs the buildings, and the tenant provides cattle, implements, and seed; they divide the produce. Wherever this system prevails, it may be taken for granted that a useless and miserable population is found. The poverty of the farmers is the origin of it; they cannot stock the farms, pay taxes, and rent in money, and therefore must divide the produce in order to divide the burthen. There is reason to believe that this was entirely the system in every part of Europe; it is gradually going out every where; and in Piedmont is giving way to great farms, whose occupiers pay a money rent. I was for some time deceived in going from Nice to Turin, and believed that more of the farms were larger than is really the case, which resulted from many small ones being collected into one home stead. That belonging to the prince of Corignan, at Billia Bruna, has the appearance of being very considerable; but, on inquiry, I found it in the hands of seven families of metayers.

In the mountains from Nice to Racconis, however, they are small; but many properties, as in the mountains of France and Spain.

The Caval. de Capra, member of the Agrarian Society, assured me, that the union of farms was the ruin of Piedmont, and the effect of luxury; that the metayers were dismissed and driven away, and the fields every where depopulated. I demanded how the country came to have the appearance of immense cultivation, and looked rather like a garden than a farm all the way from Coni? He replied, that I should see things otherwise in passing to Milan: that the rice culture was supported by great farms, and that large tracts of country were reduced to a desert. Are they then uncultivated? No, they are very well cultivated, but the people all gone, or become miserable. We hear the same story in every country that is improving: while the produce is eaten up by a superfluity of idle hands, there is population on the spot; but it is useless population: the improvement banishes these drones to towns, where they become useful in trade and manufactures, and yield a market to that land, to which they were before only a burthen. No country can be really flourishing unless this take place; nor can there be any where a flourishing and wealthy race of farmers, able to give money rents, but by the destruction of metaying. Does any one imagine that England would be more rich and more populous if her farmers were turned into metayers? Ridiculous. The intendant of Bissatti added another argument against great farms; namely, that of their being laid to grass more than small ones; surely this is a leading circumstance in their favour, for grass is the last and greatest improvement of Piedmont; and that arrangement of the soil which occasions most to be in grass, is the most beneficial. Their meadows are amongst the finest and most productive in the world. What is their arable? It yields crops of five or six times the seed only. To change such arable to such grass, is doubtless the highest degree of improvement. View France and her metayers: View England and her farmers; and then draw your conclusions.

THE MILANESE.... Wherever the country that (I saw) is poor and unwatered, in the Milanese, it is in the hands of metayers. At Mozzatta the count de Castiglioni shewed me the rent book his intendant (steward) keeps, and it is a curious explanation of the system which prevails. In some hundred pages I saw very few names without a large balance of debt due to him, and brought from the book of the preceding year: they pay by so many moggii of all the different grains, at the price of the year: so many heads of poultry, so much labour, so much hay, and so much straw, &c. But there is, in most of their accounts, on the debtor's side, a variety of articles beside those of regular rent: so much corn of all sorts, borrowed of the landlord for seed or food when the poor man has none: the same thing is common in France, wherever metaying takes place. All this proves the extreme poverty and even misery of these little farmers; and shews that their condition is more wretched than that of a day labourer. They are much too numerous, three being calculated to live in one hundred pertichi, and all fully employed by labouring, and cropping the land incessantly with the spade, for a produce unequal to the payment of any thing to the landlord, after feeding themselves and their cattle as they ought to be fed; hence the universal distress of the country. Those who are advocates for small farms, should come hither, and see how they infallibly generate poverty in every cottage. The surplus of population is not demanded by manufactures, or by towns; the increase therefore is only the division of a pittance of food amongst many mouths instead of a few. It is impossible to prohibit procreation, or to force emigration; but it is in a landlord's power to introduce gradually and prudently, a different system; to occupy a large farm himself, cultivated accurately by day labourers of all



ages and sexes, well paid, and if this be not sufficient, to establish a manufacture of some gross and simple kind, to employ the population already existing; and by a gradual alteration in his farms, to proportion the food to the mouths that are to eat it.\* There is at present an inducement to such a change, that ought to weigh very seriously: the example of the French revolution will spread, and will be much more apt to take effect in countries where there is nothing, but the great land owner and the poor cottager, than in others where there are intermediate ranks of men of substance, who have an interest in preserving public order. What a temptation to confusion and rebellion is it, to have a country full of miserable metayers, all deeply indebted to the seigneur? Nine-tenths of the people in such a case, have an immediate interest in burning his castle and his account-books, for he stands single, on one hand, against all the people, swarming on the other: but in the watered plain, where the farms are large and not populous, from so much being in grass, there is every where a race of wealthy farmers, who have an interest in keeping the people quiet, who are united with the landlord, and who, paying their men in money, without these long and dangerous accounts, have not the temptation to revolt; or even if they were tempted, they would not have the disproportion of numbers to render it equally dangerous. The great object of men who have property, is at present to secure it; and they can have no security, while they fill the country, by metaying, with swarms of a starving and indebted peasantry. It should be remembered that the mischievous confusions, plundering, and burnings, in France, were not in the Pays de Beauce, nor in Picardie, nor in Artois, where metayers are unknown, and the farms large; but in the Maconnois, in Bresse, in Sologne, where all are in the hands of poor miserable metayers; an instance, surely, express to the purpose, and which should have its weight with Italian landlords. But to work a change in this pernicious system, demands a residence on their estates in the country, instead of abandoning them to the rapacity of stewards; it is not by living in the frippery of great cities, that their landed property is to be arranged on safe principles.†

In the watered parts of the Milanese, great and rich farmers are found. Here are the particulars of a farm I viewed, between Milan and Pavia; viz. three thousand one hundred pertichi; one thousand six hundred of rice; two hundred flax; four hundred and fifty perennial grass; four hundred and fifty clover; four hundred arable crops, wheat, rye, maize, millet, oats, &c. twelve horses; eight oxen; fifty-five cows, two bulls; forty labourers; rent 20 livres the pertica; the whole capable of being watered. And at Codogno the following are the particulars of one, where one hundred cows are kept: two thousand pertichi; one hundred eows: one cazaro; one sotto cazaro; six others; nine for corn; one agent; one guard against thieves, and those who steal water; one waterman. To stock such a farm 50,000 livres necessary. By means of such farms they have rich farmers; some worth 100,000 livres. The general idea of profit, in these dairy districts, is ten to fifteen per cent.; some dairy farms are occupied by proprietors, but the number is inconsiderable.

VENETIAN STATE....All the lands in the Brescian and Veronese territory are let at half produce, a la meta; even vines: but some meadows are usually reserved, and also woods. The proprietor pays the land-tax, and the farmer provides live stock, and pays the taxes on it.

\* But instead of the number of farms decreasing, they are increased, as we learn from Sig. Lavizari, Annot. sul Mittapacher, tom. i. p. 221.

† This whole passage is left as originally written; before French horrors rendered French politics objects of detestation rather than example.

Sig. Locatelli has a farm of one hundred campi, within two miles of the city, which yields him two hundred and fifty zecchini nett; this is something more than 30s. an acre. He has also another farm more distant, of six hundred campi, which yields six hundred and fifty zecchini nett; on which there are eight cows, twenty-two oxen, and one hundred and fifty sheep.

In the Vicentine,\* rent when calculated in money two and a half zecchini per campo. They have farms so large as two thousand campi.

In the Paduan, one hundred campi are a large farm; common 60; small 40; and they reckon small ones the best cultivated; if this be fact, and not a matter of opinion in the gentleman, my informant, it shews that their husbandry must certainly be esteemed bad; it is, however, questionable, for the reason added was, that there were more people on small farms; a sure proof that the progress of improvement has not been carried far. To stock a farm of a hundred campi, one thousand ducats are necessary, reckoning the ducat at 3s. which is not exact; this is a poor stock, for it does not exceed 33s. the English acre. The arrangement of the farms in the Paduan, may be guessed at, in some measure, from the following particulars; there are found, in the whole district, two hundred and eighty-eight thousand three hundred souls; forty-nine thousand, nine hundred and forty-three cows and fattening cattle; forty-one thousand plough oxen; one hundred and two thousand sheep; sixteen thousand five hundred and ninety-eight hogs; seven hundred and thirty-one mules; two thousand three hundred and eighty-one asses. One professor informed me, that in his opinion, the great mischief of the country is, that of great land proprietors letting their estates to undertakers or middlemen, who will hire to the amount of 10,000 ducats a year; and in re-letting to farmers will squeeze them so that they cannot live, to the great degradation of the country. Another professor said, that the district of Padua is not so well cultivated as the Vicentin, by reason of the greater poverty of the farmers and peasants, who are miserable, and have no power to make the land yield well. Indeed I learned, from very good authority, that the Paduan is not equal to the Vicentin, except in the mountains, where the peasants are much more at their ease than in the plain.

ECCLESIASTICAL STATE....BOLOGNA....Estates here are very generally let to middlemen, who re-let them to the farmers at half produce, by which means the proprietor receives little more than one half what he might do on a better system, with a peasantry in a better situation. The whole country is at half produce; the farmer supplies implements, cattle, and sheep, and half the seed: the proprietor repairs. Silk, and even wine on the same tenure.

Particulars of a farm (Sig. Bignami's) of six hundred tornature; three hundred and sixty on the hills; the rest on the plain: six metayers; thirty-six working oxen; twelve cows; twenty young cattle; one hundred sheep. Producc, two thousand corbi of wine; three to four hundred corbi wheat.

TUSCANY....Letting lands at money rent, is but new in Tuscany; and it is strange to say, that Sig. Paoletti, a very practical writer, declares against it.† A farm in Tuscany is called a podere: and such a number of them as are placed under the management of a factor, is called fattoria. His business is to see that the lands are managed according to the lease, and that the landlord has his fair half. These farms are not often larger than for a pair of oxen, and eight to twelve people in one house; some one hun-

\* Particulars of a farm of one hundred and twenty campi: twenty of meadow, not watered; ninety of corn; ten of clover; fifteen oxen and young cattle; three cows; two horses; four hogs; seven men; four ditto, with oxen; four women; two children.

† Pensieri, &c. p. 162, 164.

dred pertiehi (this measure is to the acre, as about twenty-five to thirty-eight) and two pair of oxen, with twenty people. I was assured that these metayers are (especially near Florence) much at their ease; that on holy-days they are dressed remarkably well, and not without objects of luxury, as silver, gold, and silk; and live well, on plenty of bread, wine, and legumes. In some instances this may possibly be the case, but the general fact is contrary. It is absurd to think that metayers, upon such a farm as is cultivated by a pair of oxen, can be at their ease; and a clear proof of their poverty is this, that the landlord who provides half the live stock, is often obliged to lend the peasant money to enable him to procure his half; but they hire farms with very little money, which is the old story of France, &c.; and indeed poverty and miserable agriculture are the sure attendants upon this way of letting land. The metayers, not in the vicinity of the city, are so poor, that landlords even lend them corn to eat: their food is black bread, made of a mixture with vetches: and their drink is very little wine, mixed with water, and called aquarolle; meat on Sundays only; their dress very ordinary. Yet in all these particulars they were in a worse situation before the free corn-trade. The richest peasants are in the Valdichiano. The most common agreement is, for the landlord to furnish all the cattle and sheep, and to pay the taxes, except the capitation on the peasants' family of 3 livres for all above three years old. In a considerable fattoria of eighteen poderi, at Castello Villa Bali Martelli, the largest is two hundred stiori (thirty-six acres, at  $5\frac{1}{2}$ ;  $28\frac{1}{2}$ , at 7) and 70 the smallest. Particulars of one of one hundred and ninety stiori; one pair of oxen; two calves; one horse; one mule; no cows, sheep, or hogs; fourteen people, of all ages and sexes; taxes before the grand duke's redemption, 80 pauls, now 15; tythes 15 pauls, half paid by landlord, half by peasant; this is 6s. 8d. in the whole for about thirty acres. Produce corn, one hundred and eighty scudi; silk, six and a half; wine, fifty-eight; oil, sixty; in all 85l.; the half, or 44l. is the landlord's receipt for these articles, or above 1l. 5s. per acre, at five stiori and a half to the English acre, and 1l. 11s. if at seven. No small proprietor.

*Villamagna*....Sig. Paoletti, rector of this parish, and author of some valuable works on agriculture, which I have had occasion to quote, was so obliging as to give the following detail of the three poderi belonging to his living, from which the arable œconomy of this part of Tuscany will be well understood.

## THREE PODERI; THREE FAMILIES.

<i>Seed Sown</i> ....48 staji of wheat	-	168 stori of land.
3 ditto vetches	-	$7\frac{1}{2}$
24 ditto beans	-	28
6 ditto oats	-	10
Artificial grasses; viz. clover, great millet, vetch, and oats, all for forage	- - - -	24
Wood,	- - - -	283

The stajo of wheat, of forty pounds English (fifty-two pounds to fifty-five pounds Tuscan) sows three stiori and a half, and yields eight or nine times as much; vetches four times the seed; beans three times; oats seven times; the wheat is a tolerable crop; all the rest miserable. If the farms immediately under the eye of this able writer, yield no more in this meta system, we may suppose the poverty of the common products; we have on the worst lands in England no idea of such crops as these of vetches, beans, and

oats. There are further on the three poderi, thirty-six sheep; one mule; six oxen; and four cows; also fifty barrels of oil, at five scudi; and three hundred and eighty barrels of wine, at ten livres the barrel, vintage price, but at a year old 15 or 16 livres; in silk 25 scudi; and in wood 10 scudi, for three-fourths of the woods are in a state of destruction. These poderi are let a la meta; repairs are done by the proprietor; live stock belong to the incumbent, and neither to the church nor to the peasants; implements belong to the tenants; seed-wheat, three-fourths to them, and one-fourth to the owner; of spring-corn all to the latter; also all sorts that are put in with the vanga (spade) as the land is so much the better laboured. Let it be remembered, that the spade being preferred to the plough, is the most decisive proof that tillage is in a state of mediocrity, if not barbarism.

MODENA....In the mountains there are many peasant proprietors, but not in the plain. A great evil here, as in other parts of Lombardy, is the practice of the great lords, and the possessors of lands in mortmain letting to middle-men, who relet to metayers; under which tenure are all the lands of the duchy. The tenant furnishes one half of the cattle, and the landlord one half. To Reggio the number of scattered houses very great; good; and with neatly hedged home-stalls: apparently there is not a labourer's house in all the country; all metaying farmers.

PARMA....Appearances from Reggio to this place are much inferior to those from Modena to Reggio; the fences not so neat; nor the houses so well built, white, or clean. All here metayers; the proprietor supplies the cattle, half the seed, and pays the taxes; the peasant provides the utensils. In the whole duchies of Parma and Placenza, and indeed almost every where else, the farms must be very small; the practice I have elsewhere noted, of the digging the land for beans, and working it up with a superfluity of labour, evidently shew it: the swarms of people in all the markets announce the same fact; at Placenza, I saw men whose only business was to bring a small bag of apples, about a peck; one man brought a turkey, and not a fine one. What a waste of time and labour for a stout fellow to be thus employed.

SAVOY....All the peasants are proprietors. So long ago as the year 897, lands were let on lease for twenty-two years, and not only for a payment of fruits or service, as in all the northern parts of Europe, but partly at a money-rent. This shews how vastly more forward Italy was in those early periods, than the rest of Europe.\*

It is said, that in 1464 began the custom of letting lands on a three years lease.†

#### SECT. V....RENT AND PRICE OF LAND.

THIS, as I have endeavoured to explain already in the case of France, is one of the most important inquiries in rural œconomy. The vulgar notion is, that nothing raises the value of land, but trade or manufacture. If the result of my travels were only to produce facts sufficient to overturn so false a theory, my time would not be altogether lost.

PIEDMONT....*Chentale*....Land in general is sold at 800 livres, or 900 livres the giornata, which is to the English acre as 7440 is to 7929. (Paucton.) At a distance from

\* ——— Uncerto Donno, che cerca da P. Abate di S. Ambrogio a nomo di livello, per ventidue anni, alcune terre nel Contado di Brescia, eh'erano del monistero d'Orona; promettando di pagare a fieto cioè per fissa annuale pensione tanta quantita di generi, e di denaro. Secala modia decem, Seligine staria duodecem, saba, &c. &c. Giulini goes on: "Qui chiaramente si comprende, che s'inganno il Mattioli il quale credette, che la segale fosse la siligine degli antichi." Memorie della Città e della Camp di Milano. Guilini parte ii. p. 62.

† Caronelli sopra l'Instituzione Agraria della Cioventu, quarto, 1789, p. 58.

towns, 600 livres to 850 livres. Some at 1000 livres (53l. 6s. per English acre.) Good watered meads, 1000 to 1200 livres.

*Turin*....The price of land in the environs of Turin, as may be supposed, is very high. Four miles from the town some is sold without water, at 1200 livres the giornata: with water, it depends on quantity, and the value is immense. Land that has one hour a week of such a stream as will water five giornata in that hour, sells at 1500 livres (79l. 19s. per English acre;) if it waters two giornata, 1000 livres; and if three, 1200 livres. And such watering adds at least one third to the value of the land. At Cambiano, five miles from Turin, arable land sells at 3000 livres, but this is uncommon. Near the town such prices as 3000 livres and 4000 livres are known. But in general, arable watered, near Turin, sells at 1000 livres; at a distance and not watered, 200 to 550 livres. If a general average were to be made of all sorts of land, except the very finest, it would be about 500 livres. In regard to rent, but little is let for money, chiefly at one half produce; but such meadows as would sell at 1000 livres would let at 70 to 75 livres. If two-thirds are arable, and one-third meadow, 40 livres will be about the rent in good lands. In the territory of Turin, arable lets at 30 livres.

*Vercelli*....Rice-grounds, 500 livres; good wheat land, 800 livres; watered meadow, 600 and 700 livres per giornata.

*MILANESE*....The price varies from 15 livres for the poorest wastes, to 1000 livres the pertica;\* but from 600 to 1000 livres more common. As the livre is  $7\frac{1}{2}$ d. English, 1000 livres is 98l. 19s. 2d. per acre. It is usually bought in such a manner as to pay  $2\frac{1}{2}$  to 3 per cent. for the purchase money.

Between Milan and Pavia, land rendered good by water, some sells at 300 to 500 livres: at 300 livres it lets at 12 livres.

From Milan to Mozzatta, when you have passed the watered plain, which is in a few miles, the rent in general is not more than 4 livres or 5 livres the pertica. In every new lease for a long period, such as eighteen or twenty-one years, there is always an

\* The difficulty I have met with, in ascertaining the contents of a Milanese pertica, is strange. Paucton, in his Metrologic, makes it to the English acre, as 0.14727 is to 0.7929, by which proportion, it should contain 8090 feet, or about  $5\frac{1}{3}$  perticas in an acre. Count Alexander Cicogno, in the Memoirs of the Patriotic Society of Milan, vol. ii. p. 304, says, that if seeds are planted at fifteen oncie one from another, 1479 will plant a pertica. As the oncia is two inches English, this makes 9243 English feet in a pertica.

Mons. de la Lande says, that it takes more than five perticas to make an arpent de Paris; now as that arpent is to the English acre, 0.6694 is to 0.7929, there are consequently 36,775 English feet in that arpent; at five perticas it would consist of 7355 English feet, or about six to an acre.

In the notes to the new edition of the Venti Giornata of Gallo (1775) this pertica is said to contain 6152 French feet, which will not differ materially from de la Lande.

Count Carli, who was president of the supreme council of Finances at Milan, and has written intelligently on the censimento, says, L'arpent di Francia sta alla pertica Milanese come  $1\frac{3}{4}$  ad uno prossimamente. (Delle opere del S. Conte Carli. 8vo. 1784, tom. i. p. 223.) The arpent of France being to the arpent de Paris as 48 to 32, there are 55,162 English feet in it, and in the pertica (at  $1\frac{3}{4}$  to 1) 31,500 feet. But the same author says (p. 320) there are 4868 pertichi in a square Italian mile; if so, there are 3628 in a square English mile; this makes  $5\frac{1}{3}$  and  $\frac{1}{8}$ th pertichi to an English acre.

Finding so many contradictions, I judged it necessary to recur to different authority. The oncia of Milan is two English inches, and the measures thus arrange themselves:

One pertica 24 tavoli.  
One tavoli 12 piedi.  
One piede 12 oncie.

Of these the tavola and pertici are square measures, the former containing 12 piedi square; this makes 576 English feet, which multiplied by 24, the result is 13,824 feet for a pertica, or about  $3\frac{1}{2}$  to an acre; and by this estimate I shall calculate.

augmentation of rent in every part of the Milanese, and generally to a pretty considerable amount. There is also an undoubted augmentation in the specie current in the country, and the prices of every thing have risen at the same time that money has increased. It highly deserves noting by the politician, that as the Milanese subsists entirely by land produce, without trade (other than the sale of that produce) and without manufacture, it is remarkable that it has experienced an advance in its prosperity, as well as countries that seem to engross both trade and manufacture; even at a period long after it had attained a height of cultivation and improvement, to which those trading countries have little to oppose.

*Lodi*....The best land near this place, 600 livres the pertica (59l. 8s. per English acre;) but farther off, 300 livres to 350 livres. The Spina, a farm I viewed, belonging to the Caval. Don Bassiamo Bona Noma, lets at 30 livres, others at 25 livres; but the common price 12 livres to 15 livres. The best land and highest rent is all for cows.

*Codogno*....Watered lands sell at 300 livres the pertica; and let at 10 livres (19l. 9s. per English acre) nett rent, tenant paying sensimento, &c.

Rent nett,	-	-	-	-	-	-	-	-	-	liv.	s.
Water tax for distribution,	-	-	-	-	-	-	-	-	-	1	0
Censimento,	-	-	-	-	-	-	-	-	-	2	5
Total rent,	-	-	-	-	-	-	-	-	-	13	5

VENETIAN STATE....*Bergamo*....Price of land near Bergamo, 80 ducats the pertica. The ducat is 8 livres, and 50 livres the pound sterling; and if the editors of Agostino Gallo be not mistaken, there are 6194 French feet in a pertica; on these proportions, land sells at 78l. 8s. per English acre.

*Brescia*....The best sells at 800 scudi; commonly from 300 to 500 scudi the jugero. This measure containing four pertichi, and the English acre  $4\frac{1}{2}$ , makes 400 scudi to equal 59l. per English acre, at 7 livres the scudo. The best land of 800 scudi, amounts consequently to 118l. Rents, per jugero, 5 to 10 scudi; the mean,  $7\frac{1}{2}$  scudi, equals 22s. English acre.

*Verona*....Land here commonly sells at 70 zecchini the campo (44l. 6s. per English acre) and yields to the proprietor 3 to 4 per cent. I viewed an arable field close to the city, yet sowing with wheat, that would sell for 100 zecchini per campo: and some other lands just out of the Porta Nouva, that are excessively gravelly, would sell for 15 zecchini; such poor land, at a distance, would not sell for more than 8 or 9 zecchini (5l. per English acre:) it is however not so bad, but that good mulberry-trees are on it.

*Vicenza*....The best watered meadows sell at 2400 livres to 3000 livres the campo, which is about 65l. per English acre, the best arable is nearly as valuable. The worst arable 300 livres; in the best there are neither mulberries nor vines. Common price 900 livres to 1000 livres, and the produce 110 livres per campo, about 55s. the acre. The highest rent in money is 3 zecchini the campo, common 1,  $1\frac{1}{2}$ , or 2 zecchini. But in general land is let at half produce.

*To Padua*....The best land sells at 45 zecchini the campo: rice-grounds are at that price.

*Padua*....The best arable land sells at 200 ducats, of 6 livres 4s. The campo is 840 pertiche quadrate, each of six feet, consequently 30,240 feet; but the foot is one inch

longer than the Paris foot: it is therefore equal to about 35,280 Paris feet,\* or about one-tenth under an English acre. Middling land 95 ducats; bad 50 ducats; rice-grounds, and consequently irrigated, 200 ducats; the same land before rice being planted, 100 ducats; watered meadows, 200 ducats; woods, 100 ducats; gardens, 400 ducats. Estates pay 5 per cent.

**ECCLESIASTICAL STATE....Bologna....**Landlords are paid by half produce, which affords them about 1l. 6s. 5d. per tornatura, of half an English acre, and as much is left for the farmer: this is about 5l. 5s. an acre, gross produce, on an average; but it is in the rich plain only. Through all the country, and including good, bad, and indifferent, it varies from 8s. 9d. to 26s. 5d. the tornatura, for the landlord's share. The price for such land as yields the latter sum, is 21l. 17s. 6d. English, the tornatura: in general from 8l. 15s. to 13l. 2s. 6d. The return for the value of land is 4 to 5 per cent. on the capital, but in farms on the mountains, 7 per cent.

**TUSCANY....Florence....**The landlord's half of the produce, for all farms are let a la meta, is about 3 livres nett (2s. 1½d.) per stiora on the plain (11s. 8½d. per English acre:†) it is 2 livres on the hills (7s. 8½d. per acre) and 1 livre on the mountains. No other proof is wanted of the poor state of agriculture in this country, arising, doubtless, from so wretched a mode of letting land. What must it have been before the time of Leopold, who has done so much towards the annihilation of its old shackles?

**Villamagna....**Three poderi, containing 200 stiori cultivated, and 283 of mountain wood, would sell at 12,000 scudi (3400l.) and per stiora for the whole, 7l. each: it also yields a rent by metaying of 500 scudi; and land is commonly sold to pay 3½ per cent. interest; but more commonly in other parts only 3.

**DUTCHY OF MODENA....Modena....**The biolca, which is here the measure of land, is twenty-nine French toises by twenty-six, or seven hundred and fifty-four; or to the English acre as 27,144 is to 38,300; or as 15 to 21. This measure of arable sells from 500 livres to 1200 livres, the livre half that of Milan, or about 4d.; 800 would be 18l. an acre. Watered meadow sells at 1200 livres to 3000 livres; the latter equals 70l. an acre. Such are mown thrice; the first cutting yields one carro of 100 poid, or 2500lb. (the pound about three-fourths of an English pound;) and the price of hay 3 to 4 zecchini per carro.

**PARMA....**The best land sells commonly at 50 zecchini the biolca (31l. 7s. per acre.) To Firenzuola, the best sells at 25 to 40 zecchini.

**PIEDMONT....Vogara....**From St. Giovanni to Vogara, the price of the best is 500 livres the journal. After that town, 24 scudi di Milano per tavola (about 20l. to 25l. per acre.) From Vogara, to within a few miles of Turin, the average value of land is 500 livres (26l. 13s. per English acre.)

**SAVOY....**At Montmelian, vineyards set at 1000 livres to 1200 livres the journal, which about equals a French arpent. On the mountain sides to Chamberry, on a soil, to appearance absolutely stony, that yield good wine, and sell as high as meadow. Cultivated land at Modena, in the Haut-Savoy, at 1000 livres. Improved mountain spots, 300 livres to 500 livres.

The most careless examination of the preceding prices will be sufficient to shew, that land is sold at present in Lombardy, some ages after it has lost both its commerce and its

\* Mr. Paucton makes it more than an arpent of France, 1.0866. How he proves this, I am not arithmetician enough to know.

† This at the ratio of 5½ stiori per acre.

manufactures,\* at prices that ought to mark the direct influence of immense industry; for it rises from 30*l.* to 100*l.* an acre, through a territory not comparable for soil naturally to many others. I will venture to assert, that the same land in England, would not sell for half, perhaps not for one third of the money. And it is worthy of remark, that the cities which possess most trade at present, as Leghorn, Genoa, and Venice, have little influence on the lands which sell at the prices here noted. It is not the competition of Venetian merchants that raises the prices on the terra firma; and what have those of Leghorn and Genoa to do with the Milanese and Piedmont? If Leghorn has not cultivated the Maremma, how was it to water the Lodizan? Bologna is perhaps the most manufacturing town in Lombardy; but has it drained the Commachio? If you recur not to present, but to ancient wealth, you must turn to Florence,† Pisa, Genoa, and Venice; the two first are in one of the worst cultivated countries in Italy: of Genoa I know nothing but by reading; but I have read no author that speaks of great cultivation in the Ligurian territory, free from small present proprietors: and let it be remembered, because it is a circumstance that merits it, that great commerce and fabrics, especially when depending on a city that governs a territory, have a direct tendency not to establish, but to annihilate such properties.

The effect of great wealth flowing from industry, is to extirpate little properties by the profits from trade being invested in their purchase; one country gentleman, with half a score farmers, and a hundred labourers, takes the place in countries, where the progress of wealth is in its natural course, of a number of little proprietors, who eat up all their produce, and yet are half starving for want. Is this the case in the Genoese territory? I am sure it is not at Venice.

The surest proof of the want of disseminating wealth in the country, is the almost universal practice of cultivating the land by metayers; if trade and commerce did much for Italy, which cannot be doubted, you must look for their effects, not in the country, but in towns. Those cities that possessed much industry (which I have named) carry sure proofs of former prosperity: go out of their gates, and you meet with none—from what did this arise? Probably from those cities being sovereign ones, and shackling the country with every species of monopoly, in favour of themselves. What is it therefore that will diffuse wealth through all the classes, and give verdure to the fields, as well as lustre to the towns? An equitable government. Whatever we possess in England, we owe to this origin; and it highly deserves notice, that it is not a cultivation superior to that of other countries, which distinguishes our island so much, as the establishment of a race of men generally found no where else; a substantial and wealthy race of tenantry; a race found in every corner of England: in Lombardy, you must go for such, not to Florence and Genoa, but to the Lodizan.

\* Every one knows, that, strictly speaking, there are both trade and manufactures in all parts of Lombardy; converting raw to organized silk, is certainly a manufacture; and making a few velvets at Genoa, or glass beads at Venice, are manufactures; but, for all the purposes of argument, Lombardy, when compared to such countries as England and France, must be said to be almost destitute of them.

† For the immense manufactures and wealth of Florence in the fourteenth century, see Giovanni Villani, lib. ii. cap. 93. "In Firenze le Botteghe (anno 1330) dell'arte della lana erano dugento e piu e facevano da settanta in ottanta mila panni di valuta di piu di mille dugento migliaia di fiorini d'oro (sono a scudi fiorentini 22,860,000) che bene il terzo e piu rimaneva nella terra per ovraggio senza il guadagno de'lanajuoli. Del detto ovraggio vivevano piu di 30,000 persone. Se per tutti i prodotti e manifatture dell'intera Toscana presentemente non entra piu di un milione due centomila scudi; chiaro e, che tempo fa la sola arte della lana in Firenze produceva venti volte piu utile di quello, che presentemente ne faccia tutto lo stato. Carli Saggio Sopra la Toscana, op. i. p. 348.

‡ A most singular law passed during the republic of Florence, that no man should make proof of nobility, who was not able to deduce it from the manufacture of wool or silk. Carli, tomo v. p. 335. A more commercial idea could no where root itself.



## CHAP. XXXII...OF THE MANAGEMENT OF GRASS LANDS.

CATTLE and grass lands are so connected, that, I trust, it will not be deemed an impropriety to treat of them in the same chapter, and as parts of the same subject. The observations I have made in Italy will be divided easily into 1, irrigation; 2, live stock.

## SECT. I...OF IRRIGATION.

IF there be one circumstance which gives a superiority to Lombardy, over all the other countries I have seen, it is this, and therefore merits the most particular detail.

*PIEDMONT....Nice....*Such is the consequence of water here, that a garden of four sestaradi (a square of twelve trebucchi, i. e. 144 is a sestarada, and 400 trebucchi a giornata, which is to the English acre as 0.7440 is to 0.7929) with a small house, lets at 20 louis d'or per annum, or about 15l. an acre.

*Coni....*For the last ten miles from Nice to Coni, the country improves continually, The soil near the mountains is stony, but is a good sandy loam lower in the vale. It is perfectly level, and watered with the utmost attention, in a manner I had not noticed before; not as in Spain, in beds, but the field is ploughed flat, sown with wheat, the clods broken with hoes and bush-harrowed, and then great deep trenches struck with the plough, for letting in the water; these are eight to twelve yards asunder. They are now (September) watering clover eight inches high, by letting the water into these trenches, and conducting it in a singular manner. A man walking backwards, draws by a line a bunch of straw and weeds, just large enough to stop the water in the trench, and force it to overflow on each side. This is an expensive and operose method, and inferior to the Spanish. The crops now on the ground are maize, good, but not extraordinary; millet; and a little hemp, the male plants picked. A great deal of clover, but not much that is clean. But meadow abounds, which is the glory of Piedmont; and the conducting of the water in multiplying conduits, seems well understood, and practised in great perfection.

*Coni to Chantale....*In the watered meadows, much chicorium intybus and plantago lanceolata. Watered meadows are cut thrice commonly; but in some seasons four times.

*Racconis....*The watered meadows are now mowing for a third time; the predominant plants; the chicorium intybus, plantago lanceolata, acchillea millefolium, and trifolium pratense.

*To Turin....*From Coni to Turin, something more than half the country appears to be watered, possibly two-thirds, and wherever the water is carried, it is apparently with great skill. It is however rather singular, that more trenches are not cut for taking the water off the land; the attention is chiefly paid to bringing it on; from which we may conclude, either that the heat of the climate renders such drains less necessary than in England; or that water is too valuable from every one understanding its use, to be brought on in the least superfluous quantity. The contrivance towards Turin, for carrying the aqueducts of irrigation across the roads, are beautifully executed: for convenience of distribution, the water course is raised three or four feet, or more, above the general level: these aqueducts are brought to the side of the road, and seemingly finish in a wall, but really sink in a syphon of masonry under the road, and rise on the other side behind another similar wall. Seeing these buttresses of masonry, without perceiving

first any water, I wondered for a moment to what use they could be assigned; but when I mounted the foot way, this beautiful contrivance was at once apparent. These are noble exertions.

*Turin...* The irrigation in all this vicinity is extensive, and carried to great perfection. Water is measured with as much accuracy as wine. An hour per week is sold, and the fee simple of the water is attended to with the same solicitude, as that of the land. Rich meadows without water sell for 1000 livres and 1100 livres a giornata; and arable worth 500 livres without water, is in many instances worth 2000 livres with it. Such a meadow as will sell for 1100 livres or 1200 livres per giornata, will yield the first mowing 115 rubbii of hay, worth 9s. to 10s. the rubbio, the second 90 rubbii, at 7s. to 8s. and the third, 80 rubbii, at 6s. to 7s.; the fourth growth is sold to be eaten by sheep, at 5 livres. This produce amounts to 120 livres, or 6l. English per giornata, which is under an acre. The interest of 1100 livres being at 40 livres or 50 livres, there remains a sufficient profit, after all expences are paid. During the winter, as the meadows are commonly fed with sheep, they do not water at all. Some experienced cultivators avoid water in the spring, till the frosts are over, which happen here as late as the 10th, and even the 15th of May, as a strong fresh vegetation is in such cases entirely cut off; but in general no attention is paid to this circumstance, and watering goes on at all times except when sheep are on the ground. Those who have water enough, let it on to their land once a week during the whole summer; but if the weather is wet, once a fortnight; and a day or two before cutting, if the water is perfectly clear. In regard to the quality of water, they make no other distinction than that from mountains being cold, and that of the Dora, near Turin, being charged with so much sand as to be bad. They attend to the cutting of weeds in the canals that they may rot; and some good managers harrow the bottoms in the spring to foul the water, which then acts more powerfully as a manure. Another practice, which tends also to prove what excellent farmers they are in all that respects meadow grounds, is that of paring and burning, which they perform on pieces that have a bad herbage, or want of improvement; but do not sow them with corn or any other plant, except hay seeds, in order to renew the grass, with no other interruption. It is impossible to praise such practices too much. They call this husbandry *motara*.

The power of effecting the great works in irrigation, which are visible over this whole country, depends very much on the law, which supposes the right and property of all rivers to be vested in the king; consequently all canals taken from them, are bought of him, and this ensures another regulation, which is the power of carrying the water, when bought, at the pleasure of those who buy it, where they think fit: they cannot however cut across any man's ground without paying him for the land and the damage; but the law does this by regulations known to every one, and no individual is allowed a negative upon a measure which is for the general good. The purchasers of water from the king, are usually considerable land owners, or communities that have lands wanting water, and it is of no consequence at what distance these lands may be from the river whence the water is taken, as they have a right to conduct it where they choose, provided they do not cut through a garden or pleasure ground. Nor can they carry the water under that of others, whose canals are already made, as they might in that case deprive them of part of their water; they are obliged to throw aqueducts over such canals. The benefit of water is so great and well understood, that nobody ever thinks of making objections; and in case their lands are not already watered, it is no small advantage to have a new canal brought through them, as they have the opportunity of buying water of the proprietors. It is sold per hour per week, and even half an hour,

and down to a quarter. The common price of an hour per week for ever, is 1500 livres. At Gruliascho, four miles from Turin, there are many Persian wheels that lift up the water by buckets; the wheels are double, with washers between for the stream turning them; the buckets or boxes on one outside only; they raise the water eight or ten feet, and about two and a half short of the full diameter of the wheel, and I could not perceive that they lose a drop; none falls except what adheres to the wheel itself. To save the expence of multiplying sluices, for the occasional stoppage of water, in carrier trenches, to force it over the land they have a moveable board that fits the trench, which is placed occasionally where wanted, and answers the purpose well. They have none of the ramifications of carrier trenches common among us; and not so many drains for taking the water off as with us; and, on the whole, do not shew any thing like our attention in the use of the water, though twenty, or rather a hundred times more in bringing it from rivers, and distributing it about the country; and I could not but observe that their meadows have much bad herbage, and many places damaged by the water resting too long; this is more the case here than it seemed to be from Coni to Racconis where the meadows carried a better countenance.

*Turin to Chivasco....*Not one-third of this country is watered. At Chivasco but little also. After crossing the Dora Belta, there are soon two considerable canals of irrigation; one made two years ago only, which is as great a work as a navigation in England.

*Ciglione....*Little land watered in this country; but I observed here some meadows, with off-channels from the principal ones, for conducting the water, which I did not notice before; but very few drains. The new canal crosses a gravelly waste, but none of it watered.

*Trouchan....*A very rich country much watered; and many mulberries.

*St. Germano....*Mowing the third crop of grass, and very poor; not more than fifteen cwt. an acre, and yet watered. The glory of Piedmont is from Coni to Turin. Those who pass Mont Cenis to Turin, and Turin to Milan, see, on comparison, nothing.

*Vercelli....*The new canal now making, for taking water from the Dora Belta, and conducting it to the rice grounds of Vercelli, is done by the king, and will cost three millions; the water is sold to communities. The other I crossed near the Dora, at the same time, was made long ago, and belongs to the marquis de Bourg.

*MILANESE....Baffalora....*After crossing the Tesino, in several branches, and entering the Milanese, we find a great system of watering meadows to Baffalora, where that magnificent canal, the Navillio Grande is twenty yards broad, and though navigable, was originally made for irrigation alone.

*St. Pietro Olmo....*Hence, for some distance, there is no watering; but then there is something in our Berkshire method; the lands are arched up, and just in the centre, on their crown, are the carrier trenches for conducting the water, and on each side a row of low shallows; some of these lands are two rods broad, and two feet higher in the ridge than in the furrow; the land firm and the herbage good: wherever the meadows seem good, there is abundance of chicorium intybus, plantago lanceolata, and trifolium pratense.

*Milan....*As the irrigation of the Milanese is perhaps the greatest exertion of the kind that ever was in the world, and certainly the first that was undertaken in Europe, after the decline of the Roman Empire; it merits every attention that a farming traveller can give; for it will be found, by very briefly recurring to records, which have been searched, that great exertions (perhaps as great as ever known) were made in this country, at a period when all the north of Europe was in a state of barbarism. In the year 1037,

mention is made of the canal Vecchiabbia. In 1067, watered meadows were common, called *prato roco*, by Landolfo.\* In 1077, there are notes of many streams used. In 1138, the monks of Chiarevalle bought of Giovanni Villano some commons, woods, and meadows for 81 livres under the contract (a parchment yet remaining) “*ut monasterium possit ex Vectabia trahere lectum ubi ipsum monasterium voluerit et si fuerit it opus liceat facere eidem monasterio fossata super terram ipsius Johannis ab una parte viæ et ab alia, &c. possit firmare et habere clusam in prato ipsius Johannis, &c.*” There is a similar contract of the following year, and various others, until the beginning of the thirteenth century; from which, and others, it appears that the Vecchiabbia was the entire property of the monastery, and confirmed in 1276 by the diploma of the emperor Frederick II. The merit of these monks appears to have been great, for they gained such a reputation for their skill and industry, that they had many applications for assistance in directing works similar to their own upon uncultivated lands; and the imperial chancellor Rinaldo, in the time of the emperor Frederick I, being appointed archbishop of Cologne, found the possessions of his see in such a deplorable state, that he applied for, and found the same assistance as reported by Cesarior Eisterbacense. Their greatest exertions were in irrigation, which was so well known, that they sold their superfluous water, transferring the use and property of some by the hour, day, and week. In two centuries they came to be possessed of sixty thousand *perliche*, mostly watered: there is reason to believe that the practice in the thirteenth century did not materially differ from the present modes; because, in the papers of the archives of the abbey of that period, mention is made of *chiuse*, *incastri*, *bochilli*, *soratoi*,† and other works, to distribute the water, and regulate the irrigation.‡ In 1164, the emperor Frederick gave various rights, in certain rivers, to the people of Pavia, for the purposes of irrigation.§ In 1177, the people of Milan enlarged and continued the Navillio Grande, from Abbiate Grasso to Milan, being fourteen miles; it was brought from the Tesino, near the Lago Maggiore, to Abbiate Grasso, twenty miles, by the people of Pavia, long before the date of any records now known to remain.|| In 1271, it was made navigable. It is thirty-two Italian miles long, and twenty-five *bracchi* wide, or forty-nine English feet.¶

The second great work, was the canal called Muzza, which takes the waters of the Adda, at Cassano, and carries them to Marignano, there dividing and watering much of the Lodizan. It was executed in 1220,\*\* and done in so admirable a style, that Padre Frisi, in the preface to *Modo di regolare i fiumi, &c.* says, “*il meccanismo d’irrigar le campagne è stato ridotto all’ultimo grado di maestria e di perfezione nel canale di Muzza.*”†† And Padre Antonio Lecchi, another great engineer and mathematician, remarks, “*De’nostri tre celebri canali di Muzza, e de’due navigli qual altra memoria ci rimane ora, se non se quella del tempo della loro costruzione, e d’altre poche notizie, niente concernenti al meraviglioso artificio della loro condotta.*”‡‡

In 1305, the canal of Treviglio was made, which takes the water from the Brembo, and carries it for several miles, about twenty-five feet wide, and about three deep; it ir-

\* Guilini, tom. iv. p. 122, 224, 225.

† *Chiuse*, are sluices; *incastri*, are water gates that are moved perpendicularly; *bochilli*, openings in the banks to distribute water; *soratoi*, discharges for carrying off superfluous water; the same as *scaricatori*.

‡ Memoire Storica ed Economica sull’ Irrigazione de Prati. Don. Ang. Fumagalli Atti di Milano, tom. ii. p. 215.

§ Guilini, tom. vi. p. 330.

|| Nuova Raccolta d’Auriche trattano del moto dell’ Acque, Parma, 1768, 4to. tom. vii. p. Prisi. p. 97.

¶ Ibid. p. 98. \*\* Verri, Storia di M. t. i. p. 240. †† Nuova Raccolta, tom. vii.

‡‡ Ib. Piano, &c. de tre torrenti, p. 141.

rigates the territory of Triviglio and the Ghiara d'Adda. And, within four or five miles, there are five canals, taken from the Adda and the Brembo, all of great antiquity. In 1460, the canal de Martesano was begun, under duke Francis Sforza I; it was twenty-four miles long, and eighteen braccia (thirty-five English feet) wide; since lengthened seven or eight miles more. It takes the waters of the Adda, a little before Trezzo, by means of a powerful wear (chiuse) founded upon the living rock; it is then supported for five miles by a solid wall of stone, forty braccia (eighty feet) above the bottom of the Adda, and parallel with it. At Gorgonzola, it passes over the torrent Molgora, by a bridge of three stone arches. At Carsenzago, it is crossed by the river Lambro, which enters and quits the canal with all its floods. And in order to prevent the surplus of water, which this circumstance occasions, from breaking the banks of the canal, or overflowing them, there are nineteen scaricatori in the canal, above, below, and facing the junction, which are so calculated that they have not only powers sufficient to take off the waters of that river, but also half of those of the canal itself. These scaricatori are canals which take the water, when sluice-gates are opened for that purpose, and convey it at various distances to the Lambro again; the fall in its course being considerable enough to free the canal from all superfluity of water. Near Milan, this Navillio receives the torrent Seveso; and, after surrounding the city, unites with the Navillio Grande and the Olona. The sluices which Bellidor supposed to be invented by the Dutch were used for the first time near Padua, in 1481, by two engineers of Viterbo, Dionisius and Peter Domenico, brothers.\* Leonardo da Vinci profited immediately of this great invention, for the union of the two canals of Milan; and finding between them the difference of the levels to be eighteen braccia,† he with six sluices, in the year 1497, under Ludovico il Moro, opened and facilitated the navigation from one to the other. The greatest scaricatori ‡ of the waters united at Milan, is the canal of Vecchiabbia, which, after having served some mills and irrigation, falls into the Lambro near Marignano; and if this canal were made straight, and supported by some sluices, the navigation might be continued to the Lambro, and thence to the Po and the sea. Both these canals, the Grande and the Martesano, are so contrived as to be completely emptied, once a year, for cleaning and repairing whatever accidents may have happened to any of the works.

I have entered into this digression upon a very curious subject, little known in English literature,§ in order to shew how well irrigation was understood, and how admirably it was practised, when the countries on this side of the Alps were barbarous. At the same time, however, that justice is thus done to these great exertions, we must bear in mind that few districts in Europe are better, or so well situated for irrigation. The lakes of Maggiore and Como, nearly upon the same level, are three hundred feet (one

\* *Moto dell'Acque*, vol. v. Parma, 1766, p. 349. Mentioned by Zandrini in the tenth chapter, *Sopra l'Acqua Corrente*. This is the common supposition in Lombardy, and is thus recorded; but it appears to be an error, by a passage in Guillini, tom. xii. p. 332, where, anno 1420, mention is expressly made of them, *machinarum quas couchas appellat*, &c.

† P. 98. Frisi.

‡ The scaricatori are what I believe we call weirs in England; they are discharges of superfluous waters. Mr. Brindley made them in the duke of Bridgewater's canal, circular, and in the centre of the river, to convey the water as into a well; but in Italy they are cuts or openings in the banks of the canal, at places that allow a quick conveyance of the water; for instance, where a canal crosses the bed of a river; their powers are calculated with such a mathematical exactness, proportioned to the quantity of water brought into the canals by the rivers joining them, that no floods ever effect the surface, which is of an equal height.

§ One would naturally look for some knowledge of these facts in "Anderson's Deduction of Commerce;" but we shall look in vain.

hundred and fifty braccia) higher than Milan, and that of Lugano two hundred feet higher than those, with a nearly regular declivity to the Po.\*

There are authors who have asserted, that agriculture is improved in consequence of great trade or manufactures only; but the instance of the immense irrigation in the Milanese, effected by these and many other canals, too numerous to mention, will not allow of such a conclusion being general; and to shew that my opinion is not without foundation, a very brief review of the state of Milan, so far as it respects these periods, will not be displeasing to a reflecting reader.

In 1177, when the canal de Navillio Grande was made, the republic of Milan had been gradually forming for about two hundred years; † but these dominions were exceedingly confined; Lodi, Pavia, Mantua, Verona, Crema, Tortona, Como, Bergamo, Brescia, Piacenza, Parma, Genova, Asti, Vercelli, Novara, Cremona, Ivrea, Padua, Alba, Treviso, Aquileia, Ferrara, Reggio, Modena, Bologna, Imola, Cesena, Forli, Rimini, Fano, and Ancona, were at that time independent republics; ‡ which united against Milan, in 1162, with the emperor Frederick I, and besieged and destroyed it. This singular fact that in fifteen years after one of the most signal destructions that could be brought upon a city, there should be found energy enough in a petty republic, to undertake a work which is in the present age regarded as an honour to Lombardy must be admitted as a proof, that the trade and manufactures of that period could have been but very inconsiderable.

Milan, however, unquestionably arose to great power and prosperity; and our business is to inquire into that period, whence we may judge how much its commerce might influence the perfection to which she has carried agriculture.

- 1042, Civil war; the nobility driven out by the people.
- 1056, The government changed.
- 1067, Meadows watered. Guilini, iv. 122.
- 1108, War with Pavia.
- 1111, Lodi destroyed by Milan.
- 1127, Como destroyed by Milan.
- 1153, Frederick Barbarossa interposes.
- 1162, Milan taken and destroyed.
- 1167, The people of Milan living in tents and cabins. To,
- 1173, War with Frederick.
- 1177, Navillio Grande continued to Milan.
- 1191, Grant of waters to Pavia, for irrigation, by the emperor Henry VI.
- 1204, The nobility expelled.
- 1210, The archbishop's revenue 80,000 fiorini d'oro, equal to ten millions of livres now.
- 1216, A woollen manufacture.
- 1220, The canal of the Muzza made.
- 1221, The archbishop and nobles expelled.
- 1237, War against the emperor Frederick II.
- 1240, Government reduced to pay in paper money; the origin of all that has passed since in Europe.
- 1257, The nobility expelled.
- , The Navillio Grande begun to be made navigable.

\* Verri, Storia di Milano. 1783. tom. i. p. 5.

† Storia di Milano. p. Verri. 4to. tom. i. p. 142.

‡ Verri, tomo i. p. 175.

- 2263, Factions of the Guelphs and Ghibellines now in full activity at Milan.  
 1271, The Navillio Grande navigable.  
 1277, Civil war; Toriani and Visconti.  
 1281, Ditto.  
 1288, Milan buys wool from France, Flanders, and England.  
 1296, Decree, that gave to every one the power of conducting water across all great roads, provided stone bridges were erected.  
 1302, Revolution; the Toriani get the better of the Visconti.  
 1305, Canal of Treviglio made.  
 1310, Revolution; the Visconti prevail.  
 1327, Violent factions of the Guelphs and Ghibellines.  
 1332, Grant of water for irrigation to the people of Treviglio.  
 1350—1385, Tyranny of the Visconti drives away the manufactures.  
 1395, Great power of Milan over the cities of Lombardy.\*  
 Through every part of the fourteenth century, the passages in the Annals are numerous, which prove how well irrigation was understood, and how highly canals of water were valued.  
 1421, Milan exports cloths to Venice.†  
 1457, Most of the conquests of Milan lost.  
 1460, Canal de Martesano made.  
 1481, Sluices invented at Padua.  
 1497, Leonardo da Vinci joins the canals at Milan.

It should seem from this detail that the exertions in irrigation were almost purely agricultural; the benefit enjoyed by the people of Pavia, from the Navillio Grande, was a constant proof of the advantages to be derived from similar canals; and they were executed at moments which will not allow us to attribute them to the influence of manufacturing or commercial wealth.

To this may be added, that during the 13th and 14th centuries,‡ Italy was the perpetual scene of bloody wars; the Venetians and Genoese, the Venetians and the Milanese, and, in their turns, the other republics seem to have had no other business than that of cutting each other's throats. A perpetual state of warfare, and so many revolutions as

\* In 1378, Giovanni Galcazzo Visconti Conte di Virtù was declared duke of Milan, his dominions then comprising Arezzo, Reggio, Parma, Piacenza, Cremona, Lodi, Crema, Bergamo, Brescia, Verona, Vicenza, Feltro, Belluno, Bassano, Bormio, Como, Novara, Alessandria, Tortona, Vercelli, Pontremoli, Bobbio, Sarzana, Pavia, Valenza, Casali, Padua, Alba, Asti, Bologna, Pisa, Siena, Perugia, Nocera, Spoleto, and Assisi. Verri. p. 417.

† As this woollen manufacture is said to have been in the hands of an order of friars, the *frati umiliati*, we have no reason to suppose it an object of great consequence; the expressions seeming to imply its magnitude being applicable to a comparison with poorer neighbours. Count Guilini says, on occasion of its being carried from Milan to Sicily, "che tanto fioriva fra noi," (tom. viii. p. 585;) but records do not explain the extent; though we are told that they worked up wool from France, Flanders, and England, in 1288 (tom. viii. p. 399;) which trade had existed to some degree of consideration in 1216. Count Verri uses the expression: "lavoro de pannilani la quale formo la ricchezza cospicua di Milano." (Storia di Milano, tom. i. p. 357.) But it was Venice, Genoa, Pisa, Amalfi, and Ancona that had the empire of the sea, which gave that author reason to say, "che tutto il commercio dell'Europa era presso gl'Italiani," (tom. i. p. 465.)

‡ In the preceding periods it was probably worse. Count Verri observes, "Dello stato della popolazione nel decimo secolo; mi pare verosimile che dovesse essere mediocrementemente popolato Milano. Le terre erano coltivate parte da servi e parte da liberti. Molte parti del ducato era bosco. In qualche luogo, che ora si coltiva forse, ancora v'erano delle acque stagnanti." Storia di Milano, tom. i. p. 76.

were making place in the governments of the Italian cities, were little adapted to give a security of possession essentially necessary to the establishment of such manufactures and commerce, as shall by the overflowing of their surplus, ameliorate the agriculture of a country.

It was but fifteen years after the destruction of Milan, that the Navillio Grande was made; and within three years after the loss of all her conquests, that the canal de Martesano was digged: these great undertakings were, therefore, executed at periods when commercial prosperity could least of all effect them. There was no stability in that prosperity. It is also to be remembered, that throughout this period of Milanese history, that people, even at the height of their power, were never masters of a commercial seaport. It is true that they twice took Genoa; first in 1353, but kept it for a very short time; and again in 1421, when they were in possession of it but fourteen years; and amongst all the dominions of Galeazzo Visconti, Sarzano was the only port, and that never a commercial one; thus the fabrics of Milan were obliged to be exported through the Venetian or the Genoese, who laid duties on the transport of their commodities.

The conclusion of the whole seems fairly to be, that we are not to attribute the irrigation of the country to wealth derived from foreign commerce; the fertility and excellent management of the lands supported a great population, which proved as industrious as public calamities and confusions would allow; but it does not appear that this industry was ever continued through a long series of peace and happiness.

Another idea has been started, that Lombardy owed her irrigations to the effect of the crusades: that the mad enthusiasts who went upon those expeditions, brought home with them the art of cutting canals, for this most beneficial purpose; but history does not give sufficient lights to allow of this conclusion. I have already remarked that the Navillio Grande was made by the people of Pavia, long before those of Milan made the cut to that city; and so long before that no records in the archives were found of it by that most industrious searcher into antiquity, count Guilini. This fact seems nearly decisive, for the first crusade did not commence till 1096, nor terminate till 1100, before which period there is every reason to suppose the canal in question was cut, as the researches of Guilini go so far back as 773. The crusades ended in 1291; and had the effects been as great as possible, yet they cannot be imagined to have taken place immediately; it must be, after much consultation and long reasoning, that whole towns could be brought to co-operate in the execution of such plans for the common good, from mere reports of the effect in distant countries and different climates. Another circumstance, tending to prove that irrigation in Lombardy was much more ancient than the crusades, is that Theodoric, who began to reign in Italy, anno 493, publicly rewarded an African who had come thither in order to instruct the Italians in the art of irrigating lands, as Mr. Professor Symonds has explained, with his usual elegance, in his most agreeable paper on the effect of water in the agriculture of Italy.\* Now if this art had been thus introduced, or more properly speaking, revived in Italy above six hundred years before the crusades were thought of, there cannot be much reason for attributing that improvement to the observations of those frantic enthusiasts. It is remarkable that count Verri, in his History of Milan, says, he had long conceived that their irrigations were to be ascribed to the crusades; but from paying more attention to the authorities quoted by count Guilini, he gave up that opinion, and concurred in the idea

\* Annals of Agriculture, vol. i. p. 421.



of a greater antiquity :\* for which also P. Frisi seems to contend, when he says expressly that the canal made by the people of Pavia was more ancient than 1177.†

And here it may be worth remarking, that Pavia was the capital and residence of Theodoric, whence there results, at least, a presumption, if he sent to Africa for a person to instruct the Italians in irrigation, that here was the field of his exertions, and that this very canal was the work of that sovereign, not the less celebrated for thus laudably applying himself in a barbarous age to works that would do honour to the politest. But to return from this long digression.

The same law that has been so effectual in watering Piedmont, operates here also, and has done even greater things. He who discovers a spring, conducts it where he pleases, paying a fixed compensation‡ for cutting through the properties of others. All rivers belong, as in Piedmont, to the sovereign, who sells the waters to speculators for this most beneficial purpose of irrigation. In the distribution of it by sale, they do not measure by the hour, as in Piedmont, but by the ounce; twelve ounces are a braccio, or twenty-two inches: an ounce of water is a stream that runs one braccio long and one ounce deep; and the farther the water has run, the higher is the price as being more charged with manure.

As an example of the beneficial influence of this law, I was shewn between Milan and Pavia, a spring that was discovered two miles from the lands of the discoverer, the properties of many persons lying between him and the spring. He first bought the property of the person in whose land it was situated, which was easily done, as it was too low to be there of any use; then he conducted it by a trench at pleasure the two miles, paying the fixed price for cutting through his neighbours lands; and, having gained it upon his own, presently changed poor hungry arable gravel into a very fine watered meadow.

Near Milan a watered meadow sells at 800 livres the pertica (32l. 15s. the English acre;) and the rent of such is about 30 livres (1l. 5s. the English acre.) This must not, however, be classed high; for there are lands that rise to 4000 livres (163l. the English acre.) In land at 800 livres or 1000 livres, water often makes half of the value; that is, the rent to the owner of the land will be 15 livres to 20 livres, and as much to some other person for the water.

In viewing a great farm six or seven miles from Milan, in the road to Pavia, I found that all the watered meadow was mown four times; and that what was watered in winter, prati di mercita, five times. Such is the value of water here, that this farm, which watered is rented at 20 livres the pertica, would not let at more than 6 livres without water, the soil being gravel. The irrigation of the mercita begins in October, and lasts till March, when it is regulated like all other meadows. All in general begin in April, and last till September; and if there be no rain once in seven to fifteen days. An

\* Storie di Milano, tomo i. p. 354.

† Con tutte questo pero, se imparzial mente si vorra avere riguardo al tempo, alle circostanze, alla maestria del lavaro, il naviglio di Milano che forma la comunicazione del Tesino, e dell'Adda, potra passare per il capo d'opera, che abbiamo in questo genere. Per quanto dice il Sigonio nel libro 14 del regno d'Italia all'anno 1179, pare che il primo tronco dello stesso Naviglio, del Tesino ad Abbiate Grasso, fosse gia dai tempi piu antichi incominciato e finito dai pavesi per irrigare le vicine loro campagne. Fu nell' anno 1176 che i Milanesi condussero lo stesso cavo da Abbiate a Corsico, e a Milano. Nuova Raccolta, vol. iii. p. 97.

‡ These laws, relative to the conduct of irrigation, are as old as the republic of Milan; first compiled into a collection of statutes and customs in 1216 (Verri p. 239.) They were revised and collected by order of Charles V, and are in full force to this day. Constitutiones Domini Mediolanensis Decretis et Senatus Consultis. Gab. Verri. Folio, 1747. De aquis et fluminibus p. 168.

ounce of water running continually from the 24th of March to the 8th of September, is worth, and will sell for 1000 livres. When arable crops want water, it is always given.

*Milan to Mozzatto....* Every considerable spring that is found becomes the origin of a new canal. They clear out the head for a basin, and sink casks by way of tunnels for the water to rise freely, and without impediment from mud or weeds. There are usually three, four, or five of these tunnels at the bottom of a basin of twenty or thirty yards.

*Milan to Lodi....* Of all the exertions that I have any where seen in irrigation, they are here by far the greatest. The canals are not only more numerous, more incessant, and without interruption, but are conducted with the most attention, skill, and expence. There is, for most of the way, one canal on each side of the road, and sometimes two. Cross ones are thrown over these on arches, and pass in trunks of brick or stone under the road. A very considerable one, after passing for several miles by the side of the highway, sinks under it, and also under two other canals, carried in stone troughs eight feet wide; and at the same place under a smaller that is conducted in wood. The variety of directions in which the water is carried, the ease with which it flows in contrary directions, the obstacles which are overcome are objects of admiration. The expence thus employed, in the twenty miles from Milan to Lodi, is immense. There is but little rice, and some arable, which does not seem under the best management; but the grass and clover rich and luxuriant; and there are some great herds of cows to which all this country ought to be applied. I cannot but esteem the twenty miles as affording one of the most curious and valuable prospects in the power of a farmer to view; we have some undertakings in England that are meritorious, but they sink to nothing in comparison with these great and truly noble works. It is one of the rides which I wish those to take, who think that every thing is to be seen in England.

*Lodi....* Examining some watered meadows in high estimation, I found the following plants most predominant, and in the order in which I note them: 1, *Ranunculus repens*; 2, *Trifolium pratense*; 3, *Chicorium intybus*; 4, *Plantago lanceolata*; 5, *Achillea millefolium*;\* and about one-fifth of the whole herbage at bottom seems what are properly called grasses. These rich meadows about Lodi are all intersected by ditches, without hedges, but a double row of pollard poplars; all on a dead level, and no drains to be seen. They are now (October) cutting the grass and weeds in the ditches, to cart home for making dung. The meadows are commonly cut thrice: but the best four times. The produce of hay per pertica, six fassi of one hundred pounds, of twenty-eight ounces at the three cuts. Price of the first, 8 livres per fass; of the second, 5 livres; of the third, 4½ livres. They water immediately after clearing if there be no rain. Without irrigation, the rent of the country in general would be only one-third of what it is at present. In forming these watered meadows they have very singular customs: all are broken up in rotation; flax sown for the first crop, and their way of laying down is to leave a wheat stubble to clothe itself; clover is prohibited by lease, from an absurd notion that it exhausts the land; and that it is not so good as what the nature of the ground gives; but on worse land, the other side of the Adda, they sow clover.

\* There appeared but few signs of ray-grass, yet it certainly abounds in some of their fields: opinions in Lombardy differ concerning it; Sig. Scannegatta praises it highly (*Atti di Milano*, tom. ii. p. 114;) but one of the best writers in their language, Sig. Lavezari (tom. i. p. 82) wonders rather at the commendations given of it in other countries, he mistakes the French name, it is not sainfoin; the *lojessa* of Lombardy, and the ray-grass of England, is the *lolium perenne*; the French sainfoin is the *hedysarum onobrachis*.

*Lodi to Codogno*....All this country the same as about Lodi, a dead level, cut into bits of from three to ten acres, by ditches, without hedges, and planted with double rows of poplars and willows, all young, for they are cut as soon as the size is that of a thin man: here and there one is left to run up to timber. I remarked, in the meadows fed, that the ranunculus is avoided by the cows as much as possible. I expected in one meadow to find it the acris, but much of it was the repens. All this country is alternately in tillage; ridge and furrow every where: no permanent meadow. After seven miles, the road being natural, shews the soil to be a loamy sand, binding with rains.\*

*Codogno*....Thirteen pertiche of watered land necessary for a cow, the hay of which is cut thrice and it is fed once; such land sells at 300 livres, and lets at 10 livres, free from tax. The whole country is ploughed by turns, being down to clover for the cows four years. 1. Flax, and then millet; 2, maize; 3, wheat and clover; and rests then for feeding cows; white clover comes, but it is bad for cheese. The reader will note, that this opinion differs from that near Milan.

*Codogno to Crema*....Crossing the Adda, from the Lodizan, there is more arable, and much fewer cows.

*Milan to Vaprio*....In this line there are some dairies, but not many. Near the city there is much grass, all cut into patch-work of divisions, and planted so as to seem a wood of willows; after that much tillage, though all is flat, and there are no great exertions in watering. But the road passes by that fine navigable canal de Martesano from Milan, which at Vaprio is suspended as it were against the hill, twenty feet above the Adda—a noble spectacle.

Before we quit the Milanese, it will be proper to make a general remark on the conduct of their irrigation, that some evils are observed to attend the practice for want of a better foresight and more attention; particularly from the gradual enlargement of the carrier canals and ditches; they clean them with so much care, for the sake of obtaining the mud, as a manure, that these are every where become too wide for the quantity of water they convey. Sig. Bignami has written upon this point very rationally, in his dissertation *Sull' abuso di scavare i canali delle roggie ed i fossi nel Lodigiano*; where he asserts that one-tenth part of their lands is occupied by canals and ditches. The evils are numerous, it is not only a considerable loss of land, but it is an equal loss of water, for when an oncio of a given run of water is purchased, there is a great difference between its first fitting a great or a small channel, as in proportion to the size will be the quantity of useless fluid. The atmosphere is also proportionably contaminated, for this great breadth either of stagnant water, when irrigation is not actually going on, or, what is worse, of mud, in so hot a climate, must be pestiferous; and to this have been attributed the distempers which have frequently made such havoc among their cattle. Another inconvenience is, the great expence of all erections, bridges, sluices, &c. &c. which are in proportion to the breadth of the channels. The remedy is obvious, it is to forbear all cleansing for the sake of mud; to let all aquatic weeds, and other plants,

\* As well watered as this country is, yet in the spring of 1779 the season was so dry, that where the Lambro enters the Po, men and women crossed the Po itself on foot, as if merely a rivulet; the rector of Alberoni himself passed it, and the water reached only to his middle. The damage was great every where, but fatal in the Lodizan, where herds of cows were obliged to be sent out of the country to be pastured; the mischief the greater, as from 1774 to 1779 they had augmented their cows 5000. (*Opuscoli Scelti*, tom. vi. p. 56.) The climate has, however, in all ages, been subject to great droughts. From May 1158, to May 1159, there fell no rain in Lombardy; wells and springs all dried up. The emperor passed the Adige, with his army near Verona, without boats; and the count palatine of Bavaria passed thus the Po, below Ferrara. Giulini, tom. vi. p. 175.

grow freely on the banks, edges, and sides of the canals, and to clear them in the middle only. Such a conduct would in time quite choke them up, and enable the farmer to keep his canals exactly to their right width. All these plants covering the spaces, which in canals often cleaned, are bare earth or mud, would be very beneficial towards preventing and decomposing that noxious, and mephitic, and inflammable gas, always issuing from such mud, which is so pestilential to animals, yet so salutiferous to plants; for mud covered with plants that are ready to feed on its exhalations, is much less mischievous than that which is exposed to the rays of a burning sun. Count Carlo Bettoni, of Brescia,\* has practised a method which acts on similar principles; namely, that of burying or fixing willows or poplars to the sides of the rivers whose banks he wanted to preserve, with the precaution only of keeping the ends of the branches out of water; he finds that they grow vigorously in this situation, and by stopping the mud of the current, form a solid bank; this, on a small scale, might certainly be executed: also in the canals of irrigation, as it has been remarked, by the author already quoted, in the *Atti di Milano*.

*VENETIAN STATE....Vaprio to Bergamo....* There is a mixture of watered meadow in this line, but the quantity is not considerable. In some which are old, I found a good sprinkling of trifolium repens, chicorium intybus, and plantago lanceolata; but also much ranunculus and rubbish. In the plain close to Bergamo, they clean the irrigation-ditches at the end of November, and harrowing them with a faggot, to thicken the water, let it immediately on to their meadows, which is said to enrich them much.

*To Brescia....* The Venetian state, thus far, is a considerable falling off from the Milanese, in respect to irrigation; the country is not without canals, but neither the number nor the importance of them is to be compared to those of Milan. From Coquillio to Brescia there are many channels, yet the lands are not half watered.

*Brescia to Verona....* The road passes for some distance by a very fine canal, yet the quantity of watered land in this route is but inconsiderable. Before we arrive at Lago di Guarda, there are a few meadows never ploughed, that have a good appearance, but none from the lake to Verona. On the whole, these forty miles, for want of more irrigation, are not comparable to the Milanese or to Piedmont. This route so much to the north, gives the traveller an opportunity of seeing a chain of considerable cities, and of observing the effects of one of the most celebrated governments that has existed; but a better direction by me would have been by Cremona and Mantua.

*Verona....* The meadows here are cut thrice, and fed once; are never ploughed, if good and well watered. Water for irrigation here, as in all Lombardy, is measured with great care and attention, by what is called the quadrata, which is a square foot (the Veronese foot is to the English about as twenty are to twelve.) Twelve quadrate are sufficient to water five hundred campi of rice grounds (about three hundred and eighty English acres) and the price of such a quantity of water is commonly about 3000 zecchini (1425l. sterling.) The wheels in this city for raising water for irrigating the gardens are very complete; they receive the water as in Spain, into hollow fellies. There is one in the garden of the Daniele monastery for watering about four campi, which are said to yield a revenue of 300 zecchini; which is 100 zecchini, of 9s. 6d. per English acre. The wheel raises the water about twenty-five feet, receiving its motion by the stream; a low wall crossing the garden, conveys the water in a trench of masonry on its tops; and a walk passing along the centre of the garden, the wall there is open to admit the path, the water sinking in a syphon, and rising on the other side to the same

\* Hensieri sul Govern. de Fiumi. Brescia, 1782.

height, passes again along the wall, in the same manner as canals are carried under roads in Piedmont, &c. The wheel has double fellies, for giving water on both sides into troughs, which unite in the same receiver, and the washers for giving the motion are placed between the fellies. The whole apparatus complete, cost three hundred zechini.

*To Vicenza....* There are in this tract of country some perennial meadows watered, quite upon a level, which have a very good aspect: the existence of such should make us question the propriety of the Lodizan system of ploughing, where water is so regularly at command.

*Padua....* The country from Vicenza to this city, is not watered like many other districts of Lombardy. The practice is very well known; and there are rice-grounds about Padua, but not nearly the use made of water which is found in the Milanese; yet the rivers in the Venetian state belong to the prince, as well as in other parts of Italy, and water is consequently to be bought: but there is not the same right to conduct it at will, and consequently the water itself might almost as well not exist.

*To Venice....* In this tract I saw no irrigation, though the whole is very low, and quite level.

*Venice....* The same admirable law that takes place in the Milanese, for enabling every man to conduct water where he pleases, is found in the Venetian state also, contrary to my information at Padua; but so many forms are necessary, and the person who attempts it must fight his way through so much expensive litigation, that it is a dead letter, and nothing done in consequence. I was farther told, that it is a principle of the Venetian code, that not only all rivers, but even springs, and rain itself, belongs to the prince: an idea worthy of this stern and tyrannical government.

*ECCLESIASTICAL STATE.... Bologna....* I saw no watered lands.

*TUSCANY....* I saw no irrigation in Tuscany; and from the intelligence I received, have reason to believe, that the quantity is not considerable; some meadows, however, are watered after mowing. The best methods I heard of, are about Poggio, Caiana, Villa Sovrana, ten miles from Florence.

*DUTCHY OF MODENA....* The quantity of irrigated land in the Modenese, is but small; it does not amount to more than six biolche in eighty, nor have they more than fifteen perpetual water-mills in the whole territory. From Modena to Reggio, there is a sprinkling of these meadows, the canals for which, taken from the Lecchia, are not large; all, whether watered or not, are manuring with black well rotted compost, and have a very neat countenance.

*DUTCHY OF PARMA....* The country from Reggio to Parma is not without watering, but the quantity is inconsiderable; there is, in this line of country, a great inferiority to that from Modena to Reggio, not the same neatness nor attention in any respect; there are mole-casts in the meadows, a thing unseen before; and though there are much cattle and sheep, yet the features of the husbandry are worse. From Parma to Firenzuola, not an hundredth part of the country irrigated, yet there is a good deal of grass, and in some places in large pieces.

*PIEDMONT.... Pavese, &c....* For some miles in the Sardinian territories, there are a good many meadows, but very few watered. I passed two small channels of irrigation, but the quantity was inconsiderable. If a map of these countries be examined, there is the appearance of many rivers descending from the Appenines, and falling into the Po, but the use made of them is small. It is remarkable that all the way by Tortona, Alexandria, &c. to Turin, the quantity of irrigation, till almost close to the last mentioned city, is quite inconsiderable, not one acre perhaps in a thousand. What an idea can be

framed of Piedmont, by those who pass through it from Mont Cenis, and quit it for Milan or Tortona, without seeing it from Turin to Coni?

SAVOY....In the mountains of the Alps, by Lanesburgh, &c. they mow their watered meadows once only, but in the plain twice.

From this detail of the irrigation of Lombardy, it must be apparent, that for want of laws similar to those which take place fully in Piedmont, and the Milanese, and partially in the republic of Venice, no such exertions are ever likely to be made in a free country. We can in England form no navigation, or road, or make any trespass on private property, without the horrible expensive form of an act of parliament; we cannot even inclose our own property, without the same ceremony. Nor is it only the expence of such applications, but the necessity of them generates opposition at every step, and a man must fight his way through country-meetings, through attornies, agents, counsel, witnesses, and litigation, in a manner odious to every liberal feeling, and at a ruinous expence, before he is at liberty to improve his own estate, without any detriment to others, every idea of such works, therefore in England, as we have seen common in Lombardy, is visionary and impracticable; and we must continue to view, with eyes of envy and admiration, the noble exertions which have been made and perfected in that country, and which, in truth, very much exceed any thing we have to exhibit in any walk of agriculture in this island: an example to hold up for imitation, and an ample field of practical study.

#### SECT. II.....OF CATTLE.

PIEDMONT....*Nice to Coni*....In this part of the Alps, the breed of cows resembles the Alderney, in horn, colour, and size. They are usually cream-coloured, or pale yellow, but with black around their eyes, black tail, and some of them legs also, like the Poitou breed in France.

*Turin*....Price of a plough ox, 150 to 300 livres. A good cow, 110 livres.

The method of fattening in the plain, the cattle called moggie, from the mountains of Suza and Bussolino, as given by the Agrarian Society, deserves attention. They begin by putting them in airy stables, healthy, and well lighted, bleed once or twice, anoint the bodies of the cattle, dress them well at least twice a day, give water mixed with rye-flour, in evening feed with a certain mixture called *condut*, composed of elm leaves, with some hay of the second or third cut, or clover-hay, to which they join a mess of well pulverized walnut oil-cake, on this mixture they pour some boiling water, well salted, and stir up the whole together, and mixing at the same time an eymena of bran, according to the number of moggie; the pap, thus prepared, is turned into a tub, and some hours after it is given to the cattle, who eat it with an avidity that marks a delicious food; continuing this method some time, they cast their hair, grow smooth, round, fat, and so improved, as to sell frequently at double the price.\*

MILANESE....*Milan*....Examining the ox-stalls of a farmer near the city, I found his standings  $6\frac{1}{2}$  feet wide, and made almost like my own at Bradfield, except that instead of a step and gutter, he has a trench at their heels, in the Dutch method. I thought the house too close and hot, yet there were air-holes, but all stopped, the farmer saying that a cow gives more milk for being kept hot, but in summer the sheds are open and quite cool. They begin to work their oxen at four years old, and continue till ten, sometimes till twelve, but after ten they do not fatten so kindly. They all draw, as in

\* Memoire della Societa Agraria, vol. i. p. 73.

Piedmont, by the withers; fine ones sell at 30 louis the pair. A pair will draw four thousand pounds of hay, each pound twenty-eight ounces, on a waggon that weighs one thousand pounds more, with wheels not three feet high, and wooden axles. Four thousand pounds at twenty-eight ounces Milanese, are six thousand seven hundred and seventy-seven pounds, at sixteen ounces English; and three tons being only six thousand seven hundred and twenty pounds, this is a considerable load in such a vehicle, and should imply no bad method of drawing, yet I cannot like it so well as by the shoulders. They are never shod, except on stony hills.

This farmer fattens his oxen in winter with linseed cake, giving five or six pounds a day to each beast, and as much hay as they will eat; the best for them, that of meadows not watered. When it is scarce, they substitute forage of maize, sown thick for mowing, and this hay they cut in a chaff-box, to the length of one or two inches.

But the great object in the vicinity of Milan, as well as in the Lodizan, &c. is a dairy; I viewed several considerable ones, from four to seven miles from the city, and had my inquiries very satisfactorily answered. Some of the particulars deserve noting, for I should remark, that all the dairies of the Milanese are very famous, and few produce cheese that is not sold under the general name of Parmesan. They buy in about the end of October, Swiss heifers, with calf, generally at two years and a half old, under contract, that if they do not calve, or do not give milk from four teats, the bargain is void: the price on average, 13½ louis. They keep so long as till fifteen years old, or so long as they breed. Till the age of six years, the milk augments annually, but afterwards diminishes. They are sold lean at 15 to 36 crowns each, 6 livres (at 8d.) The best two or three cows in a dairy of forty or fifty, will give thirty-two bocals of milk per diem; but in common, twenty-four, or eighteen English quarts. The cows are mostly of a dark brindled red colour, with small horns;\* and it deserves noting, that the best made cow in fifty-five, quasi fattening, was the best milker.

In respect to cheese, a dairy of fifty-five, which I viewed, make three hundred and twenty in a year, at forty pounds on an average, or twelve thousand eight hundred pounds, or two hundred and thirty-two pounds per cow (three hundred and eighty pounds English) at 90 livres per one hundred pound; in all per cow in cheese, 7l. 10s. English. The butter amounts to twelve pounds to every cheese of forty pounds, at 26s. per pound: three thousand eight hundred and forty pounds, which at 26s. are 4992 livres (166l. 8s. English, or per cow, 3l.) The calf, at eight or fifteen days, sells at 72 livres per one hundred pounds nett, and being weighed alive, twenty-eight pounds per one hundred pounds is the deduction. I do not clearly understand this note, on revision, but as veal at Milan is about the same price as in England, I shall call the calf 10s. To fifty-five cows, seven sows and a boar are kept, which breed forty hogs that are reared; twenty sold in spring, and twenty in autumn, average 1½ louis each; in all for hogs, 60l. English.

						<i>l.</i>	<i>s.</i>	<i>d.</i>
Recapitulation, per cow....	Cheese,	-	-	-	-	7	10	0
	Butter,	-	-	-	-	3	0	0
	Calf,	-	-	-	-	0	10	0
	Hogs,	-	-	-	-	1	2	0
						<hr/>		
						12	2	0
						<hr/>		

\* It is remarked by an Italian writer, that in choosing cattle, the horns must not be overlooked; the larger these are, the worse. The Swiss cows that are reputed the best, have small horns; and on the contrary, those of Sardinia, that are poor milkers, have very large ones. *Elementi D'Agricoltura di Mitterpacher, tomo ii. p. 257, notes.*

The account of a dairy taken next door to me, in Suffolk, is complex, and such as not one man in twenty keeps accounts particular enough to ascertain; it may therefore be easily supposed, that greater difficulties occur in a foreign country, through the medium, not only of a different language, but of different manners and customs. This account was given partly as an actual one of fifty-five cows, and partly by calculation; but in such a number of cows, there will be some dry; there will not be fifty-five calves sold from fifty-five cows; hogs must, for such a produce, have some corn given them, though not much; and I should consider this estimate rather as what a good cow ought to do, barring accidents and exceptions, than as a fair average of a large number.

The expences, however, are high, as well as the produce; among others, there are the following to this dairy of fifty-five:

Chief dairy-man, the cazaro.....	Wages, - - - - -	liv.
	Five moggii of maize, at 20 livres, - - -	130
	One ditto wheat, at 34 livres, - - -	100
	Half ditto rye, at 18 livres, - - -	34
	One ditto of white rice, - - -	9
	One hog, of 120lb. at 15s. - - -	44
	Lodging, fuel, salt, and butter, - - -	90
The under dairy-man, sotto cazaro....	Wages, - - - - -	127
	Board in the farmer's house, - - -	
	Three men, at 70 livres each, - - -	210
	3½ moggii maize, at 10½ livres, - - -	210
	½ ditto rye, at 3½ livres, - - -	63
	¼ ditto rice, at 2¼ livres, - - -	99
	½ ditto mullet, 1½ livres at 18 livres, - - -	27
	Towards board, 20 livres, - - -	60
	Land enough for their flax, - - -	
	Two children, for the hogs, at 30 livres, - - -	60
	Five faggots per diem, at 5 livres the 100, - - -	
	4 livres if large, - - -	60
		<hr/>
		1323

Here are above 44l. English, without knowing at what to calculate the three other articles; probably they would raise it to above 20s. a cow. There is likewise the wear and tear of the dairy implements, salt, oil, and many small articles; besides hazard, and the loss by difference between the sale of old cows and the purchase of young. In regard to the management of the cows, they eat in winter, that is, from the middle of December to the end of March, nothing but hay, and the allowance is twenty-one pounds of twenty-eight ounces, each cow per diem; this is 2184 pounds of Milan, or 3559 pounds English, or about 1½ ton. This single article of expence, without any other consideration, would make a very great produce necessary, or the farmer could not live. They milk at break of day, and sometimes before it; in the evening, two hours before sunset: the quantity most in the morning. The best cheese is made when the cows feed on white clover, which comes of itself the second year, where red clover was sown, which occasions a vulgar notion here, that red clover changes into white. This second year's white clover is better than perennial meadows for cheese. For one fortnight in a year, they soil their cows, the last half of March, and the grass goes thrice as far



as when eaten in the field ; yet they never do it at any other season. The most singular circumstance is that of their stalling their cows to empty racks most of the day, and all the night ; they are turned out at eight or nine in the morning for three or four hours, and all the rest of the twenty-four they have nothing. I inquired particularly into the motives for this very extraordinary practice, and was assured it was necessary to make good cheese as without it the milk would not have the requisite richness. During some seasons of the year, and in very wet or bad times, they give them during this fast, a small quantity of hay, but the practice is confined to such times, and is an exception from the general rule, which is decidedly that the cows must not eat grass at pleasure. It is so very singular a practice, as certainly to deserve experiment in England. The French practice of milking thrice a day, is quite unknown.

The method of making the cheese known in England by the name of Parmesan, because the city of Parma was once the entrepot\* for it, was an object I wished to understand as well as possible. The idea is, that all depends on soil, climate, and irrigation ; and the boasted account that the kings of Spain and Naples, in order to make similar cheese in their territories, at least for their own tables, had procured men of skill from the Milanese for this purpose, contribute to give a readiness every where in answering questions, as they are all very well persuaded, that such cheese can be made no where else.

In order that I might view the process to the best advantage, the Abbate Amoretti conducted me to the dairy in question, belonging to the house of Leti. It is, in the first place, necessary to observe, that the cheeses are made entirely of skimmed milk ; that of the preceding evening mixed with the morning's milk ; the former had stood sixteen or seventeen hours, the latter about six hours. The rennet is formed into balls, and dissolved in the hand in the milk ; the preparation is made a secret of, but it is generally known that the stomach of the calf is dressed with spices and salt. The rennet was put to the milk at twelve o'clock, not in a tub, but in the cauldron or boiler, turned from off the fire-place at ten o'clock ; the heat 22 degrees of Reaumur's thermometer, and common to 24 degrees ( $81\frac{3}{4}$  Fahrenheit's) the atmosphere being at the same time  $16\frac{2}{3}$  (70 Fahrenheit's.) In summer, the whole operation is finished by eight in the morning, as the heat sours the milk if in the middle of the day. At one o'clock the cazaro examined the coagulation, and finding it complete, he ordered his sotto cazaro to work it, which he did, with a stick armed with cross wires, as described in Annals of Agriculture ; this operation is, instead of cutting and breaking the curd, in the manner it is done in England, free from the whey. When he has reduced it to such a firmness of grain as satisfies the cazaro, it is left to subside, till the curd being quite sunk, the whey is nearly clear on the surface ; then the cauldron which contains it, is turned back again over the fire-hearth, and a quick fire made, to give it the scald rapidly ; a small quantity of finely powdered saffron added, the sotto cazaro stirring it all the time with a wired machine, to keep it from burning ; the cazaro examined it from time to time, between his fingers and thumb, to mark the moment when the right degree of solidity and firmness of grain is attained. The heat was 41 degrees ( $124\frac{1}{2}$  Fahrenheit) but it is often 44 ( $131\frac{1}{2}$  Fahrenheit.) When the cazaro finds it well granulated by the scalding, he orders his deputy to turn it off the fire, and as soon as a certain degree of subsidence has taken place, empties about three-fourths of the whey, in order the better to command the curd. He then pours three or four gallons of cold water around the bottom

\* This is the general opinion, but a late writer has shewn that it is an error, and that Parma and Phenza were once the country in which the best was made.

of the cauldron, to cool it enough for handling the curd: then he bends himself into the vessel in a formidable manner to view it, resting his feet against the tub of whey, and with his hands loosens the curd at bottom, and works it into one mass, should it not be so already, that it may lie conveniently for him to slide the cloth under it, which he does with much apparent dexterity, so as to inclose the whole in one mass; to enable himself to hoist it out the easier, he returns in the whey, and taking out the curd, rests it for ten minutes or a quarter of an hour in a tub to drain. The vat, in the mean time, is prepared in a broad hoop of willow, with a cord round to tighten it, and widens or contracts at pleasure, according to the size of the cheese. Into this vat the curd is fixed, and the cloth folded over it at top, and tucked in around. This is placed on a table, slightly inclining, to carry off the whey that drains from the cheese; a round plank, three inches thick, shod with iron like the block-wheel of a barrow, is laid on the cheese, and a stone about three the size of a man's head on that, which is all the press used, and there ends the operation. The cheese of the preceding day was in a hoop without any cloth, and many others salting in different hoops, for thirty or forty days, according to the season, thirty in summer, and forty in winter. When done, they are scraped clean, and after that rubbed and turned in the magazine every day, and rubbed with a little linsced oil on the coats, to be preserved from insects of all sorts. They are never sold till six months old, and the price 90 livres the one hundred pounds of twenty-eight ounces.

The morning's butter-milk is then added to the whey, and heated, and a stronger acid used, for a fresh coagulation to make whey-cheese, called here masco-pino. Little ones are kept in wooden cases, in the smoke of the chimney.

Upon this detail, I am to remark, that the rules that govern the operation of making cheese in the Milanese seem to be very different from those which are attended to in England. These are marked distinctions.

- I. Starving the cows during so large a portion of the day.
- II. Breaking and scalding the curd.
- III. Light pressing.

The mode of feeding which these farmers pursue, they think essential to good cheese; and that if the cows were allowed to pasture all day long, it would be difficult, perhaps impossible, to make cheese of equal goodness. It would be idle to reason upon a proposition, which demands in other countries experiment alone.

The breaking of the curd and scalding is absolutely different from ours, and apparently a method infinitely superior; our breaking by the hand, and cutting into cubes and other ways, are gross, and render it difficult for the scalding whey to operate equally; but in the Italian method it is broken minutely, and by keeping the heating whey constantly stirring, the scald is equal throughout, and operating on the minutely divided curd, must take a more regular and a greater effect. I described to the cazaro the method used in England, and asked his opinion, on which he replied—*Il vostro formaggio in quel modo non poul'essere troppo buona: come e la grana?* By referring to the grain of the cheese, it is plain he thought that the texture of it demanded this way of operating.

In regard to pressing, all with whom I conversed were much against any very heavy weights, and seemed of opinion, that a good cheese might be pressed into a bad one. Firminess, weight, and solidity, they contend, should arise from the right fabric of the cheese, and from adapting the fabric to the land and to the season, but never from much dressing, which would be a bad way of remedying either evils or mistakes. Hoved cheeses are very rare with them, which may possibly proceed not only from the granu-

lation given by their method of scalding, but also from their moderate pressing. However it must not be imagined that the excellency and peculiarity of Parmesan cheese depend altogether upon the fabrication; their own idea is probably very just, that soil, climate, and irrigation come in for their share; and that the abundance of certain plants has an influence; but this last cause will not have much stress laid on it, since clovers are found to be the chief plants.

I shall not quit this most interesting district without recommending it strenuously to those who would wish to give themselves a completely good farming education. For such a purpose Codogno would be a proper station; for it is surrounded by great dairies, and contains the largest magazines of cheese of any town in Lombardy; the consequence of which is a regular intercourse with all the dairy masters of the Lodizan. Much useful knowledge might here be gained in irrigation, and in making cheese.

The oxen of this dairy farm begin to work at four years old; and are sold at eleven or twelve years old, from 9 to 12 louis each. A pair will plough eight pertiche a day; and draw, waggon included, three thousand pounds, of twenty-eight ounces, twenty miles.

*Mozzatta*.... They practise a singular method of fattening oxen here. They put chopped straw, a little hay, the leaves of maize, and also some flour of it, into a tub, and pour in hot (not boiling) water; and as they give this soup to the beast, they add for each a handful of oil-cake in powder, or for want of that, of elm leaves in powder; oak leaves they give green. Another food in use is powdered acorns, which is given instead of oil-cake, and with good success.

*Lodi*.... The cows here are generally of a blood red colour, long, lank, and ill-made. In a dairy of ninety, they make for one hundred and sixty days, one cheese a day, of sixty pounds: but in April and May it is of seventy pounds. After St. Martin the beginning of November, greater, but not every day; in seven months, one hundred and ninety cheeses; and in the rest of the year one hundred and seventy; in all, three hundred and sixty; this is two hundred and forty pounds per cow. In feeding, they give the cows nothing from four in the afternoon till nine the next morning, unless the weather be very bad, and then a little hay. In making the cheese I found very little variation in the practice from that already described. For the coagulation, or what our dairy wives call setting, they heat the milk gradually, and take care not to do it too much at once. In the great heats of summer they set it without heating and even put ice or snow (with which every dairy is provided) to cool it; but they do not consider the heat at setting to be a point of much consequence, as a little more or less heat makes no difference. The curd is broken exactly as described before, with two machines, one of wood only, the other armed with fine wires, and the saffron added during that operation. Scald it as at Milan, and, upon doing this with skill, they assert, that much depends; as by more or less scalding they can remedy certain deficiencies in soils and plants. The rest of the operation is just as already described, and all the utensils the same; the weight something less than at Milan; and here as great enemies to much pressing. The cheese made yesterday is all honey-combed in the coat, and as yellow as wax, a pale yellow: whereas at Milan the new cheeses are quite white. These honey-combs wear out by scraping after salting, which is for thirty-six or forty days; they are then coloured, and there is given to them an appearance of a whitish crust, or efflorescence artificially. They are preserved by oiling, as at Milan. Good cows give about five gallons of milk per diem; the best of all, six. Sixty cows require one hundred pertiche for six months in summer.

*Codogno*....The produce per cow is here reckoned at one hundred pounds of cheese,\* at twenty-eight ounces, at 22½s. per pound, and eighty pounds of butter at 24s. The calf sells at 20 livres, at fifteen days old; and the produce of hogs, twelve sows to one hundred cows, which pay about 10 livres per cow.

	MILANESE.		STERLING.		
	liv.	s.	l.	s.	d.
100 lb. cheese, at 22½s.	112	10	3	15	0
80 lb. butter, at 24s.	96	0	3	4	0
Calf,	20	0	0	13	4
Hogs,	10	0	0	6	8
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>
	238	10	7	19	0
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>

Thirteen pertiche of land are necessary to carry a cow through the year, which they cut for hay thrice, and feed once. Such land bought, sells at 300 livres, and lets at 10 livres. The greatest dairy in the country, one hundred and ten cows, and the price 10 louis each. In summer they milk at four o'clock in the morning, and at sun-set. Make the cheese at eleven in the forenoon; in winter at any time. Skim all the milk, and never set it for coagulation without heating it by fire. In other respects, the manufacture is conducted as already described. They colour the coats with earth, and the whitish efflorescence is given with rye-meal. When the grass is oldest, it always gives the best cheese, but the produce, after being down four years, declines so much, that the almost general practice is to plough it.

View the magazine of cheese at Codogno, of Sig. Bignami, and of Sig. Stabilini; the latter are immense. Most of it is sold in Italy, much in Spain, and least of all in France; there is not a solid cheese in that kingdom that is eatable, and yet they consume little Parmesan!

*Codogno to Crema*....Messrs. Bignami had the goodness to conduct me to a great farm, two miles from Codogno, in the way to Crema; here I found that coagulation takes, according to the season, from one to four hours; in some parts of the Milanese the cazaro informed me that they set the milk without warming: here never; always heat it by fire. The caggio (rennet) is in balls about twice as large as a pigeon's egg, put in a linen coarse cloth, and rubbed, holding it in the milk, till it is dissolved. In this dairy after three hours coagulation, the milk was as hot as if fresh from the cow. Quantity of saffron, a quarter of an ounce to a cheese of sixty pounds—945 pounds of milk, of twenty-eight ounces, make a cheese of sixty pounds weighed six months after. The same quantity of milk in spring and in autumn, makes more cheese than in summer. Best and most from old grass, but a cazaro who really understands his business, will make all alike; and the idea here is that fabrication is all in all. A cheese of thirty pounds will be as good as one of a hundred pounds. The scalding in their manner is

\* This is the general idea; but let it be noted, that the particulars of two dairies I took, one of which was near Milan, were different; one 232 pounds per cow; the other near Lodi, 240 pounds per cow; yet there is, near Milan, a notion, that the produce is 100 pounds per cow. The difference, probably, is this, that upon a general calculation of all the cows of a district, good, bad, and indifferent, dry, and giving milk, the quantity is 100 pounds; but in certain capital dairies, and reckoning only the cows in milk, it is more than double.

to granulate the eurd, and, united with so small a pressure, leaves cavities in the texture of the cheese, that fill with an oleaginous liquid, and form the peculiar excellence of Parmesan cheese. With the methods used in England, such cavities spoil a cheese. I must, however, remark that such Parmesan as was common many years ago, in which these cavities, and their contents were of a texture that would allow of drawing out like a thread of glue, is not so common now. The solid cheese, without cavities, common at present, is not much better than our North Wiltshire, and is apt to dry much sooner, if equally kept. Query, if this declension of quality is not to be imputed to their ploughing all the country? When their cheese gained its great reputation, it was made from old meadows; now all is from arable land. Here it is kept five or six years, never till ten. Walking with the farmer, the master of eighty cows, into his fields (1750 per-tiche) I begged him to pick the plants in the order of his estimation for cheese, which he did; first, *trifolium repens*; second, *trifolium pratense* and *plantago lanceolata* equal; third, *chieorium intybus*. These he esteemed capital. The *ranunculus repens* bad; all the grasses, properly so called, bad, on comparison with those above; but *lolium perenne* the best, if it come naturally; bad, if sown. *Gallega officinalis* bad. They sometimes do not sow any thing to make a meadow, leaving the wheat-stubble to cover itself; a barbarous practice, since they confess that in the first year it yields little. There were dung-hills in most of the fields, well mixed and rotten, to be spread in winter. Feed the cows, in winter, only with hay, and twenty pounds, of twenty-eight ounces, the daily allowance; the price now  $7\frac{1}{2}$  livres per one hundred pounds. I forgot to remark, that all the milk trays are of copper; and that ice is in every dairy, to put into the churns with the cream. The cows are here fed, as every where else in the Milanese, but a few hours in twenty-four; yet longer than in some districts, for they are abroad seven hours; they eat nothing while tied up in the sheds.

In 1733, there were in the Lodizan one hundred and ninety-seven dairies: in 1767 there were two hundred and thirty-six, each of which had one hundred and twenty cows, on an average, making two hundred and ninety cheeses each dairy per ann.; in thirty-four years increase, thirty-nine dairies, four thousand six hundred and eighty cows, eleven thousand three hundred and ten cheeses, and value 848,210 livres.\* This is count Carli's account, but I suspect an error,† as I heard no hints of any decline; and at Codogno, the dairies were calculated, apparently with attention, at two hundred and thirteen each, making three hundred and ten cheeses in a year, or sixty-six thousand and thirty cheeses, of fifty pounds each, or 3,301,500 pounds, of twenty-eight ounces, at 1 livre a pound; this makes 110,047l. and the account I received was, that of this quantity, two-thirds were exported.

In regard to the origin of this cheese, it deserves notice, that it is not three centuries since this great advantage of irrigated meadows has been here known; and I may observe, that the Cistercian monk who has written so well, Sull'Irrigazioni de Prati, in the *Atti della Societa Pat. di Milano*, seems to admit, that the original manufactures of Parmesan cheese was in the territory of Parma; and refers to original papers for shewing that Milan was supplied three centuries ago with this cheese from Parma. A clearer proof of this cannot be produced, than that in the ledgers of the monastery of Chiaravalle, there are entries of the purchase of cheese from Parma, which, most assuredly, could not have taken place, if such cheeses had been made at home. And this seems to be con-

\* Carli, tom. i. p. 317.

† It must be a gross error to calculate the dairies at one hundred and twenty cows, on an average; for in all my inquiries I heard but of one that reached one hundred and ten.

firmed by the account of the entry of Louis XII, into Pavia, in 1499, given by Francesco Muralto, juris consulto of Como, who says, "Multa fuere per Papienses dono regi tradita et inter cætera formæ eentum casei Placentinæ civitatis." It is also worth observing, that though they did not make good cheese at this period (as we may judge, from their buying it elsewhere) yet some cheese was made at Tecchione, a farm belonging to them, of the weight of fourteen pounds per cheese, as it appears by their ledgers for the year 1494.\*

*Venice*.... This city is supplied with beef from Bosnia, Carinthia, Styria, and Hungary : at present the export from those countries is prohibited, on account of supplying the emperor's armies in Hungary. Mutton from Dalmatia, and Bosnia.

**ECCLESIASTICAL STATE**.... *Bologna*.... In their cow-houses they have the same step at the heels of the beasts as I have in my own, and which I copied from Mr. Bakewell many years ago ; but they have applied it to their horse-stables also, which I never met with before ; yet it is an obvious improvement, which well deserves imitation. The floors of their stalls are level.

**TUSCANY**.... Though the quantity of cattle of every kind in this country is much inferior to what it ought to be, yet is the art of fattening an ox well understood. In summer they feed on mown clover and saggina (the great millet, holcus sorgum ; ) also on maize, and a mixture of all sorts of corn and pulse, called farrana. Price of an ox, 45 scudi (at 5s. 8d.) a cow, 30 ; a sheep, 1 ; a horse, 20 ; a hog, 7.

ACCOUNT OF A DAIRY OF EIGHT COWS, AT VILAMAGNA, IN TUSCANY, BELONGING TO CONTE ORLANDO DEL BENINO.

	scud.	liv.	s.
Eight cows cost, - - - - -	85	2	0
Produce, first year, in butter and milk, - - - - -	83	4	2
Second year, value of the cows and three calves, - - - - -	92	3	4
<hr/>			
Produce....Calves, - - - - -	44	3	15
Milk and butter, - - - - -	78	6	9
<hr/>			
Cheese, - - - - -	127	3	4
Value of the cows, - - - - -	3	0	4
	84	3	4
<hr/>			
	214	6	12
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EXPENCES.

Value of the cows, - - - - -	92	3	4
Dairy man, - - - - -	12	0	0
Bran and bull, - - - - -	6	5	4½
Saggina and clover sown for them, - - - - -	3	0	0
Profit, - - - - -	100	5	3½
<hr/>			
	214	6	12
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\* Atti, vol. ii. p. 220, 221.

	scud.	liv.	s.
Which, on eight cows, is per cow, - - - - -	12	10	8
At 5 livres, 15s. the dollar, and 47d. a dollar sterling, -	£. 3	3	6
Which is per week, - - - - -	0	1	3

In which experiment almost the whole of this was profit, because no fewer cattle of any other sort were kept; but it must be obvious, that 1s. 2d. a week is, according to our ideas, a very poor return for keeping a cow.\* I copy this account from Sig. Paoletti, with whom I had the pleasure of conferring personally on agriculture, and who informed me, that at Villamagna they begin to work their oxen at two years and a half old; they change some every year; and gain by their improvement, while worked, about 6 scudi (of 5s. 8d.) the pair, on an average, per annum; buy at 70 scudi, and sell at 76. Cows give two fiasce of milk per diem, during eight months; price 4s. each.

MODENA....Register of all the live-stock in the dutchy of Modena, taken in June 1771: Oxen, forty-two thousand six hundred and fifteen; cows sixty-one thousand four hundred and forty-five; calves of one year, twenty-four thousand one hundred and seventy-two; calves, twenty-one thousand three hundred and twenty-six; horses, eight thousand three hundred and thirteen; mules, eight hundred and thirty-six; asses, eleven thousand five hundred and forty-three; hogs, one hundred and thirty-seven thousand three hundred and twenty six; sheep, three hundred and twenty-nine thousand and fifteen; goats, thirty-five thousand five hundred and eighteen. Augmentation in the rest of the year; great cattle, twelve thousand; small, thirty-eight thousand.

PARMA....Many and great dairies in the Parmesa; some to sixty cows, and numbers from twenty to thirty; and those who have a few cows, carry their milk to some neighbouring dairy, and receive cheeses in proportion to the quantity; but this cheese has not the reputation at present of being so good as that of the Lodizan. As this country gave its name to the best cheese in Europe, and once certainly made the best, I was desirous of knowing how far the mode pursued in the manufacture differed here from that of Lodizan: in the dairy of a farmer of the count de Schaffianatti, I had this opportunity. The apparatus is nearly the same, except that the stick with which the curd is broken, and which in the Lodizan is armed with cross wires, is here only a bush, the branches of which are drawn a little together by a string; this is not so effective as fine wire, and is a variation in a point of importance in giving a fine grain. I have remarked already, that the board which in pressing is laid on the vat, is in the Lodizan one and a half or two inches thick; here it is five or six inches, and heavy; and the stone used to press it four or five times larger, yet the cheeses here are not often more than half the size of the others; this variation in a circumstance that cannot be unessential certainly deserves notice; if so very light a pressure in the Lodizan is given, the cheese of which is superior to all others, it undoubtedly should lead the farmers of Parma to examine whether the inferiority of their cheese does not arise wholly or in part from these variations; the country, it is true, is not watered to one-tenth of what the Lodizan is, and the cows feed in perennial meadows, instead of the pasturage of arable land. The trays here are of wood, instead of copper for the milk; and it is skimmed, as at Lodi, before making the cheese. The coagulation is made usually in three quarters of an

\* Pensieri, p. 233, 236.

hour, if the milk be what they call wholesome, that is, if it have no particular quality that demands a variation, in which case it is coagulated in half an hour: they vary the scalding also; for bad milk they scald with a fierce quick fire, but good is done more gently. In managing the lump of curd, when settled to the bottom of the boiler, they vary also; they press it with a circular board, fixed at the end of a stick or handle, and then get a milk tray under it, and when they have hoisted it out, they leave it to drain in that tray about half an hour; at Lodi, ten minutes, or at most a quarter of an hour. The common price of the cheese 30 livres (2½d.) the peso (twenty-two pounds English.) I tasted it at the table of the count de Schaffianatti, and also at Parma, and the inferiority to the Lodizan is great.

The attention of giving salt to cattle and sheep here, as in every other part of Italy, is regular; they even consider a plenty of salt as somewhat essential to having proper stocks of those animals, and gave me an instance which is remarkable. In the Coursi di Monchio, a valley in which the bishop is the sovereign, there is no gabelle on salt, and therefore given much more plentifully to cattle and sheep, the consequence is, that the numbers of both are much greater, proportionably to all other circumstances than in any other district.

SAVOY....They reckon at Lanesburgh, that three goats are equal to one cow; the price here is 11 to 12 livres. At Isle, in Alsace, a good goat sells from 12 to 30 livres French, in common 20 livres. Some there are so good that two equal a cow, but at Tour d'Aigues, in Provence, it takes four to equal a cow, the price 10 or 12 livres French.

#### SECT. III.....OF SHEEP.

Nice....I here observed what appeared very singular, a flock of sheep brought down from the mountains to drink the sea-water, which is I suppose to save salt. The gardeners near the town generally keep a few sheep, confined in sties, just as hogs in England, and fed with the offal of the garden. I took a specimen of the wool of one of these stie-fed sheep, more like goat's hair than wool, it sells at 6s. the pound.

Turin....The price of sheep from 10 livres to 15 livres. The fleece is eight pounds, at 5s. unwashed.

MILANESE....Throughout this country I scarcely saw any sheep, and those few bad.

VENETIAN STATE....*Bergamo*....Here I met a flock, an ugly breed, large, long, and ill made, without horns, the wool coarse and hairy, large hanging ears, and their throats swollen almost like wens. They have a fabric of woollen cloth here, but the wool comes from Apulia.

Brescia....The fleeces here are four and a half pounds (about two and three quarters pounds English) and sell at 25 livres to 30 livres per peze, not washed, which is about 1s. English the pound.

Verona....Price 30s. the pound of twelve ounces (1s. the pound English.)

To Vicenza....Meet several flocks; all are clipped twice a year, the breed polled, and much like those, but not so large, as on the other side of Verona.

Vicenza....The sorts of sheep known here, are Gentili, which live only in the plain, not being hardy enough to resist the mountain cold; their wool is longer than of the other sorts. Tosetti, these resist the cold well; have short wool, clipped twice. Monte Padouana, are of a much greater size; the flesh excellent; are clipped twice. Price of wool, 2½ livres per pound unwashed (the ounce of Vicenza, twelve to the pound is to the English ounce as 690 is to 480, as I found, by buying an ounce weight there;) this price is equal to about 11d. the English pound. It is remarkable, that they here feed their sheep in winter, with a mixture, made in a hole in the ground, trodden well in, of



zucca (gourds) cut in slices ; the mark of grapes, vine-leaves, and green grass. Price of wool here : Gentili preparata, 6 livres ; Gentili non preparata, 5 livres 5s. ; Tosetta, 5 livres to 6 livres ; Tcsino, 2 livres 10s. ; Padouana, 4 livres ; all by the pound of twelve ounces. The ounce is to that of England, as 690 to 480 ; the pound therefore equals seventeen ounces English ; 5½ livres is above 2s. 6d. English.

*Padua*....Price of sheep about 2 ducats. In common they clip but once a year ; fleece three pounds.

**ECCLESIASTICAL STATE....*Bologna*....**Price of a good sheep, 14 pauls (7s.) Produce, per sheep, of a flock ; lamb, 4 pauls ; wool, 3½ ; cheese, 4 ; in all 11½ (5s. 9d.) per annum ; half to the proprietor, half to the peasant. The wool three pounds at twice shearing, and at 13 baiocchi the pound (10 baiocchi to the paul, of 6d. less a fraction.) It is washed on the back before shearing. There are 25,000 to 30,000 sheep in the Ferrarese.

**TUSCANY....*Bologna to Florence*....**Some flocks of sheep are scattered on the Appenines, of a small and rather pretty hornless breed. Near Florence, they cut the lambs in June, and sell them in September, to those who keep them till March. Price, in September, 10 livres (7s. 1d.) and in March, for 18 livres (12s. 9d. ; ) there are few, or none, of two or three years old. They clip but once ; weight of the fleece four pounds, at 1½ paul per pound ; washed before clipping (English weight and money, the fleece is three pounds, at 1s. 1d. per pound.) Wethers are in some places fattened on oats, barley, and hay, and sometimes with a few raves.

*Villamagna*....Thirty-six sheep kept on four hundred and eighty-three stiori of land, each giving three pounds of wool (equal to two and a quarter pounds English) at this year, 1½ paul, and last, 1½ (the paul 5½d. ; ) clipped but once a year, in May, and washed before. Each sheep ¾ of a paul in cheese. Thirty-six bring, on an average, twenty lambs, which sell, at five or six weeks, at 4½ pauls ; at six months, 7 or 8 pauls.

Two hundred sheep from the mountains, that pass the winter in the Maremma, the expence 157 scudi, composed of twenty rams, fifty ewe hoggits, one hundred and thirty breeding ewes ; fifty lambs kept for stock.

	Scud.	Liv.
Fifty lambs for stock, - - - - -	39	2
Eighty lambs sold, - - - - -	12	0
Wool, 7 lb. the pair, at 10 scudi the 100 lb. - - - - -	70	3
Cheese, 2½lb. to each sheep, at 6s. per lb. - - - - -	11	0

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Half to the proprietor, - - - - -	66	1
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EXPENCE.

Winter food in the Maremma, - - - - -	40	0
Two hundred sheep to a shepherd ; 24 stari of corn for the winter, - - - - -	12	0
Passes, charges, duties regulated at 6 scudi the 100 sheep, - - - - -	12	0
Expences of travelling, utensils, fees, &c. - - - - -	8	0
Pasturing in summer in the mountains, - - - - -	4	0

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76 0

Half to the proprietor, - - - - -	38	0
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Nett profit to proprietor, - - - - -	28	1
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Which profit, being on a capital of 157 scudi, is 18 per cent.\*

\* Tramontani Del Accriescimento Del Bestiam e Toscano, octavo, p. 96.

It is an observation of Sig. Paoletti,\* that draining the Maremma, and cultivating it, have lessened the number of sheep in Tuscany considerably; great flocks, before that period, were kept in some mountainous districts in summer, and pastured in the Maremma in winter; but cultivation has changed this. He does not say that the people of the Maremma have sheep of their own, but observes, that it is a diminution in number. This is sufficient to prove, that the improvements in the Maremma have been on false and vicious principles; for if they had been on just ones, sheep would have been increased instead of lessened.

Sig. Paoletti recommends that all sheep should have one pound of salt in March, and one in October, which makes them healthy, and to yield more wool.†

MODENA....Wool here sells from 2 livres to 3 livres per pound, washed; equal to 12½d. per pound English. There are many sheep in the mountains, but miserable things; clipped twice a year.

PARMA....In going to Firenzuola, I examined the wool of a flock, and found it more like the hair of a dog than wool; and all I see, which are but few, are alike hairy; most of them polled, but some with horns; not badly made, but feel worse. These are the flocks whose wool, Mons. de la Lande says, is inestimable!

PIEDMONT....*Pavese*....On entering the king of Sardinia's country, and for many miles, see little parcels, of from ten to twenty-five, of poor dirty housed sheep, feeding on the young wheat. Asti was formerly famous for wool; *nelli antichi tempi famosa per la sua lane*;‡ but the country contains none at present to support that character.

SAVOY....Unwashed wool, 10s. the pound of twelve ounces; fleece three pounds to six pounds; it goes to France or Piedmont. Sheep, 9 livres to 12 livres each. Though cattle and sheep are the great riches of all Savoy, yet no care taken of the breed, and the wool all bad.§

The price of wool, regard being had to that only which is long, coarse, and bad (but not the worst) may be stated in Lombardy at 1s. English, the English pound; such would sell in England, I calculate, at about 7d. or 8d. per pound.

#### CHAP. XXXIII....OF THE MANAGEMENT OF ARABLE LAND.

THE minutes I took, concerning the conduct of arable land, may, for the sake of clearness, be thus divided: 1. Of the courses of crops. 2. Of seed and product. 3. Of the culture of certain plants. 4. Of implements. 5. Of manures.

##### SECT. I....OF THE COURSES OF CROPS.

PIEDMONT....*Chentale*....A year of fallow common in five or six years, during which year the land is never watered, only exposed to the sun. Wheat is sown on fallow; on clover land; always after hemp, because the land is in high order; the same after maize, if well manured; in which case also after millet sown in June, otherwise meslin or rye. The fallow for wheat, commonly follows buck-wheat, called here *fromentin*, or millet. Clover is sown among rye in March, never among wheat. Millet de *cottura* is sown in June; millet de *restuba* the end of July, after wheat; and then dung well for hemp.

\* *Pensieri*, p. 207. He mentions their being prodigiosamente piu numerose, a century before, p. 221.

† *Pensieri*, p. 208.

‡ *Giulini*, tom. xii. p. 19.

§ I may here add a minute on goats; marquis Ginori introduced the Angora goats into Tuscany, for making camblets, which manufacture has succeeded so well, as to be termed *rispettabile manifattura* by Paoletti. *Pensieri*, p. 220. And it is observed by another writer, that if they are not superior to the ancient camblets of Brussels, they are at least equal to them. *Ragionamento sopra Toscano*, p. 167.

*Turin*....In some arable land I viewed, a few miles from this capital, the following most extraordinary course was pursued, and was mentioned to me as being not uncommon—1, maize; 2, wheat; 3, wheat; 4, wheat; 5, maize; 6, wheat; 7, wheat; 8, wheat.

The year of maize being considered as such a preparation, as to allow of three successive crops of wheat. The practice however is barbarous. Upon the farm of Sig-Briolo, the following is the course—1, maize; 2, wheat; 3, rye; and when the land wants repose, clover is sown upon a small part.

*Varcelli*....Upon good wheat land—1, wheat; 2, wheat; 3, wheat; 4, rye. And in the rice grounds—1, fallow; 2, rice; 3, rice; 4, rice. They have here an excellent practice, and it extends, more or less, over all Piedmont, which is to mow clover by the tenth of May, and to plough the land and plant maize, which succeeds greatly after clover.

*MILANESE*....*Milan*....The arable lands never repose; but a quick succession is reaped. Two crops of bread corn are gained in one year, by sowing maize in July, after wheat.

*Milan to Pavia*....The course common in the rice grounds is—1, rice; 2, rice; 3, rice; 4, fallow, and dung; 5, wheat, clover sown, either with it in autumn, or upon it in spring; the former best; 6, clover; 7, clover; 8, clover; 9, flax, and then millet the same year: and then rice again as above.

Also—1, wheat; 2, clover; 3, clover; 4, clover; 5, clover; 6, flax, and then maize; 7, wheat, and clover again. Sometimes after flax, colseed for oil. Another course—1, 2, 3, clover; 4, maize; 5, rice; 6, rice; 7, rice; 8, fallow; 9, corn and clover.

*In the Pavese*....1, Rye, and then fallowed for, 2, wheat, sown with clover in February, mown with the stubble, and then fed; 3, clover; 4, clover; 5, clover; 6, flax, and then millet; or instead of both maize; 7, wheat; 8, wheat, and left then sometimes to pasturage under clover.

*Mozzatta*....A course common here—1, clover; 2, winter flax; 3, lupines; 4, maize, for forage; 5, colseed; 6, cabbages; 7, panic; 8, hemp; 9, beans. This course will be found to occupy about twelve pertiche in one hundred, and to pass in succession over the whole, for the benefit of variation. Another—1, wheat, and millet after; 2, common maize; 3, wheat and millet; 4, common maize; 5, rye and quarantino; 6, common maize; 7, rye and quarantino; 8, common maize. The assiduity with which they avoid a fallow, deserves attention, and it is here effected, as in the south of France, by means of a plant that is asserted by many to exhaust.

*Lodizan*....1, Wheat, sown in October and reaped in June, and the land ploughed thrice and manured for 2, wheat again, and clover, called spianata agostano, which is fed till the following spring, but sometimes ploughed the end of autumn; 3, flax; 4, millet. Another course, called coltura maggenga—1, break up the layer for flax; 2, millet; 3, maize; 4, wheat, the stubble of which remains in spianata agostano.

*Cremonese*....1, Wheat, sown in October, and reaped in June, the stubble ploughed thrice for 2, wheat, upon which sow clover the end of February; 3, clover, ploughed in November for, 4, flax, and then millet; 5, maize; 6, wheat.

*Carpianese*....1, Maize; 2, wheat sown in the spring with clover, which is mown with the stubble, and remains spianata agostano; 3, clover; 4, flax, and then millet; 5, rice; 6, rice; 7, rice.

*VENETIAN STATE*....*Bergamo*....The land here is constantly cropped—1, wheat; 2, clover, mown in the spring once, in time for maize; 3, wheat; 4, clover. Also—

1, clover, or millet; 2, maize; 3, wheat. By which courses they have half or a third of their land in wheat every year.

*Brescia*....1, Wheat, and twenty pounds of clover-seed in March, per jugero, the clover cut in August with the wheat-stubble, and then pastured, in winter dunged: 2, clover, called this year prato grasso, cut thrice; first in May, called il maggiatico; second in August, called l'ostano; third in September, il navarolo: 3, in March sow flax, which is gathered in June, then plough and sow quarantino, amongst which, at the second hoeing, sow lupines for manure: 4, plough in the lupines, and sow wheat in November, which is reaped in June; cut the stubble immediately, and sow lupines or colesseed for manure: 5, plough in October, and sow wheat mixed with rye, reaped in June, and then sow part with quarantino and part with panic: 6, if a crop of colesseed is taken, it is sown amongst the maize whilst growing, which cole is ripe in spring, in time to clear the ground for manuring and sowing the common maize; if cole not sown, remains fallow in winter, and sow melica in spring, the great millet.

*Verona*....Here, as in all other parts of Lombardy, the land is never fallowed; 1, maize, called grano tureo: 2, wheat, and when reaped, millet or cinquantino; this is the quarantino of the Milanese: 3, barley or oats, and when reaped, some other second crop. Wheat is always sown after maize, and that after barley or oats. No clover used here, except in ricc-lands. In the rice-grounds: 1, wheat, reaped time enough for a crop of cinquantino; 2, maize; 3, clover; 4, rice, &c. &c. Beans are also sown instead of maize, and wheat after them, and prepare for wheat much better. On the dry lands, such as about the Lago di Guarda, &c. no clover, as the land is not good enough.

*To Vicenza*....No fallow any where. There is a little clover, and very fine, but the quantity is small: all wheat and maize, and scarcely any thing else.

*Vicenza*....Wheat is always sown after clover, and cinquantino after wheat; but nothing prepares so well for that crop as beans, so that they are called the mother of wheat, madre della foraieto. This idea, in Lombardy, is as old as Gallo, who remarks, that wheat succeeds after nothing better than beans, which in grassano maggiormente la terra, che non fa ogni altro legume;\* and this he refers to as a custom of the Cremonese and the Mantuans. It is equally true in England; and such a combination of authority ought to convince such as yet want conviction, of the utility of beans as a preparation for wheat; more, perhaps, to be depended on than any other preparation whatever. A common course near this city introduced as a variety is; 1, maize; 2, wheat and cinquantino. A farmer cultivated a field during some years in this course, 1, maize; 2, wheat; 3, clover: and to preclude the necessity of dung, he used only the vanga (spade:) for five years his crops were good, but afterwards declined greatly till he could not get even clover. They sow wheat in October, and the clover-seed over it in March, if there is rain; the end of June the wheat is cut, the end of August the clover is mown for hay, and another small crop again in October; here is, therefore, within a year, one crop of wheat and two of clover. The grass is cut again in May, or beginning of the following June; a second time in August, and a third growth ploughed in for wheat, which is usually a very great crop in this husbandry.

*Padua*....On all sorts of land the most usual husbandry is; 1, dung for maize; 2, wheat; 3, wheat, and then cinquantino or millet, &c. Clover is sown both in autumn and in spring; if the frost is not very severe, autumn is best, but spring the most secure. It is cut once after the wheat is reaped.

*Venice*....Sig. Arduino assures me, there is no fallow to be found in any part of the Venetian territory; they have not even a word to express the idea: l'anno di riposo, is

\* *Le Venti Giornate dell' Agricoltura.* Brescia, 1775, quarto, p. 59.

a different thing, and always means clover, or a state of rest, without any tillage. That gentleman's expression pleased me much, *La jachere e una sciocca pratica in agricoltura*. The two great points on which the best agriculture of the Venetian state turns, are maize on clover, and wheat on beans. All these plants are equally necessary upon a farm; and there is a peculiarity in clover as a preparation for maize, and equally in beans as preparatory for wheat.

*Bologna*....In a very rich field near this city, which I viewed, the course has been, in 1787, wheat, which produced one hundred corbi, or twenty times the seed. In 1788, hemp, five thousand pounds. In 1789, it is now wheat, and perfectly clean. This course of, 1, hemp; 2, wheat, is perhaps the most profitable in the world, and brings to mind the noble vale of the Garonne, under the same management. If land will do for hemp they never fallow, but have some fields in the course, 1, fallow; 2, wheat, which ought to be considered as a disgrace to Lombardy. 1. Maize; 2, wheat, is a course not uncommon. On the fallowed lands they sow beans, provided they have dung. Very little clover, preferring fenugreek, which is succeeded by wheat. Vetches they sow in autumn, and beans also, both for a crop, and also to plough in, in the spring, as a manure for hemp. With equal quantities of manure, beans give better wheat than hemp. Beans on Sig. Bignami's farm are now (November) six inches high on the tops of narrow ridges, but none in the furrows; these are for a crop, and infinitely too thick, I should apprehend. Lupines also for ploughing in.

*TUSCANY*....In the Valdarno di Sura, Colini, Sienisi, Pisani, Volterrana, they fallow, and their course is—1, fallow; 2, wheat. After travelling so long in Lombardy without a fallow, it hurt me to find them common here. Clover is usually made a preparation for maize in most parts of this country; and beans, where sown, are reckoned the best for wheat. At Martelli, &c. the course is—1, beans, French beans, or maize; 2, wheat; 3, wheat; 4, wheat and rye, and no after-crop. In the Valdichiana, the following course, I am informed, is pursued—1, maize and French beans; 2, wheat, and nothing after it; 3, wheat and then raves, and, in some places, clover added. At Villamagna, the course is—1, biade, vetches, beans, &c.; 2, wheat; 3, wheat; 4, wheat. The first wheat produces nine or ten times the seed, if after beans; the second six or seven; the third three or four: a degradation that ought to explain fully the absurdity of such a system. In some districts the following is the course—first year, biadi, viz. beans, pease, chick-pease, French beans, tares, lentils, oats, maize, the great millet, small millet, panic in part clover, and oats, and, after cutting for forage, plough for some of the above. Second year, upon the land thus prepared, wheat is sown, called *grosso* and *aristata* mucked; or with half *grosso* and half *gentili* (white wheat.) Third year *gentili* wheat.

*MODENA*....The bad farmers in the Modenese are fallowists, and their course is—1, fallow, ploughed first in May or June, in August the second time, and the third in October, for sowing, 2, wheat. But the better farms substitute beans, French beans, vetches, spelt, maize, particularly the last instead of a fallow. Upon soils that are very good, and manured, they have an execrable custom of taking three crops of wheat in succession; sometimes throwing in clover with the wheat, which is ploughed up in June for wheat again. When beans are sown in autumn and stand the frost, they yield much more than spring sown.

The husbandry practised by Sig. Bertolini, which is the best of the country is—1, beans, sown in October, and harvested in May: then French beans, or *formentoni*, for forage, or chick-pease, or lentils; 2, wheat, the stubble ploughed thrice for,

3, wheat; 4, maize, sown in March. To Reggio they fallow some of their land every third year; but more commonly substitute maize, beans or something else in lieu.

PARMA....In the country about Vieomero, the common course is, 1, beans; 2, wheat; 3, maize; 4, wheat.

PIEDMONT....*Tortonese*....A common course here is—1, beans; 2, wheat. Also, 1, melga (great millet; ) 2, wheat. But they have some lands in fallow courses.

SAVOY....At Lanesborough, the common husbandry is that of a crop and a fallow: they plough in May or June, and again for the seed in August, when they sow the rye; and they have no wheat.

From these notes it appears, that there is something both to commend and to condemn in these Italian courses. The rejection of fallows is pretty general; this is a good feature, and the great stress they lay on beans as a preparation for wheat, cannot be praised too much. On the other hand, there seems to be no idea of so proportioning the crops of a farm, as to make cattle and sheep (kept on arable land) the preparation for corn: the culture of clover is not unknown, but scarcely extends further than to produce some hay. I no where met with artificial grasses introduced on so large a scale as to support a good flock of sheep. In some districts, the great plenty of watered meadow explains this deficiency; but there are more where it will not afford an apology. This objection, however, does not hold good in the Lodizan, where their immense dairies are supported on arable land, and certainly form one of the most curious systems of husbandry that are to be met with in Europe.

#### SECT. II...OF SEED AND PRODUCT.

That reader who thinks slightly of the use of collecting a great mass of facts in these inquiries has not, it is to be presumed, reflected sufficiently on the great importance, in every science, of combining circumstances apparently unconnected, in order for mutual illustration. He who collects such facts, insulated for a time only, may not live to see the effect of such comparisons; but the gradation of knowledge is preserved without interruption, and the uses will undoubtedly be discovered.

*Savigliano*....They reckon here that a farm of one hundred giornati, one third watered meadow should yield 2300 livres clear of taxes, landlord's half.

PIEDMONT....*Turin*....Products of Sig. Briolo's farm: wood, eight giornata; meadow, four; wheat, five; rye, five; maize, five. Yields to the proprietor for his half,

Ninety mines of wheat, at 3 liv. 10s.	- - - -	315 livres.
One hundred and five do. of rye, at 2 liv. 15s.	- - - -	236
One hundred and forty do. of maize, at 2 liv.	- - - -	280
Wood cut at seven years' growth,	- - - -	71
Vines planted about the farm, 45 brenta of wine, at 5½ liv.	- - - -	247

For landlord's half, - - - - 1149

Total, 2298 liv.

Wood, 71

2221 livres, product of nineteen giornata of arable meadow, or 116 livres per giornata (about 6l. per English acre;) which is a very large produce. There are also mulberries enough to pay taxes; this land cost 750 livres the giornata, and the wood 250 livres.

MILANESE....*Milan to Pavia*....The crops are—Wheat, seven or eight seeds; rye, eleven seeds; maize, forty seeds; ditto quarantino, twenty seeds; millet, fifty seeds.

## WHEAT.

PIEDMONT....*Chentale*....A country proverb in this country is, that a good peasant should finish his wheat sowing by the 19th of October. After hemp, clover, or fallow, wheat yields forty to forty-five mina per giornata, each mina forty-five pounds to fifty-two pounds, average forty-seven pounds, and the common price 3 livres to 3 livres 10s. but at present 3 livres 15s. But, including good and bad farmers, and all soils, the produce is not more than twenty-four mina: that is, twelve for the landlord and twelve for the tenant. They sow four to four and a half; the common produce is, therefore, six times the seed, which is miserable; the better crops between ten and eleven seeds. Allowing for the Piedmont pound, being about one-tenth heavier than the English (though only of twelve ounces) and that the giornata is not equal to an acre, their best crops, at forty-two or forty-three mina, will be near five quarters per English acre; and their average near three; which are not greater than might be expected. Their quantity of seed appears, however, to be immense, for it amounts to one hundred and ninety-nine pounds per giornata, which is extravagant: and makes it suspicious, that the giornata here is larger than the legal giornata of the principality.

*Savigliano*....They sow here, of wheat, three and a half eymena, and reap eight times as much, in a good crop.

*Turin*....They sow five mina, or nine rabbii, and ten pounds to the giornata; of rye and oats, the same quantity; of hemp, three mina; maize, one-half; millet, one half. Wheat produces twenty-five mina; or five times the seed; rye, thirty; maize, fifty to seventy; millet, twenty. The mina at forty-five pounds the crop of wheat is about five and a half coombs per English acre. For their land and climate, a miserable crop; but as good, or better, than they deserve, when their course of crops is considered.

MILANESE....*Mozzatta*....Produce of wheat, eight stajo per pertica on the best land; five on middling; and three on the worst.

There is a singular neglect in keeping wheat in this country: being shewed the granaries at two houses, in which the quantity was considerable, I was surprised to find that, where some of the windows were open, the room stunk very much; the scent particular; and examining the wheat, I found the surface all either covered, even to shining, with the webs of the wevils, or else in ropes, hanging together by it, and the flies busy; the wheat was two or three feet thick, and had not been stirred. In a third granary, to which I went for satisfying my curiosity, in the hands of the owner (for the other two belonged to noblemen, and were managed by intendants) I found in the same condition; and all agreed, that to stir the wheat is bad, as it makes the whole heap alike; whereas, by not moving it, the surface only suffers. On this, I thrust my arm into the heap, to examine the interior, which all stunk dreadfully. Perhaps neither the wevil, nor any other insect, may live deep in the heap; but, for want of airing, the wheat stinks; not to mention the surface, which is a loss of five or six per cent. A most barbarous system of management. It is worth remarking, that the only good way of keeping wheat is in the straw: stacks should be built on cap stones, to keep vermin out, and the corn thrashed as wanted.

*Mozzatta*....The product here, on three divisions of soil, are, per pertica, the measure the stajo:

	Good.	Middling.	Bad.
Wheat, - - - - -	8	5	3
Rye, - - - - -	8	5	4
Millet, - - - - -	8	5	3
Common maize, - - - - -	10	6	4
Ditto quarantino, - - - - -	6	4	2
Lupines, - - - - -	8	6	4
Panic, - - - - -	6	4	2

Clover hay, three hundred and fifty pounds of twenty-eight ounces per pertica, at 3 mowings; one three-fourths ton per acre. In money by corn, without mulberries or vines,

24 liv. - 15½ - 9¾

For the landlord's share, I suppose. And, in respect to the country in general, if four square miles be taken around Mozzatta, of six parts, three are good, two middling, and one bad. Average corn produce, 18½ livres. The common notion is, that two-thirds of the gross produce go towards maintaining the farmer, supporting the cattle, wear and tear, taxes, &c. and that one-third is nett to the proprietor.

Produce of one hundred pertiche, at 18½ livres,	1850	livres.
Vines, proprietor,	150	
— tenant,	150	
	<u>300</u>	
Mulberries, two thousand pounds, leaves, at 4 livres per hundred,	80	
	<u>2230</u>	
Deduct one-tenth of corn product, damaged by vines,	185	
	<u>2045</u>	
Deduct one-eighth of corn for damage by hail; the produce of vines is nett, this is allowed for,	209	
	<u>1836</u>	Total nett produce,
Hence, therefore, it does not quite reach 18½ on the average.		
Proprietor, one third of corn,	555	
— vines,	150	
— mulberries,	80	
	<u>785</u>	

Or, per pertica, 7¾ liv. (31s. per English acre.\*)

Such land would sell for 145 liv. per pertica (28l. 16s. per English acre.)

*Codogno*....The seed and produce of the crops here, are—wheat, sow one stara and reap six times as much; maize, sow one-fourth of a stara, and get twenty for one; millet, sow one-eighth stara, and reap six stara; rye, sow one-half stara, the produce eight stara; rice, sow one stajo, gain sixteen rough, or quite white.

\* The 6½ pertica per acre English, corrected from some of the preceding proportions, from intelligence very lately received.



A Bergamasque writer observes, that wheat cultivated with the plough commonly yields four, five, and six times the seed; but cultivated with the spade, twelve, fourteen, and sixteen times that quantity,\* and this of greater weight; a sure proof of their miserable tillage.

*Brescia*....Arable products in this vicinity, are, wheat, three sacchi, of fourteen peze each peze twenty-five pounds being about six seeds. The peze of twenty-five pounds Brescian, being equal to  $14\frac{3}{4}$  French, makes two hundred and six pounds French per saek, or two hundred and twenty-four pounds English: the three saeks, therefore, are six hundred and seventy-two pounds English, on a jugero of four pertiche; this is scarcely twelve bushels the English acre, reckoning four one-fourth pertiche in that aere.† Maize sown in March, produces six, eight, ten saechi, each twelve peze of twenty-five pounds. This is about twenty-eight bushels to the English acre, supposing a bushel of maize to be fifty pounds; but quarantino does not yield more than five such saeks. Melico (the great millet) fifteen saechi, of ten or eleven such peze. Flax, six to nine peze, at 20 livres to 25 livres the peze; this is about one hundred and twenty-five pounds the English aere, and 170 livres at 6d. English, 4l. 5s. and per English acre 4l. Millet gives three saechi, of eleven peze. Clover, three hundred peze of hay, at three cuts; meadows yield the same as clover, but are pastured in autumn. Price of hay 70 livres the carro, of one hundred peze. Three hundred peze equal four thousand eight hundred and twenty-seven pounds English, and per English aere, four thousand five hundred and twenty-two pounds, which we may call grossly two tons; a very poor crop for three mowings.

*To Verona*....In this line of eountry, the Lombardy system, of planting all the arable lands with rows of pollards, for training vines, is at its height. There is a good deal of it from Bergamo to Brescia; and some are seen in passing from Vaprio to Bergamo, but not so universally as here. It is a most singular system; rows of maple, ash, or poplar, are planted from four to seven yards asunder, and rows of vines at their feet, which are trained up those trees, and in festoons from tree to tree; the space is cultivated for corn. They do not seem to approve of a single stem for these pollards so much as several, for they have three or four, about six feet high; cropped every second year, to prevent too great a shade. In some places, mulberries are mixed with these common forest trees: one mulberry, and then two ash or maple. In some rows, beyond all doubt, the vines are trained equally on the mulberries as on the other trees; but not generally, being fastened only to the stems of the mulberries. The better the land, the farther asunder are these rows, even to sixty or seventy feet; but, in worse land, much nearer. All the way, the soil is a stony gravel, of a different appearance in quality, but where holes are dug for trees, it looks better.

*Verona*....Wheat here yields five or six times the seed. They sow one hundred Veronese pounds upon a campo of land, and reap five hundred and fifty, which is about two bushels of seed per English acre, and the produce eleven bushels. We have not, upon the poorest lands in England, so wretched a crop: to what are we to attri-

\* Cantuni, Istruzioni Pratiche intorno al Agricoltura. Octavo, 1788, Bergamo, p. 16.

† In the new edition of Agostino Gallo, the editors give a line for the length of a Brescian inch (oncia) ~~which is the length of  $1\frac{1}{8}$ th inch English.~~ which is the length of  $1\frac{1}{8}$ th inch English. Twelve of those oncia make one braccio, and six braccia make one cavezzo; consequently there are  $9\frac{3}{4}$  feet in a cavezzo. A pertica is an oblong square, twenty cavezzi long and five wide; now multiply  $9\frac{3}{4}$  by 20 = 195; and multiply  $9\frac{3}{4}$  by 5, =  $48\frac{3}{4}$ ; and the one product by the other, = 9506 $\frac{1}{4}$  square feet for a pertica; and  $4\frac{1}{4}$  pertiche equals an English acre; perhaps the editors of that new edition have made an error, in stating 30,709 French feet in their jugero of 4 pertiche.

bute it, if not to general bad management, united with the execrable system of incumbering their fields with pollards and vines. They steep their wheat seed in lime-water twelve hours, to prevent the smut.

*Vicenza....* The thirty-two miles from Verona hither are all, except a small quantity of irrigated land, lined into the same rows as already described, from twenty-five to thirty yards asunder. Wheat is sown close under them; but with maize six yards are left on each side not cropped; and, in some pieces, those twelve yards are sown thick for forage, as not equally wanting sun; a sure proof that they admit the damage of the trees, and provide against it as well as they can. In some grounds preparing for wheat, manure is spread as far as the roots of the trees extend, but no further. What a system, to give dung to elms and maples, and to force wheat to grow under their shade!

Wheat has now (October 23) been sown a month or six weeks; it is high, and thick enough to hide a hare. The borders of these sown lands are dug clean away, as deeply as in Essex.

Maize produces about nine one-half sacchi the campo. Inquiring here into the estimated damage resulting to corn from the plantations of trees in arable land, I was told, that the loss is one-tenth of wheat, and one-half of maize, but to clover none. The trees here are all walnuts, for training vines to, the damage done by them, agreed to be very considerable. Of wheat they sow three stari, and the produce eighteen to twenty; of maize one, and the crop thirty to thirty-five; of cinquantino, half a stara, produce sixteen; of buck-wheat one-fourth, the return six. In the farms around the celebrated Rotunda, maize produces five sacks, each one hundred and fifty pounds: a sack is four stari, and the stara about three pecks; this is fifteen bushels, and not sixteen, the acre. They are sometimes troubled with the smut; Sig. de Boning, president of the Academy of Agriculture, has tried liming and lime water, as a prevention, but without any success. Of maize they have a new sort, that carries a male flower on the top of the cone, and this sort always fills with grain to the very point, which is not the case with other kinds.

In respect to the exhausting quality of crops, they reckon that the maize which carries the flower at top takes most from the land: 2, millet: 3, common maize: 4, wheat. It seems remarkable, that they should consider the crops which are preparatory to wheat as exhausting, more than the wheat itself.

*Padua....* Of wheat they sow three staji in middling land, two in fertile soils, and four in bad ones, per campo: as the stajo is equal to forty-one French pounds, and the campo about one-tenth less than an English acre, it makes three staji equal to two and a half bushels per acre, which is pretty exactly the quantity we use in England. The crop is two mozzi on the best land, and one and a half on a medium: each mozzo twelve staji: this is about fifteen and a half bushels the acre or under seven times the seed. Thus these wretched products pursue me through all Lombardy. Of maize they sow three quarti, or three-fourths of a stajo, but if planted two: the produce, good five mozzi, middling three, bad one. Of lucern (the quantity very inconsiderable) and of clover they sow twelve pounds grosso. This pound is to the French one as 9150 is to 9219; this is between fourteen pounds and fifteen pounds per acre. Clover gives three carri, each one thousand pounds at three cuts. Lucern four carri, at four or five cuts. Almost the whole country is lined into rows of pollards, as already described; yet they admit that every sort of tree does very great damage to all arable crops; but to grass the mischief is not great.

*To Venice....* The same level at this city that reigns about Padua, equally enclosed and planted: much of it arable, and almost the whole cut into little seraps of fields, with many gardens. Near the Adriatic, a dead level marsh, covered with marsh grasses.

*ECCLESIASTICAL STATE.... Bologna....* In a famous field near the city, remarkable for yielding great crops of hemp, wheat yields one hundred corbes for five of seed. In general, they sow two and a half tornature of land, or one acre and a quarter, with a corba of seed, or one hundred and fifty to one hundred and sixty pounds (something under the English pound;) and in all the Bolognese, on an average, the produce is about five seeds, some only three; but on the best hemp lands twelve to sixteen, on a medium; but twenty for one are sometimes known.

*TUSCANY.... Florence....* In the plains, the general produce is eight times the seed; the whole dutchy through, not more than five or six: in the deposits of rivers, or spots remarkably rich, twelve, fifteen, and even twenty. All these are wheat. Beans four and a half and five. On one stiori of land they sow three-fourths of a stajo of wheat, which weighs fifty-two to fifty-five pounds of twelve ounces (this pound is equal to three quarters of a pound English.) On the hills they sow one-fourth more. Supposing the stiora \* to be, according to De la Lande, seven thousand and fifty-six French feet, above five and a half make an English acre; three-fourths of a stajo therefore per stiora equals one hundred and sixty-five pounds per acre, or very near three bushels.

But I found at Martelli, near Florence, that they sowed but one third of a stajo per stiora, which would not be more than two bushels per acre. Beans would be much more cultivated, but for the pernicious plant the cuscuta—a parasite that feeds on and destroys the crop, so that even the seed again is not reaped; in the old botany called *orobanchis ramosa*, and in Tuscany *sueca mala*, and *fiamini*. Of *saggini* they sow one

\* There are three accounts before me of the contents of a Tuscan stiora. Mons. de la Lande, tom. ii. p. 314, says, "le stiora = 196 toises quarres en superficie;" these are French toises, each six feet: this makes about  $5\frac{1}{2}$  stiori to an English acre; that is to say, 7056 French square feet, of which 38,300 are an acre. In *La Squadra mobile l'Arithmetica e l'Agricoltura*, del S. Sangiovanni, quarto, Vicenza, 1759, p. 11 and 132, is the measure of the soldo of Florence, which equals  $1\frac{1}{8}$  inch English; the braccio is 20 soldi, or  $22\frac{1}{2}$  inches English (by another account  $23\frac{1}{2}$ ;) 6 braccia make a canna: and 8 canne long, by 6 broad, make a stiora. Hence there are 6075 English feet in the stiora; consequently there are something above 7 stiori in an acre. Mons. Pauton, in his *Metrologie*, p. 794, compares it to the arpent of France of 48,400 French feet, and makes it to that arpent as 0.11461 to 1.0000; by this account it will be about 27,800 French feet, of which feet 38,300 are an acre, or above  $1\frac{1}{3}$  stiora. In the *Giornale Fiorentino di Agricoltura*, 1786, p. 253, "L'acre al nostro stioro sta come 18,992 a 10,592;" by this ratio, an acre is about  $1\frac{1}{2}$  stiora. All these accounts differ therefore greatly. To compare other circumstances. At Martelli, they sow one-third of a stajo of wheat seed on a stiora; and at Villamagna, they sow  $3\frac{1}{2}$  stiori with 1 stajo, which quantities nearly agree. By De la Lande's account, this will be per acre English 73lb. which appears to be a smaller quantity than any where used. By Sangiovanni, it will be about 94lb. still under the common quantities. By Pauton, it will be about 17lb.; a portion not to be named as the seed of an acre. And by the Florentine author, 23lb. which is almost equally absurd. Seed wheat will agree with none of the measures; suppose they sow  $2\frac{1}{2}$  bushels per acre, then there are 15 stiori in an acre. If 2 bushels, then there are 12 stiori. All is confusion.

At Villamagna, they sow 24 staji of beans on 28 stiori of land; this is about 3 bushels English per  $5\frac{1}{2}$  stiori, which agrees very well with an acre being  $5\frac{1}{2}$ : they sow also 6 staji of oats on 10 stiori, this would be 2 bushels on 5: they sow oats therefore rather thinner, proportionably to the English practice, than beans.

Upon my getting a friend to write to Tuscany for information, I received such as proved of no use; simply this table—1 quadrato, 10 tavola; 1 tavola, 10 pertiche; 1 pertica, 10 deche; 1 deca, 10 braccia squadra. This makes the quadrato under 40,000 feet English. But what is the stiora? Such are the endless difficulties in every thing concerning measures.

Where authorities, apparently good, differ so greatly, the reader will of course receive all estimations with many doubts.

and a half stajo of seed, and the produce fifty to sixty. Of formentone (maize) they sow half a stajo, and reap twenty-five.

On the plains in Tuseany, the chief product is wheat, the second wine, and the third oil: but on the southern side of the hills, olives on spots bad for them, and wine. Silk no where enough to be a chief object.

MODENA.... The country from Modena to Reggio constantly improves in its features, and must be reckoned among the best cultivated in Lombardy; the fields are thrown into arched lands, like Flanders, about twenty-five yards broad, and small ridges on those: a row of trees is planted on the crowns of some, and along the furrows of others in some there are neat great trenches; and as the fences are equally well made, and the meadows with a good aspect, the country carries the general features of being well cultivated. The appearance of these broad ridges, in two of the best cultivated countries in Europe, Lombardy and Flanders, justly gives a high idea of the practice.

PARMA.... From Reggio to Parma, there are many lands, three or four yards broad, now (November) deep ploughed, and the furrows cleaned out by spades, laid up in this manner, for planting beans in the spring; excellent management. There are also a good many autumn sown ones, three or four inches high; produce in general, about Vieomero, wheat four or five times the seed, and beans five or six. To Firenzula this practice takes place yet more, and is better done. The merit of their husbandry appears to be greater about Parma than at Piaenza; there is a visible decline as you advance.

SAVOY.... At Lanesbourg, they sow only rye, which they harvest in July, the produce about six for one.

If the intelligence concerning the produce of wheat be reviewed, it will be found, on an average, varying from five to seven and a half times the seed; generally between five and six. Suppose the latter number, and we shall, with reason, be amazed at the miserable products of this rich plain, in every thing except grass and silk. The average soil of England cannot be compared with the average soil of Lombardy, yet our mean produce is eleven times the seed, perhaps twelve. Every one must be curious to know the cause of such wretched crops: I attribute them to various circumstances—but the predominant cause must be sought for in the small farms occupied either by little peasant proprietors, or what is more general by metayers. This abominable system of letting land is the origin of most of the evils found in agriculture, wherever the method prevails. Such poor farmers, who, in every part of Italy where I have been, are so miserable, that they are forced to borrow of the landlord even the bread they eat before the harvest comes round, are utterly unable to perform any operation of their culture with the vigour of a substantial tenantry; this evil pervades every thing in a farm; it diffuses itself, imperceptibly to a common eye, into circumstances where none would seek it. There are but few districts where lands are let to the occupying tenant at a money rent; but wherever it is found, there crops are greater; a clear proof of the imbecility of the metaying system. Yet there are politicians, if they deserve the name, every where to be found who are violent against changing these metayers for farmers; an apparent depopulation is said to take place; and the same stupid arguments are heard, that we have been pestered with in England, against the union of farms. Men reason against that improvement of their lands, which is the natural progress of wealth and prosperity; and are so grossly absurd as to think, that doubling the produce of a country will deprive it of its people.

## SECT. III...OF THE CULTURE OF PLANTS.

*Gallega Officinalis*....Commonly spontaneous in the fields, between Milan and Pavia, and wherever cattle have admission all closely eaten.

*Paliurus*....I know no plant that makes a better hedge than this in the north of Lombardy. Sig. Pilati, near Brescia, has one of six years growth, as good as an excellent white thorn one in England would be in ten.

*Trigonelle Fœnum Græcum*....Cultivated in the Bolognese in preference to clover; soil with it; and sow wheat on the land.

*Sainfoin*....In Tuscany, the coline de Pisani are much under this plant, which is called lupinello; particularly about Castel Fiorentino, where it was introduced about twenty years ago by Sig. Neri; one of the good deeds which deserve a nation's thanks, better than a victory, or the taking of half a dozen towns. A thousand sacks of the seed were sent thence to Naples and Sicily. Will those kingdoms awaken at last? Sig. Paoletti, at Villamagna, has a piece of good sainfoin on a steep slope; but I found one-third of it burnet.

*Larch*....In the Milanese, at Mozzatta, the count de Castiglioni having two hundred pertiche of waste heath, and a community two hundred more adjoining, he took a lease of it for ever; and ploughing the whole, sowed acorns, planting alder, larch, and other trees, which do well; but the sown oak, in eight years, exceeded every thing, and are beautiful trees: the soil are poor gravel. We have in England so many prejudices, that a man who does not travel is apt to think that every thing English is better than the same things in other countries; and, among other follies, that for oak England is superior to all the world: but timber wants sun as much as wheat; and I have no where in England seen such a growth of timber, as in many places abroad. Larch abounds greatly in the mountains, and is reckoned an admirable wood for water-works; all posts are of larch. I have read in some writer, that there is a law in many parts of Lombardy which allows a land-proprietor, whose estate is entailed, to plant, on the birth of a daughter, a certain number of Lombardy poplars, which are her portion on coming of age, or being married, in spite of any entail. I inquired, both in Piedmont and here, into the truth of this, and was assured there is no such law; nor did they ever hear of the custom, even when estates have not been entailed.

In the arsenal of Venice is some quantity of larch, kept under cover, and valued greatly for all works exposed to water. They are not very large, but cost twenty-two ducats each. The masts are very fine pine-trees, from the upper Trevisano; I measured one thirty-eight yards long, and two feet diameter at the butt, and one foot at the other end.

*Lucerne*....I mention this plant, for an opportunity of observing how very rarely it is cultivated in Italy: I saw a little near Padua; and there is an inconsiderable quantity in the Parmesan, where it is cut five or six times; they find that cows give more milk on it than on any other grass.

*Raves*....I was surprised to find turnips, or rather the French raves (for I fear they are not the genuine turnip) cultivated in Tuscany. I was assured that in the Valdichiana there are many, sown immediately after wheat, but never hoed, yet come generally from two pounds to five pounds; some to thirty pounds (twenty pounds English) and that they are applied to the feeding and fattening of oxen, which sell at 140 scudi the pair (39l. 13s. 4d. English;) nothing beside is given, except a little hay.

*Cyprus Tree*....At Soma, near the Lago Maggiore, there is a famous cyprus tree, which Corio, in his Storia di Milano, says, was the place where the people assembled in

congress in the thirteenth century; it was then the most celebrated tree for size and age in the Milanese, and must therefore be immensely old at present. It is now in good health, except a few branches that have suffered a little towards the top; it is nine braccia in circumference.

#### CULTURE OF SILK.

*Nice...* Eight roups of cocoons, or eighty-four pounds, make twenty four pounds of silk (eleven ounces and a half) which sells at 10 livres 5s. the pound; a roup of leaves sells at 20s. and two hundred and fifty roup are necessary for eight ounces of grain (eggs.)

*Coni...* The whole country, after ascending the Alps, is planted with mulberries around every field, and if large, in lines across. I remarked great numbers from ten to fifteen years old.

*To Chentale...* One ounce of grain requires three hundred and sixty roup of leaves; each roup twenty-five pounds, and yields four or five roups of bozzoli or cacata (cocoons) and one roup of cocoons makes three pounds of silk. The price of organzine 20 livres to 24 livres per pound; the offal pays the spinning. Gathering the leaves costs 2s. to 3s. the roup.

*Chentale...* The seed of the mulberry is sown in nurseries, and the trees commonly planted out at four years old. The first, second, and third year, they are pruned, for giving the branches the right form; the fourth, they begin to gather leaves. Some which were shown me by the count de Bonavent, of eighteen years old, give six, seven, and to eight rubbii of leaves each. One old tree, a very extraordinary one, has given fifty-three roups. A large tree, of fifty or sixty years, commonly yields twenty-five rubbii. They never dig around them, nor wash the stems, as in Dauphine; but they have a practice, not of equal merit, which is to twist straw-bands around the stems, to defend them against the sun. For one ounce of grain sixty-five to eighty rubbii of leaves are necessary, which give two and a half rubbii of cocoons, and sometimes so far as four. One rubbio of cocoons yields twenty to twenty-one ounces of silk organzine, of the price of 18 livres per pound. For gathering the leaves, from 1s. 8 den. to 2s. the rubbio is given. The offal (moresea and chocata) pays the winding and spinning. They never hatch the worms by artificial heat, using that of the sun, or of the human body. The common method of carrying on the business is to provide, as in France, grain and mulberries, and to receive half the cocoons. The cultivation is so profitable, that there are many lands to which mulberries add a value of 200 livres, or 300 livres, more than they would sell for if they contained none; and it is farther thought, that they are little injurious to corn, the shade not being so prejudicial as that of the walnut, and of some other trees. The common estimation of profit is, that trees of all ages yield from the time of beginning to bear, from 30s. to 4 livres each, nett to the landlord for his half produce.

*Turin...* One ounce of grain gives two to four rubbii of cocoons, and demands one hundred and twenty rubbii of leaves; one rubbio of cocoons will give twenty-two ounces of commonly well spun silk. The price of grain 12 livres the ounce when very scarce, but in common 30s.; that of leaves 7 or 8s. per rubbio. Cocoons, 21 livres per rubbio. When I asked the price of the silk, the answer was, Oh! for that, it is the price the English choose to pay for it. The common price of organzine, 16 to 20 livres, first quality; raw, 12 livres. For gathering the leaves, 2s. per rubbio is given. Of the different sorts of mulberry, the wild is the best, in point of quality of silk. A tree of twenty years

will give twenty-four or twenty-five rubbii of leaves; some thirty-five rubbii. The trees are grafted in the nursery, and planted out at four years, at the beginning of April; price 20s. to choose out of many; and in four years after begin to gather. When planted in watered meadows, the gathering damages the hay almost to the value of the leaves, yet many are so planted; and many peasants think they lose in corn by the shade of the trees, as much as they get by them. From the 22d to the 26th of April is the season for hatching; never by fire; nor have they any method of retarding the hatching, in case of a want of leaves. Endive, lettuce, and elm leaves, have been often tried as a succedaneum, but always killed the worms; such things must never be depended on. The peasants generally sell the cocoons, not one in a hundred spinning. A chamber of twenty feet by twelve feet is necessary for three ounces of grain; and six tables, one trebucco long and two-thirds wide.

*Novara....*Passed this place towards Milan, which is a great tract of mulberries for several miles.

*MILANESE....Buffalora to Manienta....*Many mulberry hedges, but they are bad and ragged; some new planted in the quincunx position. For several miles the country is all planted in rows of vines, at twelve, sixteen, and twenty feet, and fruit trees among them, for their support; among which are many mulberries, and the vines running up them. This must be a most profitable husbandry indeed, to have silk and wine not only from the same ground, but in a manner from the same tree. Between the rows the ground is cultivated; millet, maize (cut) holeus sorgum, the great millet, lupines, with dung amongst them, to be ploughed in for wheat, with young maize, sown thick, as if for fodder.

*Citricho....*A beautiful mulberry hedge, and in good order; six to eight inches from plant to plant, and cropt at sixteen or eighteen from the ground. It is clear therefore that the plant will do, with care, for a good hedge. Towards Milan, mulberries decline, oak and other pollards being found in their stead.

*Mozzatta....*The culture of mulberries and making silk, being here much attended to, were principal objects in my inquiries. The fruit is well washed, the end of June, to make the seed sink; it is then sown in rows, in a bed of earth well manured, and finely laboured, in the rich nurseries near Milan; covered very lightly, and the surface lightly flattened; straw is spread to defend it from the sun, and much water given. When the young plants appear, they are weeded by hand. The second year they grow to two or three feet high, and hoed and thinned. The third year, they are cut to the ground above the buds that are to push, and transplanted from those nurseries, in the vicinity of the city, to others that are scattered all over the country, in ground well dug and manured, and at two feet square; here they are kept clean by hoeing. The fifth year, in the spring, they are cut again to the ground; they then shoot very powerfully, and attention must be given, to keep but one good shoot, and the ground is dug or hoed deeper than common, and also dunged. The sixth year, those that are high enough are grafted, and the rest the year following. Those that took the sixth year, ought to rest in the nursery three years, including the year of grafting, that is, the seventh and eighth year. They do not like to plant large trees, and have a proverb,

Se vuoi far torto al tuo vicino,  
Pianta il moro grosso e il fico piccolino.

As to plant small fig trees is as bad as large mulberries.

The holes are made in winter for receiving them where they are to remain; these are nine feet square and two feet deep, and have at the bottom a bed of broom, bark of

trees, or other rubbish; then the best earth that can be had, and on that dung, one load of sixteen feet to four trees; this is covered with more good earth, and this levels the hole with the rest of the field; then prune the roots and plant, setting a pole by the young tree to the north, and a spur post on the other side, to guard it from the plough. Twine no straw the first year, because of the insect *forficula auricularia*, L.; but in November bind straw around them against the cold, or, as straw is dear, the *poa rubra*, which abounds. Never, or very rarely, water. Much attention to remove all buds not tending in the right direction.

The fourth spring after planting, their heads are pollarded in March, leaving the shoots nine inches long of new wood, and seeking to give them the hollow form of a cup, and that the new buds may afterwards divide into two or three branches, but not more. The next year they begin to pluck the leaves. They are attentive in pruning, which is done every second year, to preserve as much as they can the cup form, as the leaves are gathered the more easily. Thus it is about fourteen years from the seed before the return begins.

After gathering the leaves, a man examines and cuts away all wounded shoots; and if hail damage them, they are cut, let it be at what time of the year it may. Old trees are pruned after gathering, but young ones in March. In autumn, the leaves are never taken for cattle before the 11th of November, as the trees after that time do not suffer. The third year after planting young trees, they sow about a hat-full of lupines around the stem, and when about ten inches high, dig them in for manure. The opinion here is, that the mulberry does very little harm to rye or wheat, except that when cut the falling of branches and trampling are somewhat injurious. Maize, millet, and panic are much more hurt. A tree, five years after transplanting, gives ten pounds of leaves, each twenty-eight ounces. At ten years, eighteen pounds. At fifteen years, twenty-five pounds. At twenty years, thirty pounds. At thirty years, fifty pounds. At fifty to seventy years, seventy pounds. There are trees that give eighty pounds, and even one hundred pounds. The price of leaves is commonly 4 livres per one hundred pounds (twenty-eight ounces.) For one ounce of grain five hundred pounds of leaves are necessary, and yield seventeen pounds of cocoons; but among the risings in the mountain of Brianza, twenty-five pounds. To make a pound of silk, of twelve ounces, five or six pounds of cocoons, of twenty-eight ounces, are required. Price of cocoons, in the low watered country, 2 livres per pound (twenty-eight ounces.) At Mozzatta, 2½ livres. At Brianza, 3 livres. The grain is hatched in a chamber, heated by a chimney, and not a stove, to seventeen degrees of Reaumur (seventy and a half Far.) but before being placed in this chamber, they are kept eight days under a bed, with a coverlet upon them, in boxes covered with paper pierced; and when hatched lay the young leaflets of the mulberries on the paper, to entice them out. The method of conducting the business here is the same as in France, the landlord furnishes half the grain, and the peasants half, and they divide the cocoons. Price of grain, 2 livres the ounce. Mulberries, of all ages, are pollarded every second year; a mischievous custom, which makes the trees decay, and lessens their produce; it is never done in Dauphine, where the culture is so well understood.

*Milan....* Sig. Felice Soave made some interesting trials on silk worms.

At Lambrate, near Milan, two ounces of seed in rooms kept to the heat of twenty-three and twenty-four degrees of Reaumur, hatched well, and kept healthy: the 28th of April the seed was placed in the rooms, and hatched in the third, fourth, and fifth day: the 21st of May the first cocoon seen, and at the end of the month all were at work. The product gathered the 3d of June; the product ninety-two and a half pounds of co-



coons (twenty-eight ounces;) eighty-four of them having been spun from four and five cocoons, gave twenty pounds and one-third (twelve ounces) of silk, stronger and more shining than common: the consumption of leaves, fourteen hundred and twenty pounds, of twenty-eight ounces. Wood used for fire, two thousand eight hundred pounds; but the two rooms would have served for four ounces of seed. In the common method, without stoves, the consumption of leaves is five hundred pounds for an ounce of seed, and the medium product is not above fifteen pounds of cocoons; and by this new method, the consumption of leaves has been seven hundred and ten pounds each ounce, and the produce forty-six and a quarter pounds of cocoons. Sixteen or seventeen cocoons weigh an ounce in the common method, but in this only thirteen or fourteen. The silk cannot commonly be spun from five or six cocoons; these were spun easily from four or five, and might have been done from three or four. To gain a pound of silk in common, five pounds of cocoons are necessary; but here the same quantity has been gained from four pounds.

*Lodi to Codogno*....In this dead level and watered district there are very few mulberries; none except near the villages; many of them, not all, appear unhealthy, perhaps by reason of their not exerting the same attention as in Dauphine, where there are, in irrigated meadows, mounds made to keep the water from these trees.

*Codogno to Crema*....Mulberry trees here have large heads, as in Dauphine, instead of being pollarded incessantly, as to the north of Milan.

There is an idea in the Milanese, that silk was introduced by Ludovico il Moro. Francesco Muralto reports, "Prædia inculta infinita duobus fluminibus ad novalia (Ludovicus) reduxit infinitas plantas Moronum ad conficiendas setas, seu sericas plantari fecerat et illius artis in ducatu, primus fuit auctor."\* It is said to have been introduced into Europe by some Basilian monks from Sirinda, a city of Indostan, to Constantinople, under the emperor Justinian, in the year 550, by one account;† and by another, in 525.‡ In 1315, the manufactory of silk was brought in Florence to great perfection, by the refugees of Lucca;§ but during the fifteenth century no silk was made in Tuscany; for all used in that period was foreign, silk worms being then unknown.|| In 1474, they had eighty-four shops that wrought gold and silver brocaded silks, which were exported to Lyons, Geneva, Spain, England, Germany, Turkey, Barbary, Asia, &c.¶ Roger I, king of Sicily, about the year 1146,\*\* having conquered some Grecian cities, brought the silk-weavers from thence into Palermo; and the manufacture was soon imitated by the people of Lucca, who took a bale of silk for their arms, with the inscription *Dei munus diligenter curandum pro vita multorum*.†† In 1525, the silk manufacture at Milan employed twenty-five thousand people; and it seems to have augmented till 1558.‡‡ In 1423, the republic of Florence took off the duty of entree upon mulberry leaves, and prohibited the exportation; and some communities of Tuscany have records concerning silk anterior to that period.§§

In almost all the districts of the Milanese mulberry trees are met with, very old, with towering branches; among which are those of Sforzesca, planted under Ludovico il Moro,||| who lived at the end of the fifteenth century.

\* *Atti Societa Patriotica*, vol. ii. p. 220. † *Saggio sopra la Replicata Raccolta della Foglia del Gelso*, 1775, p. 1. ‡ *Dizionario del Filugello*, duodecimo, 1771, p. 43. § *Ragionamento sopra Toscana*, p. 49. || *Decima*. tom. ii. sez. 5, cap. 4. ¶ *Benedetto Dei*. \*\* *Giannone Storia Civ. Y. ii. lib. 11, cap. 7*. p. 219. *Giulini*, tom. v. p. 461. †† *Saggio*, &c. p. 56. ‡‡ *Opusc. Scelte*, vol. vii. p. 12, *Bartolozzi*. §§ *Corso di Agricoltura Practica*. *Lastri*, tom. i. p. 285. ||| *Elementi d'Agricoltura*. *Mittapacher*, tom. ii. p. 513.

VENETIAN STATE....*Vaprio to Bergamo*....There are many mulberries, mixed with the cultivation of corn and vines, in this tract of country.

*Bergamo*....Four ounces of seed are here given to each poor family, which yield four pesi of cocoons.

*Brescia*....One hundred pesi of leaves are necessary to one ounce of seed; and four pesi of bozzoli, or cocoons, are the produce of one ounce; and the peso of cocoons gives twenty-eight to thirty ounces of silk. Cocoons sell at 45 livres per peso. Leaves at 1 livre; and silk at 22 livres to 24 livres per pound. The trees are lopped every three years; yet some are known that give twenty pesi of leaves. Small ones half a peso and one peso.

*Verona*....One ounce of seed demands seventeen or eighteen sacchi of leaves, each one hundred Veronese pounds (or seventy-four pounds English.) Twelve ounces of seed are given to each family; and each ounce returns sixty pounds of cocoons, at twelve ounces the pound; the price 24s. the pound. To each ounce of seed sixteen to eighteen sacchi of leaves, each one hundred pounds of twelve ounces are necessary. The sixty pounds cocoons, at 24s. are 72 livres, or 36s. which is the produce of eight trees, or 4s. 6d. a tree, the half of which is 2s. 3d. It must however be remarked, that these prices of cocoons vary so much, that no rule can be drawn from them: this price of 24s. the pound is very low, and must arise from some local circumstance. One ounce of silk to one pound of cocoons. They are here, as in the preceding districts, in the custom of finding the trees and half the seed, and the peasants the rest; and they divide the cocoons. A tree of forty years old will give four sacchi; and if a plantation consist of one thousand trees, they will, one with another, give two sacchi. They make silk in the Veronese to the amount of a million of pounds of twelve ounces. There are, near the city, some trees in a rich arable field seventy years old, that yield from four to six sacchs of leaves each; this is about 10s. a tree at the lowest price of cocoons.

*To Vicenza*....There are many rows of mulberries in the meadows, that are never dug around, and yet quite healthy, which proves that they might be scattered successfully about grass lands, if any proof were wanting of so undoubted a fact. In the arable lands, the soil all gravel, they are planted twelve ridges apart. Some of the trees are old, that spread seven or eight yards across.

*Vicenza*....The produce of silk amounts here to about 6 livres the campo, over a whole farm; this is about 3s. an acre. The sacco of leaves weighs seventy-five pounds, and forty sacchi are necessary for one ounce of seed; which gives one hundred pounds of cocoons, and ten pounds of silk. One hundred trees, of twenty years old, yield forty sacchi; price 3 livres to 11 livres; commonly 3 livres. Price of cocoons 30s. to 50s. the pound.

I was glad here to meet with some intelligence concerning the new silk-worm, said to have come from Persia, which they have had here eight years, but is in the hands of so few persons, that I could get none of the seed; and I suspect that it is lost, for, on repeated inquiries, I was referred to other parts of Italy. While they had this worm, they had four crops of cocoons a year: 1. In the beginning of June. 2. The end of the same month. 3. The middle of August. 4. In October. This worm is essentially different from the common ones in the circumstance of hatching: no art will hatch the eggs of the common sort the first year, that is the year of the flies dropping them; they can be hatched the year following only; but of this new sort, the eggs will hatch in fifteen days the same year, if they be in the proper heat. But it is to be observed, that they use this sort of worm not really to command several crops in the same year, for mulberry trees will not bear it without destruction, but merely as a succedaneum to the common

sort of worms, if by frosts in the spring they be lost for want of food ; this new sort is in reserve to apply the leaves to profit once in the year. Theoretically the plan is good ; but there must have been something in practice against it, or we may conjecture that after many years the use of them would have been generally introduced.

This will not be an improper place to introduce some remarks on this subject, by an author much esteemed, but quite unknown in England. It appears from the work of count Carlo Bettoni, of Brescia, that the discovery of the new silk-worm arose from experiments made with a view of finding out a cure for the sickness of mulberry-trees, called *moria* ; this was supposed to arise from stripping the leaves in the spring annually ; it was thought that if some means could be discovered of postponing the gathering much later in the year, it would greatly favour the vegetation and health of the trees ; an effect that could only take place by means of a worm that would hatch much later than the common one. In 1765, a second hatching of the eggs of the common worm is said, by the same author to have been made ; a part of which were fed by the second growth of leaves, and part with the leaves of trees that had not been gathered in the spring. Those fed with the old leaves gave a greater number of cocoons, and of a better quality than the others. These experiments were repeated by many persons ; and it was found, that in the heats of July and August the worms would not do well ; but in September much better, and that the trees did not suffer from having their leaves gathered in September. The same author says that the new worms (which he calls *forestieri*) will hatch three times a year, and that no art will prevent it ; no cellars, no cold will keep them from it, though it may retard them some time, as he tried in an ice-house, by which means he kept them inert till August. But, on the contrary, the common sort cannot in general be hatched a second time the same year, even with any heat that can be given ; yet he admits that they were hatched by certain persons in 1765. The new ones sleep four times, like the common ones, but begin to spin their cocoons five or six days sooner : they eat less in quantity, but give less silk ; and as this defect is balanced by the advantage in food, they ought not, says the count, to be proscribed. Their cocoons are small, but the consistency is good and fine ; and their silk is fine and softer than the common : he sold it for 4 or 5 livres a pound more than common silk. There is, however, an evil attends them, which is the uncertainty of their hatching the second and third time ; sometimes all the seed will hatch, but at others only a part : even only the seventh and tenth of the quantity : but the first hatching is regular, like that of the common worms. A circumstance in the course of his trials deserves noting, that he found the worms of both the old and new sorts would drink water when offered to them, and that the cocoons were the larger for their having had the water.

They have had a sort in Tuscany that hatches twice a year ; and the count writing thither for information concerning them, found that their silk was coarser than the common, and of less value ; and he judges them to be a different kind from his own, which hatches three times. The count concludes nothing determinate concerning them ; but resolves to continue his numerous experiments and observations. As there may be persons who think, as I did at first, when I heard of this sort of worm, that if any succeed in England it would probably be this ; it is proper to observe that count Bettoni had nothing in view but the diseases of the mulberry trees, and does not seem to have had at all in contemplation the evils attending late frosts, depriving the worms of their usual food ; and if the common sort may be retarded in hatching (which he shews) till August, equally with the new sort, there does not seem to be any extraordinary advantage in this sort for a northerly climate, more than in the others. The count's \* book was printed at Venice in 1778.

\* Progetto per preservare i Gelsi, &c. Co. Carlo Bettoni, octavo. Various passages.

Sig. Pieropan has made an observation, which deserves noting; mulberries, and likewise other trees, are generally found to succeed much better when grafted a little before sun-set than at any other time: the reason he attributes to the heat of the earth after sun-set; he kept a journal some years of the comparative heat of the atmosphere and the earth, at the depths of four, twelve, and twenty-four inches; and has found, that immediately after the setting of the sun the mercury in those thermometers under ground had always risen some degrees gradually till the rising of the sun, when it as regularly falls.

THE FOLLOWING IS THE ACCOUNT OF THE PROFIT AND LOSS OF SIX OUNCES OF SEED, FOR THREE YEARS, AT VICENZA, BY SIG. CARLO MODENA.

1778.

EXPENCES.

	liv.	s.
<i>Semenza</i> ....seed, six ounces, - - - - -	36	0
<i>Foglia</i> ....leaves, 26,475 lb. - - - - -	1545	4
<i>Spesa</i> ....gathering leaves and attendance, - - - - -	868	16
<i>Filare</i> ....spinning 992 lb. cocoons, which give 159 lb. 5 oz. silk, - - - - -	557	18
	<hr/>	<hr/>
	3007	18

PRODUCE.

159 lb. 5 oz. of silk, - - - - -	4144	15
Refuse ditto, 41 lb. - - - - -	102	10
Seed, 55 oz. - - - - -	330	0
	<hr/>	<hr/>
	4577	5
Expence, - - - - -	3007	18
	<hr/>	<hr/>
Profit, - - - - -	1569	7

1779.

EXPENCES.

Seed, six ounces, half given to the peasants, three ounces, - - - - -	18	0
Leaves, 15,607 lb. - - - - -	753	9
Spinning—the produce 446 lb. cocoons, half of which, 223 lb. to the proprietor, 29 lb. of silk, - - - - -	101	10
	<hr/>	<hr/>
	872	19

PRODUCE.

29 lb of silk, - - - - -	754	0
Refuse ditto, - - - - -	21	2
	<hr/>	<hr/>
	775	2
Loss, - - - - -	97	17

1780....Upon his own account.

## EXPENCES.

	liv.	s.
Seed, 6 oz. - - - - -	36	0
Leaves, 370 sacks, - - - - -	957	13
Gathering and attendance, - - - - -	1303	12
Spinning 910lb. of cocoons, - - - - -	265	0
Reducing 118 lb. 6 oz. of silk into organzine, - - - - -	451	10
	<hr/>	<hr/>
	3013	15

## PRODUCE.

Refuse silk, - - - - -	116	4
118 lb. 6 oz. of organzine, - - - - -	4325	5
Leaves sold, - - - - -	28	0
Silk kept for own use, 2 lb. 3 oz. - - - - -	49	10
	<hr/>	<hr/>
	4518	19
Expences, - - - - -	3013	15
	<hr/>	<hr/>
Profit, - - - - -	1505	4

This year the profit would have been much greater; but through the negligence of the women in the night, not attending to the degrees of heat (from 25 to 27 degrees Reaumur) many were suffocated.\*

*To Padua....* One ounce of seed gives sixty pounds of galetta (cocoons) and eight pounds to ten pounds of galetta one pound of silk: the ounce of seed requires sixteen sacks of leaves, of four pesi, each twenty-five pounds; and twelve small trees yield one sack, but one great tree has been known to yield six sacks. Price of gathering, 20s. the sack. Expence of making sixty pounds of silk, 250 livres. Spinning, 30s. the pound. Cocoons sell at 30s. to 36s. Silk this year, 25 livres the pound, sotile.

*Padua....* One ounce of seed gives in common thirty pounds of cocoons, and eight pounds of cocoons one pound of silk: twenty sacks, of eighty pounds of leaves, are necessary to feed the worms of an ounce of seed. Price of gathering, 20s. the sack. The greatest trees give ten sacks of leaves each; a tree of twenty years four or five sacks. It is not the general custom to divide this business with the peasants. The common sort of silk worm is hatched about the 25th of April; the others the middle of June; but silk demands a more expensive operation in the latter season.

*Venice....* There are three sorts of silk worms: 1. The common one, which casts its epiderm, or sleep as it is called, four times. 2. A sort known at Verona, that casts only three times; the cocoons smaller than those of the other sort. 3. The new sort mentioned by count Carlo Bettoni, the seed of which hatch two or three times a year; but the others only once. The seed of the two first sorts cannot be hatched the same year

\* Opuscoli Scelti, tom. iii. p. 33.

it is dropped; but that of the third will hatch of itself, if it be not carefully kept in a cool place.

*Bologna*....One hundred pounds of cocoons are made from one ounce of seed, and yield seven pounds and a half to eight pounds and a half of silk, of twelve ounces. Price of cocoons, twenty to twenty-five baiocca. Silk, thirty-four pauls, at 6d. the pound.

*TUSCANY*....*Florence*....Making inquiries here concerning the new sort of silk worm, I found that they were not, as I had been before told, a new discovery in Italy, but known long ago; and, what is remarkable, is prohibited by law, in order to preserve the mulberry trees from being stripped more than once. The silk made from them is not more than half as good as the common, and very inferior in quantity also. They assert here, that by means of heat they can hatch the eggs of the common sort when they please, but not for any use, as they die directly; which is not the case with the new species, or that as it is called *di tre volte*.

Their contrivance for winding silk is very convenient, and well adapted to save labour; one man turns for a whole row of coppers, the fires for which are without the wall; and the closets with small boilers of water, for killing the animal in its cocoon by steam, are equally well adapted.

At Martelli, near Florence, on a farm of one hundred and ninety stiori (thirty-four acres) there are forty or fifty mulberries, enough for one ounce of grain, which gives fifty or sixty pounds of cocoons, and six or seven pounds of silk. Price of cocoons this year, 2 pauls the pound; last year  $2\frac{1}{2}$ ; and in 1787 it was 3 pauls. In the culture of the trees they do not practice such attentions as the French in Dauphine; they never dig about them, except when young; never wash the stems; they prune the trees when necessary, but not by any rule of years. The best sort is the wild mulberry, but it yields the least quantity; next, the white fruit.

In 1782, Sig. Don. Gio. Agemi di Giun, prelate of the Greek Catholic church, on Mount Libanus, exhibited to the academicians Georgofili of Florence, the 4th of December, some silk worms, in number thirty-eight, part of which had already made their cocoons, and part ready to make them, as accustomed to do in his own country, with the leaves of the wild mulberry. The seed was hatched in October: the worms fed with leaves, procured from warm gardens; cocoons were made in November; mallow leaves were used also.\*

*MODENA*....The export of silk from the city forty-six thousand pounds, at 38 livres (4d. each;) from the whole territory, sixty thousand zecchini.

*PIEDMONT*....*Pavese*....Immediately on entering the dominions of the king of Sardinia, within two miles of St. Giovanne, mulberries are found regularly every where, and continue to Turin. Seven-eighths of them are about twenty or twenty-five years old; some however are amongst the largest I have seen.

#### LOMBARDY POPLARS.

They are very scarce throughout Lombardy; there is a scattering between Modena and Reggio; and count Tocoli, five or six miles from Parma, planted several thousands along a canal, on the birth of his daughter, for her portion, but there is not in any part of Lombardy, any law which in such cases secures the property of the trees thus planted, to the child they are intended for; it is merely private confidence.

\* Corso, vol. iii. p. 123.

## CLOVER.

PIEDMONT....*Chentale*....Such is the power of climate united with the advantages of irrigation, that clover is here mown for hay once after harvesting the corn it grew with; the hay is not of the best quality, but useful.

MILANESE....*Milan to Pavia*....On the rich dairy farms, the cows are fed much on clover. The red sort is sown, which wearing out, white clover comes so regularly, that the country people think the one sort degenerates into the other.

*Vicenza*....They sow twelve pounds of seed per campo with wheat; it is cut twice the first year, yielding one carro each cut; the second year it is mown thrice: per 44 livres the carro, which is one hundred pesi, of twenty-five pounds.

*Padua*....Sow twelve pounds grosso per campo (fourteen or fifteen pounds per English acre) it gives three carri, each one thousand pounds, at three cuts (one ton and a half the acre English;) but they have crops that go much beyond this.

## FIGS.

PIEDMONT....*Nice to Coni*....On this range of the Alps, there are, in favourable situations, a great quantity of fig trees; and the extreme cheapness of the fruit must be of no trivial importance in supporting the people, not only while ripe but dried.

## HEMP AND FLAX.

PIEDMONT....*Chentale*....A giornata (to an acre as 7440 to 7929) produces two hundred pounds for the proprietor, and as much for the farmer; and some crops rise to six hundred and fifty pounds. They gather the female hemp from the 25th of July to the 4th of August: the male the beginning of September. Of some pieces I was informed that a produce not uncommon was thirty rubbii of female, and seventeen of male, worth  $4\frac{1}{2}$  livres to 5 livres the rubbio, both of the same price; and also twenty-five to thirty mine of seed, if well cultivated; but if not, twelve to fifteen. The mine thirty-five pounds, and the price  $4\frac{1}{2}$  to 5 livres the mine. The common calculation is, that a giornata is worth 150 to 200 livres, which may be called 10l. per English acre. Their contrivance for steeping is very simple and effectual: there are many square and oblong pits with posts in them, with open mortises for fixing poles to keep down the hemp, which is vastly preferable to our sods and stones.

*Turin*....They sow three mine (forty-five pounds of wheat) and get thirty rubbii, at 4 livres 10s. to 4 livres the rubbio gross; but ready for spinning 12 livres 10s. the finest; the second quality is 7 livres 10s.; and the third 5 livres; besides three mine of seed, at 2 livres each. This product is above 8l. the English acre.

MILANESE....*Mozzatta*....Winter flax is here esteemed the properer for land that is not watered; they sow it in the middle of September; they have had it in this country two years only, and call it lino ravagno. It gives a coarser thread than spring flax, but a greater quantity, and much more seed. The price of the oil 22s. the pound, of twenty-eight ounces; of the flax ready for spinning, 25s. or 26s.; of the thread, 4 livres and  $4\frac{1}{2}$  livres. A quartaro of seed is necessary for a pertica, for which it returns eight times the quantity of seed, and twenty pounds of flax ready for spinning, at 25s. the pound.

*Codogno*....When they break up their clover lands they sow flax on one ploughing, which is worth rent 20 livres and crop 40 livres per pertica, being twenty-four pounds of twenty-eight ounces and seed three times more than sown. Much winter flax now green.

VENETIAN STATE....*Bergamo*....Winter flax green in October.

ECCLESIASTICAL STATE....*Bologna*....The territory of Bologna produces from twelve to fourteen million pounds of hemp. They manure for it highly with dung, feathers, the horns of animals, and silk-worms' refuse. The best hemp-land is always dug; the difference between digging and ploughing is found to be very great. If ploughed, three earths are given; when the spade is used, the land is first ploughed and then dug. For this crop five or six yards are left unsown under the rows of trees. The soil agrees so well with this plant that the crop rises ten feet high; they gather it all at once, leaving only a few stands for seed. It is watered in stagnant pools. A good product is from one hundred pounds to two hundred pounds of twelve ounces per tornatura, or half an acre. The price of the best is from 20 to 27 livres the hundred pounds. At present 25 livres (the English pound one-fifth larger than the Bolognese, and the livre of the Pope's dominions is ten to the zecchin, of 9s. 6d.) ready for combing. When ready for spinning, the price of the best is 12s. the pound; and they pay for spinning such 6s. to 15s. the pound. Near the city I viewed a field famous for yielding hemp: no trees are planted across it, which is so common in the country in general; a sure proof of the pernicious tendency of that system; since in very valuable fields these people themselves reject the method. Little or no hemp on the hills near Bologna, but some autumnal flax for family use.

#### MAIZE.

PIEDMONT....*Chentale*....Maize produces here twenty-five to thirty mine, which holds forty-seven pounds of wheat, and the price 2 livres each. It is sown on three feet ridges.

*Savigliano*....Maize, in a good year, will yield three hundred fold, but in a dry one sometimes scarcely any thing.

*Turin*....Made every where the fallow, which prepares for wheat.

*Chivasco to Verceil*....A great deal of maize through all this country, and all foul with grass and weeds, even to the height of two or three feet.

MILANESE....*Milan*....They sow much maize, of the sort called quarantino, from its ripening in forty days (which however it does not.) They sow it the middle of July, after wheat, which they cut the first week of that month. If the common maize were sown at this time, they assert that it would yield no ripe seed: this is a very curious circumstance. The culture has been often recommended to England; if ever any thing were done, it must assuredly be with this sort; but even with this I should put no faith in the power of an English climate.

*Mozzatta*....They cultivate three sorts: 1. Formentone maggengo, sown the beginning of May, and reaped in October. 2. Formentone agostano o formentone de ravetone, because sown after taking off the rave or colesseed for oil, the end of May, and harvested the end of September. 3. Formentone quarantino, sown after wheat or rye, and cut the end of October.

*Venice*....This plant was cultivated in the Poiesine de Rovigo, towards 1560; and spread through Lombardy the beginning of the seventeenth century.\*

\* Agost. Gallo. Notes, p. 534.



## OLIVES.

STATE OF VENICE....On the banks of the Lago di Guarda are the only olives I have seen since I left the country of Nice; but the number is not considerable, and most of them are dead or nearly so, by the frost of last winter, which made such destruction likewise in France.

Tuscany....Near Florence, at Martelli, the product of a farm of 190 stiori was as follows: in 1786, thirty barrils. In 1787, it was no more than three. In 1788, it yielded eight. In 1789, it was twenty-five but on an average ten; for which produce there are two hundred trees. They are dunged every two or three years, and dug about once in three years. They are reckoned to lessen the product of corn one fifth; this is a notion of the country, but I believe very far from accurate. The average price of oil is 5 scudi per barril, of one hundred and fifty pounds (1l. 8s. 4d.;) ten barrils amount to 14l. 3s. 4d.; and as there are about thirty-four acres in one hundred and ninety stiori, the product of oil is 8s. to 9s. per acre: a sum that yields no very favourable impression of the culture: and, divided amongst two hundred trees, it does not amount to 1s. 6d. a tree.

The plain of Florence is all lined into rows of these trees, with vines between and upon them; in some places, an espalier of vines between the rows of olives; and when all are well cultivated, the olives yield the greatest produce, next the wine, and then the corn. I viewed, near Florence, some fields, in which I found twenty olives on a stiora of land, but this is not common: and on a very bad stony soil, though in the plain, I found that it took twenty trees of twenty-five years growth to yield a barril of oil. But in a fine soil, and with very old trees, a barril a tree has been known. Vines are suffered here also to run up the trees, but they reckon it a bad custom. The price of oil is more than doubled in forty years. Very few olives were lost by the last hard frost, but great numbers by that of 1709. Landlord's half produce of some fields I viewed: oil, 10 pauls; grain, 7; wine, 1; in all 18 pauls per stiora (2l. 5s. per English acre.)

This year, 1789, the grand duke, for the first time, has given a gold medal, of the value of 25 zecchini, for the greatest number of olives planted; no claimant to be admitted for less than five thousand: in consequence of this premium above forty thousand trees have been planted. It will be continued annually.

There is, in the Maremma some remarkable instances of the vast age to which olives will attain: Sig. Zucchini, professor of agriculture at Florence, informed me that, upon examining the hills in the middle of that tract, he found in the midst of woods, and almost over-run with rubbish, olives of so immense an age and magnitude that he conjectures them to have been planted by the ancient Hetruscans, before the Romans were in possession of the country; there must, of course, be much uncertainty in any conjectures of this kind, but a great antiquity of these trees is undoubted.

## RICE.

PIEDMONT....*Ciglione to Verceil*....They are now threshing rice with horses, as wheat in Languedoc; thresh as much in the night as in the day: meet also gleaners going home loaded with it. About five miles before Verceil the rice-grounds are in great quantities: their culture, however, of this crop seems to want explanations. Here is, for instance, a great field, which was under rice last year, now left to weeds, with hogs feeding. Why not sown with clover among or after the rice? They never plough

but once for rice. The peasants are unhealthy from the culture, yet their pay not more than 24s. to 30s. a day. The soil of the rice-grounds here is that of a fine loamy turnip sand; there is a mound raised around them, for the convenience of flooding at will.

*Vercelli*....Rice is here reckoned the most profitable of all the cultivation of Piedmont; for it yields a greater value than wheat, and at a less expence. It demands only one ploughing instead of several. Seed only four mine, at 1 livre. Watering at 2 livres 5s. Cutting, the end of July, 10s. The product is sixty mine rough, or twenty-one white; the latter at 4 livres, or 84 livres; and four mine of a sort of bran, at 15s. or 3 livres, in all 87 livres (something under 5l. an acre.) It is sown three years in succession, and the fourth a fallow, during which the land is dunged. The price of these lands 500 livres or 600 livres the giornata. As rice can be sown only on land that admits watering at pleasure, I do not fully comprehend this account. Why, for instance, is not the land laid down for meadow, which evidently pays much better, and sells at a higher price? I suppose rice is ready money on demand, and meadows must be converted to cash circuitously. Good wheat land sells at 800 livres.

*To Novara*....Passing the Sesia, which exhibits a bed of five times as much gravel as water, in three or four miles the quantity of rice is considerable: the stubble is green, and in wet mud; the sheaves thin. It extends on both sides the road for some distance; the whole inclosed by ditches, and rows of willow poplar pollards, as bad to the eye as it can be to the health. One or two fields are not yet cut; it looks like a good crop of barley, being bearded. After Novara, see no more of it.

*MILANESE*....*Milan to Pavia*....The rice-grounds receive but one ploughing, which is given in the middle of March, and the seeds sown at the end of the same month, in water to the seedsman's knees, which is left on the ground till the beginning of June, when the crop is weeded by hand, by women half naked, with their petticoats tucked to their waists wading in the water; and they make so droll a figure, that parties in pleasantry, at that season, view the rice-grounds. When the weeding is finished, the water is drawn off for eight days; and it is again drawn off when the ear begins to form, till formed; after which it is let in again till the rice is nearly ripe, which is about the end of August, when it is reaped, or in the beginning of September; and by the end of that month, all is finished. Quantity of seed, the eighth of a moggio per pertica, produce twenty-five to thirty moggio rough, or eleven and a half or twelve white. Price  $37\frac{1}{2}$  livres the moggio (17l. 8s. per English acre) which produce is so large, that this minute I suspect the highest crop gained, and not an average one. The moggio of rice weighs one hundred and sixty pounds of twenty-eight ounces. The straw is of use only for littering cows; and the chaff, like that of all other grain, from a notion of its being unwholesome, is thrown on to the dunghill. They sow rice three years in succession, and then a course of something else. See Courses of Crops. The rice is rendered merchantable by being pounded in a mill by stampers, turned by a water-wheel.

In the great road there is a stone, at five miles from Milan, nearer than which it is prohibited to sow rice.

*STATE OF VENICE*....*Verona*....Of the produce of the rice-grounds in the Veronese, they reckon one-third for expences, one-third for water, and one-third profit.

*PARMA*....Count Schaffienatti has sown rice, at Vicomero, eighteen years in succession on the same land, without any rest or manure. Sow on fifty-four biolchi ninety staji; and the produce eighteen for one. He digs the ground, as it is too marshy to plough it well; this costs 3000 livres (each  $2\frac{1}{2}$ d.) The straw sells at 80 livres the load, of eighty pesi, of twenty-five pounds (three-fourths of a pound English.) Oxen also eat it. Rice is

reckoned to yield four times over more nett profit than any other husbandry, more even than watered meadows.

## VINES.

**PIEDMONT....Antibes to Nice....**A singular cultivation of this plant surrounding very small pieces from six to twenty perches, trained up willow trees; and the scraps of lands within them cultivated. What a sun must shine in a country where thick inclosures are counted by perches and not by acres.

**Chentale to Racconis....**In rows at twelve to twenty feet, and appear like those of hops in Kent, supported on willow poles, twelve feet high, some of which take root, but are afterwards pulled up.

**Chivasco....**Vines fastened from mulberry to mulberry, but not running up these trees, only up willows, &c. that are between them.

**MILANESE....Mozzatta....**Half this country is lined with vines, and it is reckoned that they will damage to the amount of one-tenth of the produce: each pertica of vines, in a common year, will give fifty pounds of grapes, worth 6 livres the one hundred pounds of twenty-eight ounces, hail allowed for; and of this half is the peasant's share for the expence of culture. At Leinate I viewed some wine presses, which are enormous machines; the beam of one is forty-five feet long and four feet square, and at the end where the screw is, a stone of vast weight, for which there is a paved hole in the pavement, that it may keep suspended; the cuves, casks, and all the apparatus great: the quantity of vines one thousand pertica. The seeds of the pressed grapes are kept till dry, and then pressed for oil; the seed of the grapes that yielded seventy brenta of wine will give ten pounds of oil: it is used for lamps. The poor people who bring their grapes to be pressed pay one-twelfth of the wine. Price at present 6 livres the brenta, but only 3 livres for what is last pressed. The first flow is trod out by men's feet. Common price 10 or 12 livres the Brenta.

**VENETIAN STATE....Bergamo....**From entering the Venetian territory, near Vaprio, the country is almost all planted in lines of vines, and the spaces between tilled for corn.

**To Brescia....**This country, inclosed with hedges, besides which it is lined in stripes of vines that are trained to low ash and maple trees, with mulberries at the end of every row; but the vines are not trained up these trees, though fastened to their trunks.

**Vicenza....**The country, for thirty-two miles from Verona to Vicenza, except the watered parts, which are not a tenth of the whole, is lined into rows of pollards, each with three or four spreading branches, and the foot of each two vines, many of them very old, with stems as thick as the calf of a man's leg; and many of the elms, maples, &c. are also old. They stand about a rod asunder, and the rows from twenty-five to thirty yards, and around the whole mulberries. Where the vintage is not finished, the vines hang in festoons from tree to tree, garnished with an astonishing quantity of bunches of grapes.

Vines near Vicenza, produce two mastati, each of two hundred and forty bottles, per campo; the price 16 livres the mastato; the campo here is larger than at Verona, amounting to near an English acre; this is about 17s. an acre, a produce very easily lost in the damage done to the corn.

**Padua....**The same husbandry of pollards and vines continues hither. They reckon that vines pay better than mulberries; but in the districts of Verona and Vicenza mulberries are more advantageous than vines. This does not correspond with soil, for that of Padua is deeper and richer, for the most part, than the other, and therefore less adapted to vines. In conversation with Abbate Fortis, on the wine of the Paduan, &c.

being so bad, he says, it is owing merely to bad management in making. They tread the grapes with their feet; and will keep it fermenting there even so long as fifteen days, adding every day more and more, till the strength is exhausted, and the wine spoiled; no cleanliness in any part of the operation, nor the least attention in the gathering, or in the choice of the grapes. He further added, that Sig. Modena, a Vicentino cultivator at Vancimuglio adjoining the rice grounds, and consequently as little adapted as possible to vineyards, provided the soil and trees were the cause of bad wines, makes that which is excellent, and which sell for so high as 30s. French per bottle: that Sig. Marzari, and Sig. il Conte di Porto, in the high Vicentino, with many others, as well as he himself, Abbate Fortis, has done the same with raisins from vines that run up the highest trees, such wine as sells from 20s. to 35s. French the bottle: and that some of these wines are so good, that the Venetian ambassadors, at different courts, use them instead of Madeira, &c.; and the wines of Friuli as those of Hungary, which they resemble; yet these vines are all on trees. He also observed, that it has been found, by experiment, that vines in these rich lands, trained near the ground, as in France, have yielded raisins and wine good for nothing; that the grapes even rot; that the land is too rich for vines to have all the nourishment, unrivalled by the root of the trees. It is very much to be questioned, if the experiments here alluded to have been made with due attention: if the land is too rich for vines, plant them upon soils that are proper; and keep these low districts for grass and corn; but that vines, hidden from the sun amongst the branches of trees, can ripen properly to give a well-concocted juice, appears very dubious; and the fact of all the wine, commonly met with in this country, being bad, seem to confirm the reasoning.

*ECCLESIASTICAL STATE....Bologna...*All this country, where I have viewed it, is lined into rows of trees for vines, ten or twelve yards asunder on the mountain, but more in the plain. But Sig. Bignami has his vineyard planted with échalats (poles) in the French way, about four or five feet square, and he finds that these always give better wine than the vines trained to trees, and the land by *tornatura* gives a great deal more wine, though each vine separately on trees gives more than each in this method. The object in this instance was the goodness of wine; Sig. Bignami thinks the common method five or six feet and tied; if allowed to mount, they yield much fewer grapes. Vines on the mountains yield thrice the value of the wheat, and the double of all other productions, wheat included.

*TUSCANY....Bologna to Florence...*Vines in this route are planted different from any I have yet seen. Some are in espaliers, drawn thinly across the fields; others are trained to small posts, through which at top are two or three sticks fixed to hold them up; others are in squares of five or six feet, and six or seven high, without such posts; but all in the arable fields are, generally speaking, in lines.

*Florence...*I here met with a case absolutely in point to prove how mischievous trees are to corn, even in this hot climate. A field under olives, which yielded in corn six and a half for one sown, was grubbed, after which the common produce was fourteen for one. Now, as the olives is by no means one of the worst trees for corn, this shews the great loss that accrues from the practices I have noted throughout Lombardy. Yet in common conversation here as elsewhere, they tell you the injury is small, except from walnuts, which do more mischief than any other.

*MODENA...*It appears to be a singular circumstance, that in the parts of this territory, near the hills, corn pays better than wine, but in the plain, wine better than corn: I suspect that some mismanagement occasions this apparent contradiction. From Modena

to Reggio the country is planted in rows, as in the Venetian state, &c. and the trees that support the vines being large, the whole has the appearance of a forest.

**PARMA....**From Reggio to Parma, the same system holds, but executed in an inferior manner. And from Parma to Vicomero, the trees that support the vines are pollards, with old heads, like many we have in England, contrary to the practice of the Venetian state, where they are kept young. To Firenzuola, the vines are all buried in like manner; some here are planted for props, and the poles which serve as such are set in rows: in both methods the shoots are equally buried. A scattering of golden willow in the rows, I suppose for attaching the vines to the props. From Borgo St. Domino to Firenzuola, there is a decline both of vines and wood; the country is not as hitherto, regularly lined, and many large fields are without any; this is the more to be remarked, as here begin some inequalities of the country, the gentle ramifications of the Appennines. To Castel Giovanne, most of the fields have no vines, only a scattering; shoots buried as before, but the inclosures have many pollards in the hedges, like the woodlands of Suffolk. From Piacenza, after passing the Trebbia, the rows of vines are thirty to forty yards asunder, with heaps of props ten feet long, set like hop-poles; very few or no vines trained to trees.

**PIEDMONT....Pavese\*....**The country is all the way hill and dale, the flat of Lombardy finishing with the dutchy of Piacenza. It is about half inclosed, and half with rows of vines. There are also vineyards planted in a new method; single row of vines, with a double row of poles, with others flat, so as to occupy four ridges and then four to ten of corn. Some vine shoots buried for a few miles, but afterwards none. Near Stradella the props appear like a wood of poles.

**SAVOY....**The vineyards of Montmelian yield one and a half tonneau per journal, which sell at  $4\frac{1}{2}$  louis the tonneau: all, not in the hands of peasant proprietors, is at half produce.

#### SECT. IV...OF IMPLEMENTS AND TILLAGE.

**Coni....**The ploughs have a single handle, twelve or thirteen feet long, which throws the ploughman to such a distance behind, that his goad is fixed in a long light pole. The oxen are yoked in the same manner as ours, but the bow is of iron under the neck, and the pressure is received by two bits of wood. Some ploughs drawn by a yoke, others by two yokes of oxen.

**Chentale....**The names which are given to the parts of a plough here are—long handle of fourteen feet, stiva; beam, bura; head, cannonia; coulter rivetted to the share, cultor; share, massa; ground-rest, on which the share sheathes, seven feet long, dentale; earth-board, five feet long, oralia.

The count de Bonaventa, in explaining to me their tillage, shewed the criterion, as old as Columella, of good ploughing, by thrusting his cane across the ridges, to see if rest-baulked. They plough mostly on the three feet ridge, forming and reversing at one bout, i. e. two furrows, the work straight. Use no reins, and have no driver, though the ploughman is above twenty feet from the oxen. Two small beasts cut a good furrow on the top of the old ridge, seven inches deep, and these ploughs, long as they are in the ground, certainly do not draw heavily.

The oxen whether at plough or in the waggons, do not draw, as I conceived at first sight, by the shoulder, but in a method I never saw before, nor read of; they draw by

\* The country ceded by Austria to Sardinia, part of the district of Pavia.

pressing the point of the withers against the yoke, and not at all by the bows; and in examining them, the master and man contended that the strength of an ox lies there, and not in his shoulders, nor in his head, or roots of the horns. It appears a strange practice, but it is yet stranger, that yoke a beast how you will, he does his work, and apparently without distress.

*Chentale to Racconis*... They have here a most singular custom, which is that of shovelling all the moveable soil of a field into heaps of a large load, earth, stubble, and weeds; they say, per ingrassare la terra.

*To Turin*... The lands sown with wheat, on three feet ridges, is worked fine with a machine of wood, at the end of a handle, formed nearly like a hoe. Wherever one sees these operose niceties, we may conclude the farms are very small.

*Turin*... Plough with a pair of oxen, no reins, no driver; go to work at five in the morning, and hold it till night, except one hour and a half at dinner, that is twelve hours work, and do a gionarta a day, something under an acre, one bout to a three feet ridge, reversing.

*Vercelli*... Price of a ploughing,  $3\frac{1}{2}$  livres per giornata, this is about 3s. 4d. per English acre.

**MILANESE**... *Milan to Pavia*... Hire of a ploughman and pair of oxen, 4 livres a day, but if no food for the oxen, 6 livres. The ploughs here vary from those of Piedmont. The handles are not above half as long, and are called stiva; the beam, buretto; the coulter, coltura; the share, massa; the earth-board, orechio; the land-board, orechini. There is a most gross and absurd error in all the ploughs I saw, which is the position of the coulter, eighteen or twenty degrees too much to the land; every one who is acquainted with the right structure of a plough, knows that it should just clear the share; this great variation from the right line, must add greatly to the draft; and in difficult land fatigue the cattle.

*Mozzatta*... A light poor plough, the share with a double fin, but so narrow as to cut only four inches of the furrow, the heel of the plough is nine or ten inches wide, the work it performs is mere scratching, and the land they were sowing with wheat, a bed of tritium repens and agrostis stolonifera. They have here a great opinion of digging; and a proverb which says, La vanga ha la punta d'oro.—The spade has the point of gold.

*Codogno*... Here as near Milan, the coulters are many degrees out of the line of the share, and the shares not more than four inches wide. Shocking!

*Codogno to Crema*... The harrows in this country have handles to them of wood; I am amazed that this practice is not universal; yet I never saw it before, except on my own farm.

**VENETIAN STATE**... *Bergamo*... In passing from Vaprio to this place, they are ploughing with a pair of oxen a-breast, and two horses before them in a line; wheel-ploughs, share five inches wide, and with a double fin. Near the town of Bergamo, I saw them ploughing a maize stubble for wheat, as full of grass almost as a meadow: a lad drives, and another stout one attends to clear the coulter from grass, &c. the plough low on the carriage, with wheels, the breast all iron, and not ill formed, the fin of the share double, and about eight inches wide, the coulter nearly in the same direction as the share, but clearing four inches to the land side, two short handles. The furrow full nine inches deep, but crooked, irregular, and bad work. Notwithstanding this depth, they are great friends to the spade. From four to six for one, are common crops with the plough, but twelve to fourteen for one are gained by the spade. There must be an inaccuracy in this, the difference cannot be owing merely to digging. We may be certain that the husbandry in other respects must be much better.

*Vicenza*....They here plough with four oxen in harness, many of them are of an iron-grey colour, with upright thick ugly horns. Some however are fine large beasts. Their plough is a strange tool; it is two feet four inches of *Vicenza* wide (their foot is above one and a half English:) the share has a double fin of a foot wide, consequently cuts half a foot in the furrow of more than two; has wheels, but no coulter. The land-board is called *fondelo*; the share, *vomero*; the earth-board, or breast, *arsedeman*; two short handles, the left *sinistrale*; the right *brancolé*; the beam, *pertica*.

ECCLESIASTICAL STATE....*Bologna*....The coulters of the ploughs here stand sixteen degrees from the right line, an incredible blunder, had I not before met with it in the *Milanesco*. The beam, *pertica*; the handles, *stiva*; the mould-board, *assa*; the share, *gomiera*; the ground-rest, *nervo del socco*; the coulter, *coutre*.

TUSCANY....*Florence*....Here the beam is called *stanga*, and *bura*; the single handle, *stagola*; the body of the plough, *chicapo di aratro*; the share, *vangheggiola*. The body is hewn out of one large piece of wood, the fin double, and seven or eight inches wide. I see no ploughing but on three feet ridge-work, reversing. They are now sowing wheat among tares, about six inches high, and plough both in together at one furrow, splitting the ridges with a double-breast plough. Oxen are used that draw by the nape of the neck; then women with a kind of half pick, called *marona*, work the ridge fine. No dressing of the seed against smut, &c.

PARMA....The plough here has wheels, a single-breast that turns to the right, and pretty well, a double finned share, and the coulter standing three inches to the left of the right line; drawn by two oxen, and two cows, with a driver.

SAVOY....The oxen in the vale of *Chamberry*, draw not only by the horns, the yokes bound to them in the common way by leathers, but they have a double bar, one against the shoulders, as if the beast might be able to draw by both at pleasure.

#### MANURES.

*Nice*....There is here a greater attention paid to saving and using night soil, than even in *Flanders* itself. There is not a necessary in the town which is not made an object of revenue, and reserved or granted by lease. In all the passages between the walls of gardens in the environs, are necessaries made for passengers. The contents are carried away regularly in barrels, on asses and mules, and being mixed with water, is given regularly to the vegetables of the gardens. The last winter having damaged many orange trees, they pruned off the damaged branches, and to encourage them to shoot again strongly, the roots are dug around, and at the foot of each tree a good mess of this invigorating manure is buried.

MILANESE....*Milan*....Night soil is greatly valued, it is bought at a good price, and spread on sowing wheat.

STATE OF VENICE....*Vicenza*....*Sig. Giacomello* has tried gypsum with success, broken small and calcined in an oven, also in a lime kiln, pulverises it finely and sifts it. He remarks that this is the chief use of calcination. Uses it for clover, lucern, and meadows; sows it as a top dressing on those plants, just as they rise; never buries it; mixes with sand, in order to spread equally; best to sow it when the land is dry, never when the plants are high and wet; quantity, one hundred and forty pounds *grosso*, upon one thousand two hundred and fifty *tavoli* of *Treviso*. If the land is bad, three hundred pounds, and on middling, two hundred pounds. The effect on perennial clover, upon good land, is such, that any greater crops would rot on the ground. The same quantity

of meadow that gives without gypsum, a carro of hay, will, with that manure, spread about the 11th of November, produce two carri the year following; three carri the year after that; and on some meadows even to four carri. On old poor meadows, full of hard and bad grasses, this manure does not take effect so soon, and requires a larger quantity of gypsum. (*Modi di aumentare i Bestiami*, 1777, p. 9.)

Sig. Pieropan informed me that this manure has been used here for eight years with much success, especially on all dry lands, but is good for nothing on wet ones; it is supposed to act by attracting moisture; four hundred pounds of twelve ounces are spread on a campo; best for clover, wheat, or natural grass. It is said to force land so much, that it demands more dung than if no gypsum had been spread.

*Parma to Piacenza....*The dunghills in this country are neatly squared heaps.

#### CHAP. XXXIV...OF THE ENCOURAGEMENT AND DEPRESSION OF AGRICULTURE.

IN every country through which an inquisitive man may travel, there can be no object of his inquiries more important than these—How far is government, and all the circumstances any way dependent on government, favourable or unfavourable to the culture of the earth? In truth, this question involves the whole circle of the political science. In so immense a range, it is in the power of an individual to give but a few sketches, which may afterwards, by some masterly hands, be melted into one harmonious piece. All the writings on political œconomy which I have hitherto read, are filled too much with reasonings, yet experiment ought to be the only foundation. The facts which I have collected under this head, may be thus arranged: 1. Government. 2. Taxation. 3. Tythe. 4. Commerce. 5. Population. 6. Prohibitions. 7. Prices of commodities.

#### SECT. I...OF GOVERNMENT.

It is a vulgar error of no inconsiderable magnitude, to imagine, as many writers have done, that all arbitrary governments are the same. Whoever travels into countries under various forms of dominion, will find from innumerable circumstances, that strong distinctions are to be made. The mildness of that of France can never be mistaken, which was so tempered by what was the manners of the people as to be free in comparison with some others. Among the Italian states the difference will be found to be considerable.

The dominion of the house of Austria has been by some considered as hard, harsh, and unfeeling, till the admirable Leopold retrieved, by the wisdom and humanity of his government in Tuscany, the character of his house. By the constitution of Milan, no new tax could be assessed or levied without the consent of the states, but Mary Theresa, about the year 1755, abolished the states themselves, which never were restored till Leopold came to the throne. It may easily be conceived, that such a system of despotism was followed by measures that partook of its spirit; the general farms, by which I mean the farming of the taxes, which had from the beginning of the present century been grievous to the people, became doubly so about the year 1753, when new ones were established. The administration of these farms was cruel, or rather infamous; and the ruin brought on numbers for the smallest infraction of the regulations, spread a horror against the government through every corner of the Milanese, and tended strongly to occasion a declension in every source of national prosperity. The abolition of these farms



was the work of the emperor Joseph, who heard such a reiteration of complaints against the farmers, whose great wealth\* rendered them doubly odious, that he made such representations to his mother as were effectual, and they were abolished about eighteen years ago. The present emperor no sooner came to the throne, than he re-established that constitution of which his mother had deprived the Milanese; the states and the senate were restored, and also the right of the states to appoint what is called an orator to Vienna, in fact, an ambassador paid by themselves, to lay their representations before the court without the intervention of a governor, a right which cannot be deemed unimportant. So that at present the government of Milan, though by no means such as can meet our ideas of freedom, is yet a kind of limited monarchy; for assuredly that government which does not possess the power of taxation, must be esteemed such.

Count Firmian, while prime minister for the Milanese, was the author of a law, which, if it could be adopted in England, would be worth an hundred millions to us. It obliges all communities, &c. that possess waste or uncultivated lands, to sell them to any one that offers a price, in order to cultivate them, but they have the necessary liberty of publishing the price offered, and receiving proposals of a better; a fair auction takes place, and the lands become cultivated. Such possessors of wastes are even obliged to let them at an annual rent for ever by the same process, if any offer or rent is made to them, be it as low as possible. And the effect of this excellent law has been the cultivation of many wastes, but not all; for on returning from Mozzatta to Milan, I passed a very extensive one, highly capable of profitable cultivation.

VENICE....The celebrated government of this republic, is certainly the most respectable that exists in the world, in point of duration, since it has lasted without any material change, and without its capital being attacked for 1300 years, while all the rest of Europe and of Asia has been subject to innumerable revolutions, and the bloodiest wars and massacres, even in the very seat of empire. That duration is one of the first objects of a government, can never admit a doubt, since all other merit, however it may approach human perfection, is nothing without this. A well organized aristocracy, in which the greatest mass of the wisdom of the community shall be found in a senate, seems from the vast and important experiment of this celebrated republic, to be essentially necessary to secure the duration of any government. But the duration of an evil becomes a mischief instead of an advantage: and that tyranny which is so politically organized as to promise an immense duration, is but the more justly to be abominated. The knowledge which will result from long experience, may probably teach mankind the right composition of a mingled form, in which the aristocratic portion will give duration and firmness; the democracy, freedom; and the conformation of executive power, energy and execution. Perhaps the British government approaches the nearest to such a description.

The reputation of the Venetian government is now its only support, a reputation which it does not at present merit in the smallest degree: but as this idea is directly contrary to the accounts given by many travellers, I feel it necessary to premise, that I should think it merely trifling with the reader to travel to Venice in order to write dissertations in my own name, on the government of that republic; I do no more than hold the pen to report the opinions of Italians, on whose judgment I have every reason to rely, and as exaggerated panegyrics have been published of the government of this state, it is fair to hear what may be urged on the other side of the question.

\*One of them now living, count de Crépy (what a plague have such fellows to do with titles, unless to be written on the gallows on which they are hanged?) has between 20 and 30,000 zecchini a year in land. He was originally a poor boy, that sold cloth on a mule at Bergamo; one of his commis made 100,000 zecchini.

For twenty years past, there has been in the republic little more than a multiplication of abuses, so that almost every circumstance which has been condemned in the arbitrary governments of Europe, is now to be found in that of Venice. And as an instance of the principles on which they govern their provinces, that of Istria was quoted. 1. To preserve the woods (which belong to the prince) they prevent the people from turning any cattle into them; and if any man cut a tree, he is infallibly sent to the galleys, which has driven numbers out of that part of the country where the woods are situated. 2. There are great opportunities of making salt, and the pans might be numerous, but it is a monopoly held by the state; they purchase a certain quantity, at 10s. French, per quintal, and if more than the specified quantity be made, it is lodged in their magazines on credit, and it may be two, three, or four years before the maker of it be paid. 3. Oil is a monopoly of the city of Venice; none can be sold but through that city, by which transit, an opportunity is taken to levy two ducats (each 4 livres of France) per barrel of one hundred pounds, and five more entire into Venice. 4. The coast abounds remarkably with fish, which are taken in almost any quantity; salt is on the spot, yet no use can be made of it but by contraband, except for Venice singly. Thus a great trade in barrelled fish is foregone, in order to make a whole province beasts of burthen to a single city. 5. The heavy tax of a stajo of wheat, one hundred and thirty pounds, is laid on each head of a family, payable to the Venetian bailiff.

The practical result of such principles of government, confirms whatever condemnation theory could pronounce. Every part of the province, except a district that is more favoured than the rest in soil and climate, is depopulated; and so much are the woods preferred to the people, that parts which once abounded with men, are become deserts; and the small population remaining in other parts, is every day diminishing. Dalmatia is in a yet worse state: for the greater part is a real desert: in 1781 and 1782, no less than twelve thousand families emigrated from the province. As I have not travelled in these provinces, I do no more than report the account given by well informed Italians, though not residing in the territories of the republic. Before the government of this stern aristocracy is made the subject of exaggerated praise, let facts counter to these be made the foundation. But farther,

In the immediate operations of their government at home, the same weakness is found. Their poverty has increased with their revenue; they have raised the leases of the farmers general (for that odious collection is the mode they pursue) considerably; and near twenty years ago they seized many of the possessions of the monks: that act for which the national assembly of France has been condemned; but which, in the hands of numerous other governments, has either passed without animadversion, or has been commended. They did the same with the estates of some of the hospitals, but though such exertions have raised their revenue to 6,100,000 ducats (1,054,000*l.*) yet they have found their affairs in such a situation, from bad management, that they have been obliged to sell the offices, which were in better times granted to merit; and committed a sort of bankruptcy, by reducing the interest of their old debts from 5 to 3 per cent. Their credit is at so low an ebb, that no longer ago than last June, they opened a subscription to fund 700,000 ducats, and notwithstanding every art, could procure no more than about 300,000. Instead of their famous chain, which marked the wisdom of their œconomy, their treasury is without a sol: and to shew the apprehensions they have of provinces under their dominion throwing off their yoke, if they are at a small distance from the seat of government, the state makes a distinction in the political treatment of the Bergamasque and Brescian territories, from those nearer to Venice, in respect to privileges, punishment, taxes, &c. No favourable feature of their government; and which shews that they think the people made for their city.

Perhaps, in the system of their finances, there is no circumstance that shews a decline of the real principles of their government, more than that of putting contraventions of the tobacco farm under the controul of the state inquisitors; which must have been done since M. de la Lande's second edition, as he mentions expressly their having nothing to do with the finances.\* A conduct utterly ridiculous, in a state that once conducted itself with so much dignity.

Even in the delicate article of imparting the privileges of the aristocracy, to the nobility of Terra Firma, by whom they are in general detested, they have exhibited no doubtful symptoms of weakness and want of policy. Reputation has been for many years the great support of their government: to manifest therefore such a want of policy, as strikes the most careless eye, is to suffer in the tenderest point. In 1774, they offered gratis, a seat in the consiglio maggiore, to forty families, their subjects, who possessed 1200*l.* a year in land; provided there were four degrees of nobility, on the side of both husband and wife. Great numbers of families were eligible, but not ten in the whole would agree to the proposal. To offer a share in the legislaturc of so celebrated a republic, which in past periods would have been sought for with singular avidity, and to suffer the mortification of a refusal, was exhibiting a sign of internal weakness, and of want of judgment, adapted to reduce the reputation of their policy to nothing. The motives for the refusal are obvious: these families must of course remove to Venice; that is, to go from a city where they were old and respected, to another where they would be new and despised. Their estates also would not only suffer from their absence, but would be subject to new entails, and held by other tenures; no mortgage of them is allowable; and they are subject to peculiar laws of inheritance. In addition to these disadvantages, they are cut off from serving foreign princes; whereas the nobility of Terra Firma engage in such service. The emperor's ambassador at Turin, is a subject of Venice; and one of the Pellegrini family, a field marshal in his army. Nor did the noblemen of Terra Firma refuse the favour for these reasons alone; they dreaded the power which the state exerts over the noble Venetians, in sending them upon expensive embassies, in which they must spend the whole of their income, and, if that be not sufficient, contract debts to support themselves; for these reasons, and many others mentioned to me, which I did not equally understand, the government might have known before they made the offer, that it would subject them to the disgrace of a refusal. Long before the period in question, considerable additions had been made to nobles of Venice, from the Terra Firma, but these honours were paid for; the price 17,000*l.* sterling; 7000*l.* in cash, and 10,000*l.* lent to the state in perpetuity.

It is a curious circumstance, which marks undecceivingly the general features of the Venetian government, that about forty years ago, as well as at other periods, there were negotiations between the court of Vienna and the Venetians, relative to an exchange of territory; the district of Crema was to have been given by Venice, for a part of the Chiara d'Adda; the rumour of which filled the people of the latter with the greatest apprehensions; they felt even a terror, at the idea of being transferred to the government of Venice; knowing, certainly, from their vicinity, that the change would be for the worse. This ascertains the comparative merit of two governments, that one is less bad than the other.

Upon the whole it may be remarked, that the wisdom of the Venetian government flows entirely from its interior organization, which is admirably formed; but abuses, in spite of this, have multiplied so much, that the first real shock that happens will overturn

\* Voyage en Italie, tom. vii. p. 7.

it. The fall of a government, however, which has subsisted with great reputation so much longer than any other existing at present, ought to be esteemed a great political loss, since the establishment of new systems is not at present wanted for the benefit of mankind, so much as the improvement of old ones; and if by any amelioration of the Venetian aristocracy, the benefit of the common people could be better secured, it might yet last in enlightened ages, as well as through those of darkness and ignorance.

**BOLOGNA....** The government of the church, though in so many respects considered as one of the worst in Europe, ought, not to be condemned too generally, for some discrimination should be used. Thus in point of taxation, there are few countries that have less to complain of than this, as I have shown in the proper place; and another circumstance was mentioned to me here, which proves that it is not the pope's fault that it is not better—His holiness was ready to abolish all fetes, confining them to Sunday; and made the offer to the senate of Bologna, if they would apply to him for the purpose; great debates ensued in that body, and it was determined not to make the application.

**TUSCANY....** The government of the grand duke is, as every one knows, absolute; it admits therefore of no other discrimination, than what results from the personal character of the prince. The circumstances I noted, during my residence at Florence, will shew that few sovereigns have deserved better of their subjects than Leopold: the details, however, which I shall enter into, will be very slight, not that the subject wants importance, but because many other books contain large accounts of this period; and especially the collection of his \* laws, of which I wish to see a complete English translation, for the use of our legislators. The encouragements which this wise and benevolent sovereign has given to his subjects, are of various descriptions; to class them with any degree of regularity, would be to abridge that collection; a few that bear more or less upon agriculture, I shall mention.

1. He has abolished tythes, which will be explained more at large, under the proper head.

2. He has established an absolute freedom in the trade of corn.

3. He has for many years contributed one-fourth part of the expence of buildings, in the Val de Nievole, and the lower province of Siena.

4. He has this year made the culture of tobacco free, and engaged to buy all that is raised at 16s. the pound.

5. He has extinguished the national debt of Tuscany, which had existed from the time of the republic; for it deserves noting (in order for some future historian † of the modern ages, to mark the fact that the richest people run in debt the most) that the republic of Florence was one of the most commercial and rich in Europe. Two evils attended this debt, which the grand duke bent his operations to remove; first, three or four millions of it were due to foreigners, particularly to the Genoese, which carried much money out of Tuscany; and, secondly, there were distinct bureaux of collection and payment, for transacting the business of these debts. To remedy this double mischief, he first bought up all that part of the debt due to strangers, which he effected by

\* Collezione di Leggi, octavo, 10 vols. Siena.

† There is no work in the whole range of literature, more wanted than a Modern History of Europe, written philosophically; that is to say, with due attention to the progress of arts, sciences, and government; and with none paid to wars, battles, sieges, intrigues, generals, heroes, and cut throats, more than briefly to condemn them: in such a work, the circumstance of the richest countries in Europe, having plunged themselves the deepest and most ruinously in debts, to support wars of commerce and ambition, should be particularly explained and condemned.

the operation of a steady and wise œconomy ; he then called on the Tuscan creditors to liquidate their debts, in the ratio of 3 per cent. ; those who had money did it ; and to those who had none, he lent the necessary sums : by this method, the distinct receipt and payment were abolished ; the accounts were melted into the land-tax ; and a number of revenue officers, &c. were reformed : nine or ten millions of crowns were thus extinguished.

6. He has abolished all rights of commonage throughout his dominions, and given the powers of an universal inclosure.

7. He has sold a considerable portion of the estates belonging to the sovereign, which has occasioned a great increase of cultivation, and the settlement in his dominions of many rich foreigners.\*

8. In levying taxes, he has abolished all the distinctions of noble, ignoble, and ecclesiastical tenures ; and all exemptions are set aside.

9. He has built a magnificent lazaretto at Leghorn, and spent three millions on roads ; but it would be entering too much into detail to specify his works of this sort ; they are numerous.

The effects of such an enlightened system of government have been great ; general assertions will not describe them so satisfactorily to a reader as particular instances. Sig. Paoletti, who has been cure of the parish of Villamagna forty-three years, assured me, that the forty farms, of which it consists, have risen in their value full 2000 scudi each in that time, which is about cent per cent. of their former value ; this great improvement has been chiefly wrought of late years, and especially in the last ten. It highly merits notice, that the countries in Europe, whose whole attention has been given exclusively to their commerce and manufactures, and particularly England, where the commercial system has been more relied on than in any other country, have experienced nothing equal to this case of Tuscany, the government of which has proceeded on a principle directly contrary, and given its encouragement immediately to agriculture, and circuitously to manufactures. In the tours I made through England, twenty years ago, I found land selling on an average at thirty-two and a half years purchase ; it sells at present at no more than twenty-eight. While Tuscany therefore has been adding immensely to the money value of her soil, without trade and without manufactures (comparatively speaking to those of England) we have in the same period, with an immense increase of trade, been losing in our land. This fact, which is unquestionably true, is a curious circumstance for political analysis : it proves something wrong in our system. Population in Villamagna has augmented about a seventh, in the same period.

I shall not quit this article, without giving the preference decidedly to Leopold, grand duke of Tuscany, as the wisest of the princes, whose power admits a comparison in the age in which he lives : those are mean spirits, or something worse, that will hesitate a moment between him and Frederick of Prussia : a sovereign no more to be compared to him, than the destroyers and tyrants of mankind are to be placed in competition with their greatest benefactors.†

\* By the general regulations for the district of Florence, May 23, 1774, cap. 35, it is ordered that all the landed property of the communities, kept in administration, or let, shall be sold or let on long lease. Paoletti, p. 85.

† The conduct of this prince in his new situation, to which he acceded at a most critical and dangerous moment, has been worthy of his preceding reputation, and has set a stamp on the rank in which I have supposed him. A few years more added to the life of Joseph, would have shivered the Austrian monarchy to nothing ; Leopold has, by his wise and prudent management, every where preserved it.

MODENA....In an age in which the sovereigns of Europe are incumbered, and some of them ruined by debts, a contrary conduct deserves considerable attention. The duke of Modena, for ten years past, has practised a very wise œconomy: he is supposed, on good authority, to have saved about a million of zechins (475,000*l.*) and he continues to save in the same proportion. This is a very singular circumstance, and the effect of it is observable; for I was assured at Modena, that this treasure was much greater than the whole circulating currency of the dutchy: and they spoke of it as a very mischievous thing, to withdraw from circulation and use, so considerable a sum, occasioning prices generally to rise, and every thing to be dear. By repeated inquiries, I found this dear-ness was nothing more than what is found in the states around, which have all experienced, more or less, a considerable rise of prices in ten years. But how could withdrawing money from circulation raise prices? It ought on the contrary, in a country that has no paper-money, to lower them. That this effect did not follow, we may easily conclude from these complaints. But the very persons who complained of this treasure could not assert that money was more wanted in the dutchy than before it was begun to be saved. They even gave a proof to the contrary, by affirming the rate of interest to be at present  $4\frac{1}{2}$  per cent. only. Upon the whole, the effect is evidently harmless; and it is a most curious fact in politics, that a government can gradually draw from circulation a sum that in ten years exceeded the current coin of the state, without causing an apparent deficiency in the currency, or any inconveniency whatever. Conclusions of infinite importance are to be drawn from such a fact; it seems to prove, that the general modern policy of contracting public debts, is absurd and ruinous in the extreme; as saving in the time of peace is clearly without any of those inconveniences which were once supposed to attend it; and by means of forming a treasure, a nation doubles her nominal wealth, that sort of wealth which is real or imaginary, according to the use that is made of it. The reputation, preventing attacks, is perhaps the greatest of all. How contrary to the funding system, which carries in its nature, such a probability of present weakness, and such a certainty of future ruin!

PARMA....The river from Parma to the Po has been surveyed, and might be made navigable for about 25,000*l.* sterling; but to the honour of the government which has been diffused through so many countries by the house of Bourbon, no such undertaking can here be thought of. Don Philip's history, it is to be hoped, will be written by some pen that can teach mankind, from such an instance, of what stuff men are sometimes made, whom birth elevates to power. The present duke spends too much money upon monks, to have any to spare for navigation.

PIEDMONT....The house of Savoy has, for some centuries, possessed the reputation of governing their dominions with singular ability; and of making so dexterous a use of events, as to have been continually aggrandizing their territory. The late king was among the wisest princes of his family, and shewed his talents for government in the practice of an enlightened and steady œconomy: it deserves no slight attention among the princes of Europe, in the present ferment of men's minds, whether there be any other criterion of a wise government. The late king of Sardinia saved 12,000,000 livres; paid off a great debt; repaired all his fortresses; adorned his palaces; and built one of the most splendid theatres in Europe; all by the force of œconomy. The contrast of the present reign is striking; his present majesty found himself in possession of the treasure of his predecessor. He sold the property of the jesuits, to the amount of 20,000,000 livres; he has raised 7 or 8,000,000 livres by the creation of paper-money; thus, without noticing the portions of the queen and the princess of Piedmont, he has received 40,000,000 livres extraordinary (2,000,000*l.* sterling :) all of which has been

lavished, and a debt contracted and increasing; the fortifications not in good repair; and report says, that his army is neither well paid, nor well disciplined. These features are not to be mistaken; the king, though free from the vices which degrade so many princes, and possessing many amiable virtues, is of too easy a disposition, which exposes him to situations, in which œconomy is sacrificed to feelings; amiable for private life, but inconsistent with the severity of a monarch's duty.

It is a most curious circumstance in the king of Sardinia's government, that there is in this court a great desire to sell the island of Sardinia. A treaty was opened with the empress of Russia for that purpose, after she was disappointed in her negotiation with the Genoese, in the projected acquisition of Spazzie, and of Malta: but in all these schemes of a Mediterranean establishment, she was disappointed by the vigorous and decisive interference of the courts of Versailles and Madrid. One cannot have any hesitation in the opinion, that to improve this island, by means of a good government, would be more political than so strange a measure as its sale.\*

\* It may not here be useless to the reader, if I note some minutes taken at Turin concerning that island, one of the most neglected spots in Europe, and which, of course, betrays the effects of a vicious system of government sufficiently, for conclusions of some importance to be drawn. The marshes are so numerous and extensive, that the intemperia is every where found; the mountains numerous and high; and wastes found so generally, that the whole isle may be considered as such, with spots only cultivated. Estates in the hands of absentees are large, the rents consequently sent away, and the people left to the mercy of rapacious managers. The duke of Assinaria has 300,000 livres a year: the duke of St. Piera 160,000 livres: the marquis of Pascha as much; and many live in Spain. M. de Girah, a grandee, has an estate of two days journey, from Poula to Oleastre. The peasants in a miserable situation; their cabins wretched hovels, without either windows or chimnies; their cattle have nothing to eat in winter, but browsing in woods, for there are no wolves. The number of wild ducks incredible. Shooting them was the chief amusement of an officer, who was nine years in the island, and who gave me this account. Provisions cheap; bread, 1s. the pound; beef, 2s.; mutton, 2½s.; a load of wood, of ten quintals, 4s. 9d. sterling. Wheat is the only export; in this grain the lands are naturally fertile, yielding commonly seven or eight for one, and some even forty. No silk; and oil, worse than easy to conceive. They have some wine almost as good as Malaga, and not unlike it. The great want of the island is that of water: springs are scarce, and the few rivers are in low bottoms. To these particulars I shall add a few from Gemelli.

Sardinia is a real desert, for the most part; and where cultivated, it is in the most wretched manner: every thing consumed in the island (except the immediate food of the day) is imported, even their flax \* and wood, from Corsica and Tuscany; the miserable inhabitants know not even the art of making hay; their crops are destroyed by wild animals, for the very notion of an inclosure is unknown. Leases are annual.† The tunny fishery produces from abroad 60,000 scudi.‡

They have no mules; and the cities, as they are called, have been supplied with corn from abroad; with plenty in the island, which could not be brought for want of mules to convey it; insomuch that a fourth part of the corn has been offered as a payment, for carrying the other three parts to the towns, and not accepted.§

In 1750, there were about 360,000 souls in Sardinia; in 1773, they were 421,597; so that in twenty-three years the increase was 61,597; occasioned by an institution called Monti Frumentarii, which furnishes seed on credit to the poor farmers, who cannot afford to buy it.|| Cattle in the island, in 1771; cows, &c. 1,710,259; oxen for work, horses, mares, and calves bred for work, 185,266.¶

Working oxen, - - - - -	97,753
Cows in half, - - - - -	13,099
Calves, ammansite, - - - - -	8,080
Horses and mares, - - - - -	66,334
Hogs, - - - - -	152,471
Oxen and calves, rudi, - - - - -	58,770
	<hr/>
Carried over,	396,507

\* Rifiorimento Dulla Sardegna Gemelli, 4to. vol. i. p. 50.

† Ibid. p. 2.

‡ Ibid. p. 54.

§ Ibid. p. 5.

|| Ibid. p. 46.

¶ Ibid. p. 35c.

I shall not quit the subject of Italian governments without remarking, that such deserts as Sardinia, under a despotic monarch, and Istria under a despotic aristocracy, are to be classed among political lessons. The tendency and result of such cases are sufficient to shew the principles of government: the leaders should speedily correct the neglect of such systems. When people are well governed, things cannot be thus. The wisdom applicable to the present moment is to watch the colour and spirit of the age; to compound, and to yield, where yielding is rational.

ACADEMIES.... There is an Agrarian society at Turin, which has published four volumes of papers: a patriotic society at Milan, which has published two volumes; neither of these societies hath any land for trying experiments. At Bergamo, Brescia, and Verona, there are also societies without land. At Vicenza, the republic has given four campi for the purpose of experiments. At Padua, I viewed the experimental garden, of about a dozen acres, under the direction of Sig. Pietro Arduino; the expence of which is also paid by the state. At Florence, a similar one, under the conduct of Sig. Zucchini; this was in good order.

Venice.... Perhaps no country ever had a wiser plan of conduct than the Venetians, in appointing a gentleman supposed, from his writings, to be well skilled in agriculture (Sig. Arduino) to travel over all their dominions, to make inquiries into the state of agriculture, its deficiencies, and practicable improvements; and the idea was, that the academies of agriculture, in all the great towns of the republic, would have orders to take such steps to effect the improvements as would most conduce to national prosperity. The plan was admirable; all, however, depends on the execution; as far as the academies are concerned, I should expect it to fail, for none of them are established upon principles that will allow us to suppose their members skilled in practical husbandry; and without this, their ideas and their experiments would of course be visionary.

	Brought over,	396,507
Cows and cow-calves, rudi,	- - - - -	166,468
Goats,	- - - - -	378,201
He-goats,	- - - - -	42,597
Sheep,	- - - - -	768,250
Rams and wethers,*	- - - - -	143,502
		<hr/>
		1,895,525

The miserable state of this island will best appear from calculating the number of acres. Templeman tells us, that it contains 6,600 square miles. England he makes 49,450; the real contents of which, in acres, are 46,915,933; Sardinia, in the same ratio, contains 6,261,782; the number of goats and sheep in the island is 1,332,550; there is, therefore, about one sheep or goat to every five acres. Without viewing the island, I will venture to pronounce that it would, without cultivation, support a sheep per acre; above six millions; and reckoning the fleeces at 3s. 4d. each, the wool only would produce one million sterling a year. It is said, the king of Sardinia offered to sell the island to the empress of Russia for a million sterling. The purchaser of it would have a noble estate at twice that price, seeing the immense improvements of which it is capable. The fee-simple of most of the estates are to be purchased at a very easy rate, as well as the sovereignty. The climate would admit of wool, as fine as the Spanish; if it were made into an immense sheep-walk, with culture only proportioned to their winter support, it would yield an exportable produce of full two millions sterling annually.

Gemelli mentions the island being capable of producing as fine wool as Spain; they rear them only for supplying their tables with lambs and cheese; and to have skins for dressing the people; and no attention whatever is paid to the quality of the wool, which is good for nothing but to make the Sardinian serges.

\* Gemelli, tom. ii. p. 148.



It will not perhaps be improper to remark, under this head, that there is at Venice an institution appointed by the state, which, though not an academy, has much the same object, but with more authority, called the Beni Inculti. Their origin was about 1556, and in 1768 they added the Deputati di Agricoltura. I was informed, that they had once great power, and did much good, but that now there lies an appeal from their tribunal to the council of forty, which is attended with a considerable expence, and has done mischief.

## SECT. II...OF TAXATION.

**PIEDMONT....Chentale....**The land-tax near the town is 6 livres, or 7 livres per giornata per annum, on such land as sells at 800 livres to 1000 livres; which may be called about one-sixth of the rent, supposing land to pay five per cent. The landlord, of course, pays his own capitation of 1 livre for himself, and every one in family; and the tenant pays as much for his family, being more than seven years old. But what is abundantly worse, he pays 25s. a head for each cow, and 50s. for each ox. Salt is a monopoly: the ratio per head is eight pounds for every one in family, after five years old; four pounds for each ox and cow; and one pound for each sheep and goat; and one pound more per cow for those that give milk: the price, 4s. the pound.

**Turin....**No capitation in Turin. The entrees are 8s. the brenta, fifty bottles of wine; 4 den. per pound meat. Salt, 4s. the pound. Hay, 1s. the rubbio, to the Hotel de Ville, for lighting the city. No taxes except the entrees. The land-tax in common is 4 livres the giornata. Salt, eight pounds each ox or cow, and four pounds each goat, sheep, or calf, at 4s. and if they want more, the rest 2s. the pound: also eight pounds per head of the family. Capitation in the country, 1 livre per head, for all above seven years.

THE FOLLOWING IS A CORRECT DETAIL OF THE REVENUE OF THE KING OF SARDINIA, WHICH IN 1675 AMOUNTED ONLY TO 7,000,000 LIVRES (306,250l.)

	Livres.
Customs, excise and salt, - - - -	14,000,000
Land-tax, which is between seven and eight per cent. - - - -	6,000,000
Since 1781, the clergy their thirds of the land-tax, - - - -	500,000
Addition to the land-tax, for the Nice road, - - - -	100,000
Contribution of the Jews, - - - -	15,700
Sale of demesne lands falling into the crown, - - - -	800,000
Fees in the courts of justice, - - - -	110,000
Salt in the provinces of Alexandria and Novara, - - - -	65,460
Enrollment of all public acts and contracts, - - - -	276,100
Post-office, - - - -	300,000
Lotteries, royal powder works, glass-houses, mines, salines, &c. about	3,000,000
Total, exclusive of the last article, - - - -	<u>*22,167,260</u>
Sterling - - - -	<u>£.1,158,813</u>

\* The following is another account: Sale, - - - 3,504,233 livres.  
 Tobacco, - - - 2,415,297  
 Dogana, - - - 2,377,673  
 Carried forward, 8,297,203

## EXPENDITURE.

Interest of the public debt,	-	-	-	-	-	*4,738,840
Army,	-	-	-	-	-	†10,700,000
Ordinance,	-	-	-	-	-	359,044
Fortifications, royal houses, and public buildings,	-	-	-	-	-	1,458,998
Household,	-	-	-	-	-	2,500,000
Collection of the revenue,	-	-	-	-	-	3,572,398
King's privy pursc,	-	-	-	-	-	711,425
						<hr/> 24,040,705

Sterling,     £.1,202,035

If, as calculated, there are two thousand eight hundred and eighty-two square French leagues in the king's continental dominions, the revenue amounts to 10,920 livres per league; and as the population is three millions, it is 8 livres 2½s. per head. Savoy produces 2,432,137 livres; Piedmont, 11,444,578 livres; and the provinces acquired by the treaties of Worms and Vienna, 1,972,735 livres.

MILANESE....*Milan*....One livre on the manufacture of each hat; duty of 7½s. per pound on the export of silk. There are entrees at the gates of Milan upon most commodities. Wine pays 42s. the brenta, of ninety-six boccali, of twenty-eight ounces, or something under a common bottle. Salt in the city is 12s. the pound, and 11½s. in the country. No person is obliged to take more than they think proper.

Brought forward,	-	-	-	-	-	8,297,203
Carne,	-	-	-	-	-	1,240,230
Carta bollata,	-	-	-	-	-	249,103
Polveri,	-	-	-	-	-	215,788
Contravenzioni,	-	-	-	-	-	22,340
Gabella gioochi,	-	-	-	-	-	137,389
Reggio lotto del seminario,	-	-	-	-	-	388,487
Gran cancellaria,	-	-	-	-	-	162,537
Dritti insinuazione,	-	-	-	-	-	44,647
Regie poste,	-	-	-	-	-	394,214
Domaniali,	-	-	-	-	-	442,884
Casuali,	-	-	-	-	-	1,449,548

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13,044,370

Sardinia, in 1783, produced 1,318,519 livres; the population 450,000 souls.

\* The debt amounts to 58,000,000 livres, originally at four, now at three and a half per cent. and the fund is above par. There are 17,000,000 of bank notes, which at first bore four per cent. then two, and now none.

† Guards,	-	-	-	-	-	1,397
Fifteen regiments of the line,	-	-	-	-	-	17,784
Twelve regiments of militia,	-	-	-	-	-	7,200
Legion,	-	-	-	-	-	1,718
						<hr/> 28,099
Invalids,	-	-	-	-	-	2,400
Sundries,	-	-	-	-	-	1,141
						<hr/> 31,640
Infantry,	-	-	-	-	-	3,289
Cavalry and dragoons,	-	-	-	-	-	
						<hr/> 34,929
Of which foreigners,	-	-	-	-	-	7,536

*Mozzatta*... The land-tax throughout the Milanese is laid by a cadastre, called here the censimento; there was a map and an actual survey of every man's property taken parochially, and a copy of the map left with the community of every parish. It was finished in 1760, after forty years labour, under the empress Maria Theresa. The lands were all valued, and the tax laid at 26 deniers; 1s. 6 deniers per ecu, of the fee simple. There is at Milan itself, as well as in the accounts of travellers, strange contradictions and errors about this tax; as soon as I arrived I was told, even by very sensible men, that it amounted to full fifty per cent. of the produce. Mons. de la Lande, in his *Voyage en Italie*, tom. i. p. 291, second edition, says, that it is one-third of the revenue, or half the produit net; this is the confusion of the œconomistes, with that jargon which seems to have enveloped the plainest objects in a mist; for one-third of the revenue is not half the produit net. Mons. Roland de la Platerie asserts, that it exceeds the half of the revenue net; but all these accounts are gross errors. The instruction of the commissaries originally, who valued the country, was to estimate it below the truth; of which these gentlemen seem to have known nothing. Nor do they take into their consideration the improvements which have been made in near thirty years; for the censimento remains as it was, no alteration having been made in the valuation; when they talk therefore of fifty per cent. or a third, or any other proportion, they must of necessity be incorrect, for no one knows the value of the whole dutchy at present: nor can tell whether the tax be the fifth or the tenth, or what real proportion it bears to the income. When I found the subject involved in such confusion by preceding travellers, I saw clearly that the way to come at truth was to inquire in the country, and not depend on the general assertions so common in great cities. At this place (*Mozzatta*) therefore, I analysed the tax, and by gaining a clear comprehension of the value, rent, produce, and tax of one hundred pertiche, was enabled to acquire a fair notion of the subject. Under the chapter of arable products, I have stated that one hundred pertiche yield a gross produce, in corn, wine, and silk, of 1836 livres; of which the proprietor receives for his share 785 livres. This land would sell for  $128\frac{1}{3}$  livres per pertica; or 12,833 livres for the hundred. Now this hundred pertiche, of such a rent and value pays censimento  $15\frac{1}{2}$ s. per pertica, or 77 livres. This tax is paid by the farmer in the above-mentioned division; but if there were no tax, the landlord would receive so much more as his portion; add therefore the tax, 77 livres, to his receipt, 785 livres, and you have 862 livres for the sum which pays 77 livres; which is  $8\frac{3}{8}\frac{1}{2}$ , or 8l. 18s. per cent. or 1s. 9d. in the pound. So utterly mistaken are the people of Milan, and the French travellers, when they talk of fifty per cent. and one-third, and one-half, the produit net and revenue net! And it is farther to be considered, that only half this payment of 77 livres goes to the sovereign; for half is retained by the communities for roads, bridges, and other parochial charges; and in some cases, the partial support of cures is included. When this happens, the payment of 1s. 9d. in the pound is in lieu of our land-tax, tythe, and poor rate; three articles, which in England amount to 8s. or 10s. in the pound. But though the burthen is nothing, compared with those which crush us in England, yet 1s. 9d. is too heavy a land-tax, it is throwing too great a burthen upon the landed property, and lessening too much the profit which should arise from investing capitals in it; for it must be remarked, that this proportion is that of the improvements included; this 1s. 9d. might probably, twenty-five years ago, be 3s. or 3s. 6d.: it is improvements which have lowered it to 1s. 9d. at the present moment; those silent and gradual improvements, which take place from what may be termed external causes, from the growing prosperity, and rise of prices in Europe in general. Were 8 $\frac{3}{8}$  per cent. to be laid on new investments, not one livre would be invested. Lands belonging to ecclesiastics and hospitals are exempted.

It must be sufficiently apparent, that this censimento must vary in every parish in the dukedom; it varies proportionably to the variation in the accuracy of the original valuation, and to the improvements that have been made, and to many other circumstances. As it is at present, the land-owners are well satisfied, for the tax, though too heavy, is certainly not enormous; and it gives an accuracy and security to property that is of no slight value, as all mutations are made in reference to the parochial map of the censimento. They very properly consider any alteration in it as a certain step to the ruin of the Milanese. It has been reported that the emperor has entertained thoughts of having a new valuation; but the confusion and mischief that would flow from such a scheme might go much farther than the court could imagine, and might be attended with unforeseen consequences. In these opinions they are certainly right; for of all the curses that a country can experience, a variable land-tax is perhaps the heaviest.

Beside the direct land-tax of the censimento there is a capitation that is included in the roll, like the custom in England, of putting several taxes into one duplicate or assessment. On fifteen thousand one hundred and seventy-three pertiche of land, at Mozzatta, there are three hundred and eighty-two heads payable, and one thousand three hundred souls. It may be calculated, that one hundred pertiche pay the capitation of three persons, or  $22\frac{1}{2}$  livres.

*Codogno*....The watered dairy lands, taken in general, sell here at 300 livres the pertica; and lets, net rent, at 10 livres, the tenant paying all the taxes. The account is thus:

Rent to landlord,	-	-	-	-	-	-	-	10	0	s.
Water-tax for distribution,	-	-	-	-	-	-	-	1	0	
Censimento to the prince and the community,	-	-	-	-	-	-	-	2	5	
								<hr/>	<hr/>	
								13	5	
								<hr/>	<hr/>	

The 1 livre we must throw out, being local, and then 12 livres 5s. pays 2 livres 5s. which is  $18\frac{9}{245}$  per cent. or 3s. 8d. in the pound; this is therefore doubly higher than in the poor country of Mozzatta; one would suppose beforehand that the case would be so. The improvements in the Lodizan are not modern; probably there are no other but such as are common to the whole dutchy, and which arise from the general prosperity of Europe, rather than from any local efforts in this district; but in much poorer countries, the improvement of waste spots, and a husbandry gradually better, are more likely to have this effect; the fact, however, is so; there was no such difference as this, when the censimento was laid, which sufficiently proves that the husbandry of the poor districts has advanced much more in thirty years, than that of the rich ones, which once well watered admitted of little more. We may remark that even here the accounts which Messrs. de la Lande and Roland de la Platerie have given, are gross exaggerations.

*Treviglio*....Upon four hundred pertiche of land and six houses, the censimento amounts to 430 livres. Rent, 7, 9, and 12 livres the pertica, average 8 livres, or 3440 livres, about 12 per cent. or 2s. 4d. in the pound.

Upon the land-tax in general in the Milanese, I should observe, before I quit that country, that in 1765 it was calculated \* that the dutchy of Milan contained fourteen

\* Bilancio della Stato di Milano presentato a S. E. Conte di Firmian, duodecimo.

millions of pertiche, and that lakes, roads, &c. deducted, there remained eleven millions three hundred and sixty-seven thousand, two hundred and eighty-seven, of which, five millions ninety-eight thousand seven hundred and fifty-eight were arable. It has been further stated,\* that the censimento of the dutchy, raised,

	liv.	s.	den.
For the emperor, - - - - -	5,106,004	11	9
Suppose as much more for the communities, - -	5,106,004	11	9
	<hr/>		
	10,212,009	3	6
	<hr/>		

Eleven millions of pertiche, paying ten millions of livres, is about 18 soldi per pertica.†

In the Epilogo della Scrittura Censuaria della Lombardia Austriaca, MS. sent by count Wilizck, prime minister of the Milanese, to the Board of Agriculture at London, the general valuation of the territory, in the censimento, is thus stated:

Milano, - - - - -	40,139,042 scudi.
Mantova, - - - - -	14,487,423
Pavia, - - - - -	6,173,740
Cremona, - - - - -	15,112,042
Lodi, - - - - -	11,014,562
Como, - - - - -	2,153,626
	<hr/>
Value of the fee simple, -	89,081,337
	<hr/>

If therefore the tax produces but about ten millions of livres, it is not more than 2 per cent. on the above capital.

STATE OF VENICE....*Brescia*....The land-tax amounts to 1½ livres per jugero, about 7d. the English acre; but there is a tax on all products, viz. wheat and rye pays the soma or sacco, equal to two stara of Venice, or eighty-eight pounds; 11½ soldi equal to 18 soldi correnti; this tax (senza portata in Villa) is about 5d. English the bushel. Millet, maize, &c. pays 12 soldi the sacco, or of about 3½d. the English bushel. Hay, the carro of one hundred pezc, pays 12s. 3¼ den. or about 6d. a ton English.

*Verona*....Meadows, throughout the Veronese state, pay a tax of hay to the cavalry; furnishing it at a lower price than the common one. The land-tax here, 24s. for each campo, or about 10d. the English acre; besides which, there are entrees (dazio) for municipal charges on all products, amounting to about 2 per cent. of the value; also others payable to the state. Hay pays 24s. the carro: the sack of wheat, 10s.: of maize, 1½s. There is a most mischievous tax on cattle; a pair of oxen pays half a zecchin per annum; cows something less; and sheep also pay a certain tax per head.

*Vicenza*....Salt is 6s. the pound; flesh, 3s. entree (dazio:) a sack of wheat, 4½s.: of flour, of one hundred and eighty pounds, 3 livres 2s.: and every thing that comes

\* Delle Opere del Conte Carli, tom, i. p. 232.

† Upon the taxes of the Milanese, it should in general be noted, that every father with twelve children living, or eleven living and his wife with child of a twelfth, is exempted from all personal taxes; and upon all others favoured 45 per cent. that is to say, on all royal, provincial, and municipal imposts. Delle Opere de S. Conte Carli, octavo, tom. i. p. 254.

in pays. Land-tax, 2 livres the campo : and a poll-tax of two livres a head, on all above seven years old.

*Padua*....The land-tax, 20s. the campo ; and 10s. or 15s. for the expences on rivers ; but this tax uncertain.

*Venice*....No tax on cattle in the Polesine. The land-tax on all the Terra Firma ; arable, 2 livres the campo : meadow, 1 livre 10s. ; woods, 10s. The sale of meat in the city is a monopoly, no other persons but those appointed being allowed to sell. Entrees are paid on every thing that comes in ; on wine it is heavy. Tobacco is a monopoly, at a heavy price, reserved by the state throughout all the Venetian territory, producing 50,000 ducats a month, and guarded by the same infamous severities, that are found in other despotic countries. Salt the same. Inheritances, except from a father, pay 5 per cent. on the capital ; a woman pays this cruel imposition, even upon her receipt from a father, or a husband. Infamous tyranny ! The city of Venice pays about one-sixth of the whole revenue.

*ECCLESIASTICAL STATE*....*Bologna*....Taxation at Bologna is one of the most remarkable circumstances I met in Italy. I had often read, and had been generally given to understand, that the government of the church was the worst to be found in Italy ; what it may be in the Roman state I know not, but in the Bolognese it is amongst the lightest to be found in Europe. There are four objects of taxation : 1. The Pope. 2. The municipal government of the city. 3. The schools in the university. 4. The banks, &c. of the rivers, against inundations. Of all these, there is some reason to believe that the Pope receives the least share. The common land-tax is only 2 baiocchi the tornatura ; this is about 2d. the English acre. Lands subject to inundations, pay 5 baiocchi more. Among the imposts levied in the city, wine only, and a few trifles, belong to his holiness. Salt, fish, meat, cocoons (for there is a small duty upon them) and grinding corn, these are municipal ; and among the heaviest articles of the cities' expence, is the interest of about a million sterling of debt. In general, the revenue of the dogana, or custom-house, is applied towards supporting the lectures in the public schools, and the botanical garden. There is a light capitation, which is paid in the country, as well as in the city. Upon the whole the amount of the taxes of every kind is so inconsiderable, that the weight is felt by nobody, and was esteemed to be exceedingly light by every person I conversed with.

*TUSCANY*....*Florence*....Every circumstance concerning taxation, in the dominions of the most enlightened prince in Europe, must necessarily be interesting. If the reader is at all conversant with the works of the œconomistes, with which France was so deluged some years ago, he will know, that when they were refuted in argument, upon the theory of a universal land-tax to absorb all others, they appealed to practice, and cited the example of Tuscany, in which dominion their plan was executed. I was eager to know the result ; the detail I shall give, imperfect as it is, will shew on what sort of foundations those gentlemen built, when they quitted the fields of speculation and idea. I was not idle in making inquiries ; but the grand duke has made so many changes, no year passing without some, and all of them wise and benevolent, that to attain an accurate knowledge is not so easy a business as some persons may be inclined to think. The following particulars I offer, as little more than hints to instigate other travellers, whose longer residence gives them better opportunities, to examine a subject of so much importance to the bottom.

The estimation on which the present land-tax is collected is so old as 1394 ; of course it can be no proportion with the value or with the produce of the land ; whatever improvements are made, the tax remains the same ; much of it has been bought off in

payments made by proprietors, who have paid at different periods certain sums, to be exempted for ever from this tax ; a singular circumstance, and which marks no inconsiderable degree of confidence in the government. That part of this tax which is paid to the communities for roads, &c. is not thus redeemable ; and, without any breach of faith, the tax has received additions ; it amounts to more than one-tenth of the net rent. A capitation from  $1\frac{1}{2}$  livre to 4 livres per head (the livre is  $8\frac{1}{2}$ d. English.) Every body pays this tax in the country, except children under three years of age ; and all towns, except Florence, Pisa, Siena, and Leghorn, which are exempted, because they pay entrees. Nothing is paid on cattle. Butchers in the country pay a tax of 1s. per pound (something under  $\frac{1}{2}$ d. per pound English ;) in a district of seven miles long by four or five broad, the butcher pays 500 scudi per annum to the prince ; as this tax implies a monopoly, it is so far a mischievous one ; and even a countryman cannot kill his own hog without paying 5 livres or 6 livres if sold. Bakers pay none. Customs on imports, and some on exports, are paid at all the ports and frontiers ; and the entrees at the above-mentioned towns are on most kinds of merchandisc and objects of consumption. Houses pay a dixme on their rents. Stamped paper is necessary for many transactions. The transfer of land and houses, by sale or collateral succession, pays 7 per cent. and legacies of money and marriage portions the same ; a very heavy and impolitic tax. There is a gabelle upon salt, which however the grand duke sunk six months ago from 4 to 2 gras ; he at the same time made Empoly the only emporium, but as that occasioned much expence of carriage, he augmented the land-tax enough to pay the loss, by selling it to the poor only at 2 gras ; the rich pay the same, but with the addition of carriage. Tobacco was also a revenue, and with salt, paid 1 livre per head on all the population of the dutchy, or one million. The entrees above-mentioned are not inconsiderable ; a calf pays 6 livres ; a hog, 5 livres per one hundred pounds ; grain nothing ; flour, 10 soldi (there are 20 soldi in 1 livre ;) beans, 2s. ; a load of hay, of three thousand pounds, 4 livres ; of straw, under two thousand pounds, 2 livres. Houses are also subjected to an annual tax ; Florence pays 22,000 scudi a year to it : it may be supposed to be levied pretty strictly, as the grand duke ordered all his palaces, the famous gallery, &c. to be valued, and he pays for them to the communities. What a wise and refined policy ; and how contrary to the exemptions known in England ! When the capitation was increased in France, in a bad period, Louis XIV, ordered the Dauphine himself, and all the princes of the blood to be rated to it, that the nobility might not claim exemptions. Lotteries, to my great surprise, I found established here. The domains of the sovereign were considerable. It was always a part of the policy of Leopold, to sell all the farms that could be disposed of advantageously ; he sold many ; but there are yet many not disposed of. I found it a question at Florence, whether this were good policy or not ? A gentleman of considerable ability contended against these sales, judging the possession of land to be a good mode of raising a public revenue. The opinion I think ill founded ; if it be carried to any extent (and if capable of being so, there is an end of the question) the loss by such possessions must be great : every estate is ill managed, and unprofitably, and usually badly cultivated, in proportion to the extent. And when this evil extends to such immense possessions, as are necessary to constitute a public revenue, the inquiry is decided in a moment ; and it must on all hands be agreed, that there cannot be a more expensive mode of supporting the sovereign.

From the preceding catalogue of taxes, which is very far from being complete, it may easily be concluded, that Mons. de la Lande was not perfectly accurate in saying, "Le projet du gouvernement est de reduire toutes les taxes dans la Toscane a un impot unique, qui se percevra sur le produit net des terres." This is the old assertion of the œcono-

mistes ; but if it be the project of government, it is executed in a manner not at all analogous to such a system ; for there is hardly a tax to be met with in Europe, which is not to be found in Tuscany. I was told, however, that the grand duke had formed an opinion, that such a scheme would be beneficial if executed ; but from his conduct, after a reign of twenty years, it is evident that his good sense convinced him that such a plan, whether good or bad in theory, is absolutely impracticable. He may have made it a subject of conversation ; but he was abundantly too prudent to venture on so dangerous, and what would prove so mischievous an experiment.

The grand duke gave to all the communities, the power of taxation for roads, bridges, public schools, reparations of public buildings, salaries of school-masters, &c. Among the long list of taxes, however, there are no excises on manufactures, such as leather, paper, &c.

The whole revenue of the grand duke may be estimated at one million of seudi (5s. 8d. each) paid by about a million of souls, spread over a thousand square miles of territory, or 283,333l. : this is the received opinion at Florence ; but there are reasons for believing it under the truth, and that, if every kind of revenue whatever were fairly brought to account, it would amount to 400,000l. a year. At this sum the Tuscans must be considered amongst the lightest taxed people in Europe ; for they pay but 8s. a head. The people of England pay six times as much.

MODENA.... The common calculation in the Modenese is, that all taxes whatever equal one-fifth of the gross produce of the land ; as the duties are various, such calculations must necessarily be liable to a good deal of error. In the censimento or cadastre of the duchy, estates are valued at the half of their real worth, and the tax is laid at 1 per cent. annual payment of their fee simple ; this amounts to 6s. in the pound land-tax ; but it may be supposed that the real payment does not amount to any thing so enormous as this. It appears by the censimento, that in the plain there are sixty-seven thousand three hundred and seventy-eight pieces of land, and seven hundred and thirty-eight thousand eight hundred and nine biolca. The total revenue of Modena at present amounts to 300,000 zecchini (142,000l.) 200,000 of which go to the duke's treasure, and 100,000 for rivers, roads, bridges, communities, &c. Among the taxes, many are heavy, and complained of ; beside the land-tax above-mentioned, the general farms amount to 55,000 zecchini : all corn must be ground at the duke's mills, and 3 pauls paid for each sack of three hundred pounds, of twelve ounces. There is a gabelle on salt ; it sells white at 22 bol. the pound ; black 8 bol. Snuff is 1 paul the pound. They have stamped paper for many transactions. Every horse pays 20 bol. ; each ox, 10 bol. Sheep and hogs, 4 bol. : and if any person be absent from the state for the term of a year, he pays an absentee tax. Entrees are paid by every thing that comes into the city ; a load of wood, 20 bol. ; a sack of wheat, 3 bol. ; a load of hay, 20 bol. ; of faggots, 20 bol. All meat, 4 bol. the pound. Wine, 14 livres the measure, of twelve poids, each twenty-five pounds, of twelve ounces. Coffee,  $\frac{2}{3}$  paul per pound. The sale, &c. of land, pays 5 per cent.

PARMA.... The revenues of this dukedom are two-thirds of those of Modena. The land-tax is 50s. the biolca (about 9d. an acre.) The peasants pay a capitation ; this varies if they are enrolled or not as soldiers. A man pays 18 livres (each  $2\frac{1}{2}$ d.) per annum, if not a soldier, but  $3\frac{1}{2}$  livres or 4 livres if enrolled. A woman, not the wife of a soldier, 15 livres. These soldiers, or rather militia-men, pay also 24s. a month, as an exemption from service. He is enrolled for twenty-five years, after which he has the same advantage. He pays also but half for his salt, 6s. only the pound ; others 12s. A metayer, who is a soldier, pays all sorts of taxes, about 60 livres.



## SECT. III...OF TYTHE AND CHURCH LANDS.

**PIEDMONT....** Throughout this principality tythe is an object of no account. I made inquiries concerning it every where: the greatest part of the lands pay none; and upon the rest it is so light, as not to amount to more than from a twentieth to a fiftieth of the produce.\*

**MILANESE....** In the country from Milan to Pavia, no tythe of any kind, but the curees are supported by foundations. In the village where I made inquiries into the dairy management; the curee has 21 stara of rice, 12 stara of ryc, 4 stara of wheat; three hundred pounds of the best hay from one large farm; and he has some other little stipends in nature; the amount small, and never paid as a tythe.

At Mozzatta, the tythes, as every where else, are so low as to be no object; grain pays, but not all on land; it is confined to the lands anciently in culture,† for even the ancestors of these people were much too wise, to allow the church to tax them in such a spirit, as to take tythes of new improvements. Never did such a measure enter their heads or hearts! The tytheable lands are small districts; are near to the villages that have been in cultivation many centuries; and in some of these, tythe is not taken on all sorts of corn; only on those sorts anciently cultivated. The variations in this respect are many; but on whatever it is taken, it never exceeds a sixteenth, usually from one-seventeenth to one-twentieth; and of such as are levied, the whole does not belong to the curee, not more perhaps than one-fourth; one-half to the canons of some distant church, to which the whole probably once belonged; and one-fourth sold off to some lay-lord, with a stipulation to repair the church. The variations are so great, that no general rule holds; but they are every where so light, that no complaints are heard of them.

The church lands seized by the late emperor in the Milanese, were of immense value. From Pavia to Plaisance, all was in the hands of the monks; and the count de Belgioso has hired thirty-six dairy farms of the emperor, by which he makes a profit of 50,000 livres a year. The revenue that was seized, in the city of Milan only, amounted to above 5,000,000 livres; and they say in that city, that in the whole Austrian monarchy, it amounted to 20,000,000 florins.

At Codogno, and through most of the Lodizan, tythe is so very inconsiderable, that it is not worth mentioning; the expression of the gentlemen who were my informants.

**STATE OF VENICE....** In the district of Verona, mulberries pay no tythe; wheat one-twelfth in some places, in others less; maize, millet, &c. from one-fifteenth to one-thirtieth; but if for forage only, they pay none, no more than vetches, chick-pease, millet, &c. as it appears by a late memoir printed at Venice.‡ Meadows pay a light tythe, because they are taxed to find hay for the cavalry at an under price. In the district of Vicenza, tythe varies from the one-tenth to the forty-first. About Padua, wheat alone pays the tenth: vines a trifle, at the will of the farmer: mulberries, sheep, and cows, nothing.

**ECCLESIASTICAL STATE....** *Bologna....* Tythes are so low throughout all the Bolognese, that I could get no satisfactory account of the very small payments that are yet

\* Tythe in Sardinia is heavy. They pay one-tenth of the corn, and one-ninth of that one-tenth for threshing, and one-fifth of the one-tenth for carriage. *Rifiorimento della Sardegna*, tom. i. p. 146.

† A remarkable passage in Giulini deserves noting here; under the year 1147, he gives finalmente si proibisce a ciascheduno essigere le decima dai terreni di nuovo coltivati, tom. v. p. 459.

‡ *Raccolto di Memorie Delle Pubbliche Accademie*, octavo, 1789, tom. i. p. 197.

made to the church ; every one assured me that they were next to nothing ; but that in the Ferrarese they are high.

TUSCANY.... In many of the countries of Europe, the seizure of estates and effects of the jesuits was a rapacious act, to the profit of the prince or state ; in Tuscany it was converted to a more useful purpose. The grand duke set aside these revenues for forming a fund called the " Ecclesiastical Patrimony," under the management of a new tribunal, that should enable him gradually to abolish tythes. This great reform, equally beneficial to every class of the people, has been in execution for many years : as fast as the present incumbents of the livings die, tythes are abolished for ever ; their successors enter into possession of moderate salaries, payable out of those funds, or raised by an addition to the land-tax ; and thus an impost, of all others the most mischievous, is speedily extinguishing, and the agriculture of Tuscany improving in consequence ; proportionably to such extinction of its former burthens. Many monasteries have been also suppressed, and their revenues applied, in some cases, to the same use ; but this has not been attended with effects equally good : the lands are not equally well cultivated ; nor do they yield the same revenue as formerly ; for the farms of the monks were in the best order, administered by themselves, and every thing carefully attended to. This was not the case, however, with convents of women, who being obliged to employ deputies, their estates were not equally well managed.

A proposition was lately made by the court to sell all the glebes belonging to the livings, and to add to the salaries of the cures in lieu of them ; but at a public meeting of the Academia di Georgofili, Sig. Paoletti, a cure in the neighbourhood of Florence, a practical farmer, and author of some excellent treatises on the art, made a speech so pointedly against the scheme, fraught with so much good sense, and delivered with so much eloquence, that the plan was immediately dropped, and resumed no more ; this was equally to the honour of Paoletti and of Leopold. When good sense is on the throne, subjects need not fear to speak it.

The lightness of the old tythes may be estimated by the payment which forty farms at Villamagna yield to the same Sig. Paoletti, the cure, which is 40 scudi (each 5s. 8d.) and this is only for his life, to his successor nothing in this kind will be paid. Having mentioned Sig. Paoletti, and much to his honour, I must give another anecdote of him, not less to his credit ; after his Sunday's sermon, it has long been his practice to offer to his audience some instructions in agriculture, which they are at liberty to listen to or absent themselves, as they please. For this practice, which deserved every commendation, his archbishop reproved him. He replied, that he neglected no duty by offering such instruction, and his congregation could not suffer, but might profit, and innocently too, by what they heard. A sovereign that receives so much merited praise as the great Leopold, can well afford to hear of his faults ; first, why did he not reprove this prelate for his conduct, and by so doing encourage an attention to agriculture in the clergy ? Secondly, why did he not reward a good farmer, and worthy priest, and excellent writer, with something better than this little rectory ? Talents and merit in an inferior situation, which might be better exerted, are a reproach, not to the possessor, but to the prince.

The grand duke took the administration of the lands belonging to hospitals and the poor, into his own hands also ; but the effect of this has not, in the opinion of some persons, been equally beneficial ; the poor remain as they were, but the revenue gone ; this in the diocese of Florence only, amounted, it is said, to three or four millions of scudi ; if this be true, the mischief attending such revenues must be enormous ; and taking them away, provided the really useful hospitals be supported, which is the case, must be beneficial. Too many and great establishments of this nature nurse up idleness, and create,

by dependency and expectation, the evils they are designed to cure. Poverty always abounds in proportion to such funds; so that if the fund were doubled, the misery it is meant to prevent would be doubled also. No poor in the world are found at their ease by means of hospitals and gratuitous charities; it is an industry so steady and regular as to preclude all other dependence, than can alone place them in such a situation, as I have endeavoured to shew in my remarks on France.

The patrimony of almost all the parishes in Tuscany, consists in lands assigned them: the rector is administrator and guardian of them; and both by law and his oath on induction, he is strictly obliged to maintain and support them, and also to manure them, and to increase the produce.\*

DUTCHY OF MODENA....No tythe here: a voluntary gift only to the sub-cure. The ecclesiastical lands have been largely seized here, as well as every where else in Italy; but the duke gave them to the towns, to assist them in the expence of the municipal administration.

DUTCHY OF PARMA....No real tythe; the payments in lieu very small, and not proportioned to the crop; a farm pays a stajo of wheat (about eighty-eight pounds English) two parcels of raisins, and twenty faggots, between the two eures.

Upon this detail of the tythe paid in Lombardy, &c. one observation strongly impresses itself, that the patrimony of the church is, under every government in Italy, considered as the property of the state, and seized or assigned accordingly. It highly merits attention, that in the free countries of Holland and Switzerland (exempt at least from the despotism of a single person) the same principle has been adopted; with what reason therefore can the first national assembly of France be reproached as guilty of a singular outrage, for doing that which every neighbour they have (England and Spain only excepted) had done before them; and which may possibly, in a better mode, be followed in every country in Europe? They have in Italy rid themselves of tythes, though not half, perhaps not upon an average a third of the burthen they amount to in England, where their levy has been carried to a much greater height. If the legislature of that kingdom would give a due encouragement, they will remove such burthens gradually, and with wisdom. All I conversed with in Italy on the subject of tythes, expressed amazement at the tythes we are subject to, and scarcely believed that there was a people left in Europe who paid so much, observing that nothing like it was to be found even in Spain itself.

SECT. IV....OF MANUFACTURES AND COMMERCE.

PIEDMONT....Two-thirds of the rice raised is exported: I met earts loaded with silk and rice on the great road to France; and demanding afterwards concerning this trade, I was informed that the cost of carriage was 30s. per rubbio, to Lyons or Geneva, and 3 livres to Paris. The following are the principal exports:

	Livres.
Unwrought silk, - - - - -	17,000,000
Damask, &c. - - - - -	500,000
Rice, - - - - -	3,500,000
Hemp, - - - - -	1,500,000
Cattle, - - - - -	2,000,000
	24,500,000

\* Paoletti Pensieri sopra l'Agricoltura, octavo, Firenze, 1789, p. 50, 2d. edit.

Oil and wine from Nice, walnut-oil, cobalt, lead, and copper ore, add something. France commonly takes 10,000,000 livres in silk, and England 5,000,000 livres of the finest sort. The balance of trade is generally supposed to be about 500,000 livres against Piedmont; but all suppositions of this sort are very conjectural; such a country could not long continue to pay such a balance, and consequently there cannot be any such. By another account, wheat exported is 200,000 sacks at 5 eymena; 5000 sacks of rice, at 3 eymena; hemp, 5000 quintals; and 10,000 head of oxen.

*Turin...* The English woollen manufacturers having sworn at the bar of the house of lords, that the French camblets made of English wool, rivalled the English camblets in the Italian markets, and even undersold them, I had previously determined to make inquiries into the truth of this assertion. I was at Turin introduced to Sig. Vinatier, a considerable shopkeeper, who sold both. His account of the French and English camblets was this; that the English are much better executed, better wrought, and more beautiful, but that the French are strongest. I desired to know which were the cheapest. The English he said, being much the narrower, it was a matter of calculation, but he supposed the consumers thought the English cheapest, as where he sold one French, he sold at least twenty-five English. He shewed me various pieces of both, and said, that the above circumstances were applicable both to stuffs mixed of wool and silk, and also those of wool only. I asked him then concerning cloths: he said, the English ordinary cloths were much better than the French, but that the French fine cloths were better than the English. These inquiries brought me acquainted with an Italian dealer, or merchant, as he is called, in hardware, who informed me, that he was at Birmingham in 1786 and 1789, and that he found a sensible diminution of price; and that the prices of English hardware have fallen for some years past; and that for these last three or four years, the trade in them to Italy has increased considerably. He has not only bought, but examined with care, the fine works in steel at Paris, but they are not equal to the English; that the French have not the art of hardening their steel, or, if hardened, of not working it; for the English goods are much harder and better polished, consequently are not equally subject to rust.

*MILANESE...* In the fifteenth century, the trade of this country was considerable. In 1423, the territory of Milan paid to the Venetians:

	Ducats.
Milan, - - - - -	900,000
Monza, - - - - -	52,000
Como, - - - - -	104,000
Alessandria, - - - - -	52,000
Tortona and Novara, - - - - -	104,000
Pavia, - - - - -	104,000
Cremona, - - - - -	104,000
Bergamo, - - - - -	78,000
Parma, - - - - -	104,400
Piacenza, - - - - -	52,000
	<hr/>
	1,654,400
	<hr/>

And they sent to Venice, at the same time, cloths to the following amount :

	Cloths.	Ducats.
Alessandria, Tortona, and Novara, at 15 ducats,	6,000	90,000
Pavia, at 15 ducats,	3,000	45,000
Milan, at 30 ditto,	4,000	120,000
Como, at 15 ditto,	12,000	180,000
Monza, at 15 ditto,	6,000	90,000
Brescia, at 15 ditto,	5,000	75,000
Bergamo, at 7 ditto,	10,000	70,000
Cremona, at 40½ ditto,	40,000	170,000
Parma, at 15 ditto,	4,000	60,000
	<hr/>	<hr/>
	90,000	900,000
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Duties and warehouses,	-	200,000
Canvas,	-	100,000

And at the same time the Milanese took from Venice annually :

Cotton raw, 5000 miliari,	250,000 ducats.
Cotton spun,	30,000
Wool of Catalonia, 4000 miliari,	120,000
French wool,	120,000
Gold and silk fabrics,	250,000
Pepper,	300,000
Soap,	250,000
Cinnamon,	64,000
Ginger,	80,000
Slaves,	30,000
Sugar,	95,000
Materials for embroidery,	30,000
Dying woods,	120,000
Indigo, &c.	50,000*

The produce of silk amounts to 9,000,000 livres; nineteen-twentieths of which, at least, are exported.

Count Verri, in his *Storia di Milano*, mentions that the Milanese, only sixty miles by fifty, feeds 1,130,000 inhabitants; and exports to the amount of 1,350,000 zecchini, † viz. silk, 1,000,000; cheese and flax, more than 200,000; corn, 150,000 (the zecchini being 9s. 6d. the sum of 1,350,000 equals 641,200l.) But this is changed much; for the export of cheese alone is calculated now at 9,200,000 livres, which is above 306,000l. sterling.

*Bergamo*.... The woollen manufacture at this place is of great antiquity, and it is yet considerable. Its trade in silk is great; they buy from Crema, Monti, Brianza, Ghiara d'Adda, and in general the confines of the Milanese; this has given their silk trade a greater reputation than it deserves, for their commerce is more extensive than their product. They have been known to export silk to the amount of near 300,000l. sterling a year. Here also is a fabric of iron and steel, of some consideration in Italy; but none of these objects are in a style to be interesting to those who have been at all conver-

\* Giulini, vol. xii. p. 362.

† Verri, tom. i. p. 236.

sant with the fabrics of England. If however the manufactures of Bergamo are compared with those of the Milanese, they will be found considerable.

*Brescia*.... This is a very busy place; the city and the vicinity for some miles abound with many fabrics, particularly of fire-arms, cutlery, and other works of iron. They have many silk and oil-mills, and some paper fabrics that succeed well. But their commerce of all sorts has declined so much, as not to be compared at present to what it has been in former times.

*Verona*.... Here is a woollen fabric that still maintains some little ground, though the declension it has suffered is very great. I was assured, that twenty thousand manufacturers were once found in a single street; this I suppose may be an exaggeration, but it at least marks that it was once very great; now there are not one thousand in the whole city; in the time of its prosperity they used chiefly their own wool, at present it is imported.

In the Veronese, they make one million of pounds of silk, of twelve ounces, and rice nearly to as great an amount.

STATE OF VENICE.... *Verona*.... Many years past the only great import of camblets was from Saxony, but after the war of 1758, the English ones established themselves, and there is now no comparison between the quantity of English and French; of the latter very few, but the import of the former is considerable.

*Vicenza*.... They sell nine pieces of English camblets to one of French. A woollen manufacture was established here three years ago, under the direction of Thomas Montfort, an Englishman. It works up their own wool, and also Spanish. Spinning a pound of fine wool 50s. and the women earn 15s. a day; weavers 2 livres. Count Vicentino has established a fabric of earthen ware with a capital of 9000 ducats; Mr. Wedgwood's forms (originally however from Italy) are imitated throughout. A good plate, plain, 12s.; ewer and bason 12 livres; small tea cup and saucer, quite plain, 15s.; tea-pot 4 livres; vase, eighteen inches high, with a festoon and openings for flowers, 60 livres. It meets with no great success, and no encouragement from the government.

*Venice*.... In the fifteenth century Venice employed three thousand three hundred and forty-five ships, great and small, and forty-three thousand sailors.\* The chief export at present is silk; the second, corn of all sorts; the third, raisins, currants, and wine. Glass is yet a manufacture of some consequence, though greatly fallen, even of late years. Tuyan for beads is, however, yet unrivalled. The glass of Bohemia undersells from the great cheapness of wood, and possibly from that of provisions (my informant speaks) not only the glass of Venice, but that of Carniola also. The chief export from Venice of fabrics, is to the Levant; velvets and silks go there to some amount. The trade of the whole Venetian territory does not employ above two hundred and fifty ships of national bottoms.

ECCLESIASTICAL STATE.... *Bologna*.... All the silk of the Bolognese is here made into crape and gauze; the crapes are, perhaps, the finest in the world, price considered. The gauzes also are very beautiful: they measure by the braccio of forty inches; they sell at 26 to 36 baiocchi the braccio (10 baiocchi equal 6d. English.) White handkerchiefs are also made for 7 livres each. Crapes and gauzes employ seven or eight thousand people.

TUSCANY.... *Florence*.... The woollen manufacture was amongst the greatest resources of the Florentines in the time of their republic.

\* Ragionamento sul Commercio, &c. della Toscana, 8vo. 1781, p. 21. Marino Sanudo tra gli Scrittori Italiani del Muratori, tom. ii. Conte Carli delle Monete, tom. iii. dis. 4. Mehegan Tableau de l'Hist. Moder. tom. ii. epog. 7.

In 1239 the friars umiliate came to Florence to improve the manufactory of woollen cloth. They made the finest cloths of the age; the best, of the wool of Spain and Portugal; the seconds, of that of England, France, Majorca, Minorea, Sardinia, Barbary, Apulia, Romana, and Tuscany.\* In 1336 there were at Florence more than two hundred shops, in which woollens were manufactured, which made from seventy to eighty thousand pieces of cloth yearly, of the value of 1,200,000 zecchini; of which the third part remained in the country for labour; and employed more than thirty thousand souls; and thirty years before that the number was much greater, even to one hundred thousand pieces, but coarser, and of only half the value, because they did not receive, nor know how to work the wools of England. In 1460 they were augmented to two hundred and seventy-three, but the quality and quantity unknown.† From 1407 to 1485 was the period of its greatest prosperity. In 1450 Cosmo of Medicis was the greatest merchant in Europe. From the year 1365 to 1406 the republic of Florence, in wars only, expended 11,500,000 zecchini.‡

I was assured at Florence, but I know not the authority, that 1s. a week, on the wages of the woollen manufactures only, built the cathedral; and that at a single fair, in the time of the republic, woollen goods to the amount of 12,000,000 of crowns have been sold.

Giuliano and Lorenzo de Medicis sent into England Florentine manufacturers of wool, to exercise their trade, for the account of those princes to take advantage of the cheapness of wool on the spot; from which circumstance the Florentine writer infers, that the English thus gained the art of making cloth.§

These particulars, it must be confessed, are curious, but I must draw one conclusion from them, which will militate considerably with the ideas of those persons, who insist that the only way of encouraging agriculture is to establish great manufactures. Here were, for three centuries, some of the greatest fabries, perhaps the greatest in Europe; and Pisa flourished equally; and yet the establishment and the success of a vast commerce, which gave the city immense riches, the signs of which are to be met with at this day in every part of it, had so little effect on the agriculture of Tuscany, that no person skilled in husbandry can admit it to be well cultivated, and yet the improvements in the last twenty years are, I am assured, very great. Here then is a striking proof, that the prodigious trade of the Tuscan towns had little or no effect in securing a flourishing agriculture to the country. These great political questions are not to be decided by eternal reasonings; it is by recurring to facts alone that satisfaction can be gained. No wonder that the rich deep soils of Lombardy and Flanders have been well applied; but the more ungrateful and sterile hills of Tuscany (at least what I have seen of them) wild and unimproved.

There is yet a woollen manufacture of some consideration, and they make fine cloths of Vigonia wool; also hats, and various fabries of silk.

The export of woollens from Tuscany in 1757, was one hundred and twenty thousand pounds; and in 1762, it was one hundred and eighty thousand pounds.||

Among the silk manufactures, here are some good, and pretty satins, 18 pauls (the paul  $5\frac{1}{2}$ d.) the braccio (about two feet English) the width one braccio four inches.

The silk spun in Tuscany in ten years, from 1760 to 1709 inclusive, amounts to 1,676,745 pounds; or per annum 167,674; and in the first sum is comprised two hun-

\* Ragionamente Sopra Toscana, p. 39.

† Ib. p. 39, from Giovanni Villani, Francesco Balducci, Giovanni da Uzzano Benedetto Dei.

‡ Cristofano Landino Apologia di Dante: § Ragionamente Sopra Toscano, p. 61. || Ib. p. 183.

dred and sixty-eight thousand nine hundred and seventy-nine pounds of cocoons, bought of foreigners.\* The silk manufacture amounts to a million of crowns (7 livres 10s. of Tuscany.†) Of oil the export is about 100,000 barrils. The year following the edict of the free commerce of oil and grain, the export amounted to 600,000 scudi.‡ Next to oil, hogs are the greatest export, to the amount of from twenty to thirty thousand in a year.

The average of the quantity of silk made in Tuscany, and registered in the tribunal of Florence, from 1769 to 1778, was one hundred and sixty-five thousand one hundred and sixty-eight pounds; and the import of foreign silk, forty-eight thousand four hundred and seventy pounds; together, two hundred and thirteen thousand six hundred and forty-nine pounds yearly.§

MODENA....In 1771, the following were the exports of the Modenese :

Brandy 50,000 poids,	-	-	-	-	593,280 livres.
Wine, 150,000 ditto,	-	-	-	-	428,222
Oxen, 5,232 head,	-	-	-	-	1,569,600
Cows, 3,068 ditto,	-	-	-	-	613,400
Calves, one year, 500 ditto,	-	-	-	-	69,150
Wethers and goats, 23,500 ditto,	-	-	-	-	141,048
Hogs, 11,580 ditto,	-	-	-	-	347,280
Pigs, 21,900 ditto,	-	-	-	-	329,145
Linen, hemp, sacks, &c. 1,800,000 braccio,	-	-	-	-	1,442,327
Hogs salted, 1,900 poids,	-	-	-	-	24,479
Poultry,	-	-	-	-	24,342
Hats of straw and chip,	-	-	-	-	145,308
Ditto of woollen,	-	-	-	-	23,205
Gross fabrics of wool,	-	-	-	-	83,362
Butter,	-	-	-	-	106,240
Hemp, spun or prepared, 13,900 poids,	-	-	-	-	348,000
Wax,	-	-	-	-	74,400
Silk, 77,650 lb.	-	-	-	-	3,897,312
Honey,	-	-	-	-	15,350
Cheese,	-	-	-	-	98,556
Chesnuts,	-	-	-	-	17,440
Fruit,	-	-	-	-	81,320
					<hr/>
					10,472,766
					<hr/>

All these are by the registers of the farms; the contraband is to be added. Exportation is now greater than in 1771.

PARMA....The first trade and export of the country is silk; the next cattle and hogs.

There is but one conclusion to be drawn from this detail of the commerce of Lombardy, namely, that eighteen-twentieths of it consist in the export of the produce of agriculture, and therefore ought rather to be esteemed a branch of that art, than of commerce, according to modern ideas; and it is equally worthy of notice, that thus

\* Pensieri Ap. Apol. p. 56.

† Ib. p. 57.

‡ Ib. p. 59.

§ Ragionamento Sopra Toscano, p. 161.



subsisting by agriculture, and importing manufactures, these countries must be ranked among the most flourishing in the world, abounding with large and magnificent towns, decorated in a manner that sets all comparison at defiance; the country every where cut by canals of navigation or irrigation; many of the roads splendid; an immense population; and such public revenues, that if Italy were united under one head, she would be classed among the first powers in Europe.

When it is considered that all this has been effected generally under governments not the best in Europe; when we farther reflect, that England has for a century enjoyed the best government that exists, we shall be forced to confess, perhaps with astonishment, that Great Britain has not made considerable advances in agriculture, and in the cultivation of her territory. The wastes of the three kingdoms are enormous, and far exceeding in proportional extent all that are to be found in Italy; while, of our cultivated districts, there are but a few provinces remarkable for their improvements. Whoever has viewed Italy with any degree of attention must admit, that if a proportion of her territory, containing as many people as the three British kingdoms, had for a century enjoyed as free a government, giving attention to what has been a principal object, viz. agriculture, instead of trade and manufacture, they would at this time have made almost every acre of their country a fertile garden; and would have been in every respect a greater, richer, and more flourishing people than we can possibly pretend to be. What they have done under their present governments justifies this assertion: we, blessed with liberty, have little to exhibit of superiority.

What a waste of time to have squandered a century of freedom, and lavished a thousand millions sterling of public money,\* in questions of commerce! He who considers the rich inheritance of a hundred years of liberty, and the magnitude of those national improvements, which such immense sums would have effected, will be inclined to do more than question the propriety of the political system which has been adopted by the legislature of this kingdom, that in the bosom of freedom, and commanding such sums, has not, in the agriculture of any part of her dominions, any thing to present which marks such expence, or such exertion, as the irrigation of Piedmont and the Milanese.

#### SECT. V....OF POPULATION.

MILANESE....In all Austrian Lombardy there are 1,300,000 souls.

In 1748 the population was about 800,000; and in 1771 it was 1,130,000. The Milanese contains 3000 square miles.† In 1732 there were 800,000 pertiche uncultivated; in 1767 only 208,000. In a square mile, of sixty to a degree, there are in the Milanese, 354 souls. There are in the dutchy 11,385,121 pertiche, at 4868 pertiche in a square mile; and there are in the state, exclusive of roads, lakes, rivers, &c. 2338 square miles,‡ and 377 persons per square mile, which is certainly very considerable; and that my readers may have a clearer idea of this degree of population, I shall remark, that to equal it, England should contain 27,636,362 souls.§

VENETIAN STATE....*Padouan*....In the whole district of Padouan there were, in 1760, 240,336 souls: in 1781, there were 288,300; increase 47,914. There is probably no corner of Europe, barbarous Turkey alone excepted, in which the people do

\* Sir John Sinclair's History of the Public Revenue, vol. ii. p. 98.

† Delle Opere del S. Conte Carli, 1784, tom. i. p. 132.

‡ Ib. p. 319.

§ At 73,306 square miles each of 640 acres.

not increase considerably ; we ought not therefore in England to take too much credit for that rapid augmentation which we experience. It is found under the worst governments as well as under the best, but not equally.

*Venice*....The population of the whole territory 2,500,000 : of the city, between 143 and 149,000, the Zuedecca included.

In Friuli, in 1581, there were 196,541 ; and in the city of Udine 14,579. In 1755, in Friuli 342,158, and in Udine 14,729.\* The population of all the states of Venice, by another authority, is made 2,830,000 ; that is 600,000 in Bergamo, Brescia, &c. in the rest of the Terra Firma 1,860,000 : in Dalmatia and Albania 250,000 : in the Greek islands 120,000.† In the time of Gallo, who died in 1570, there were said to be in the Breseian about 700,000 thousand souls ; in 1764, there were 310,388.‡

TUSCANY....The progressive population of Florence is thus shewn by Sig. Lastri :

1470,§	-	-	-	-	40,323
1622,	-	-	-	-	76,023
1660,	-	-	-	-	56,671
1738,	-	-	-	-	77,835
1767,	-	-	-	-	78,635

The total population of the dukedom, is calculated at about 1,000,000.\*\* Two centuries ago, the population of the fields in the mountains, and on the sea-coast, was little less than double what it is at present. And there is said to have been the same proportion in the cultivation and cattle.††

MODENA....State of the dutchy in 1781 :

Ecclesiastics,	-	-	-	-	8,306
Infants, under fourteen years of age,	-	-	-	-	50,291
Girls, ditto,	-	-	-	-	49,516
Men,	-	-	-	-	115,464
Women,	-	-	-	-	124,822
Total					<u>348,399</u>

Marriages, 2,901 ; births, 12,930 ; deaths, 10,933. Multiplying the births therefore by 27, gives nearly the population ; or the deaths by 41. Of this total, the following are in the mountain districts.

Carrara,	-	-	-	-	8,865
Massa,	-	-	-	-	11,070
Garfagnana,	-	-	-	-	22,242
Carry over					<u>42,177</u>

\* Gemelli, vol. ii. p. 16. † Della Piu' utile Ripartizione de' Terreni, &c. San Martino, quarto, p. 13. ‡ Gallo Vinti Giornata, Brescia, 1773, p. 413. § Decima, tom. i. p. 232.

|| Ricerche sull' Antica e Moderna Popolazione della Citta di Firenze, quarto, 1775, p. 121. Sig. Paoletti is a sensible writer, and a good farmer, but he is of Dr. Price's school, "L'antica popolazione della Toscana era certamente di gran lunga superiore a quella de' nostri tempi ;" from Boccaccio, he makes 100,000 to die in Florence of the plague in 1348 ; yet, in little more than a century after, there was not half the number in the city ; he admits, however, that this is esagerato. Pensieri Sopra l'Agricoltura, p. 18.

\*\* Ivere Mezzi Paoletti, p. 58.

†† Dissertazione sulla la Moltiplicazione del Bestiame Toscano. Andreucci, octavo, 1773, p. 14.

Brought forward,	-	-	-	-	-	-	-	42,177
Varano,	-	-	-	-	-	-	-	629
Castel Nuovo,	-	-	-	-	-	-	-	14,576
Frignano,	-	-	-	-	-	-	-	19,526
Montefiorino,	-	-	-	-	-	-	-	15,721
Montese,	-	-	-	-	-	-	-	19,694
								112,323
								112,323

The rest in the plain.

PIEDMONT....Subjects in the king of Sardinia's territories, 3,000,000. In Savoy, 400,000. In Sardinia, 450,000. In Turin, in 1765, 78,807. In 1785, it was 89,185. In 1785, births 3394; deaths 3537.

#### OF THE POOR.

MILANESE....*Milan*....Charitable foundations, in the city only, amount to 3,000,000 livres (87,500l. sterling.) In the great hospital there are commonly from twelve to fifteen hundred sick: the effect is found to be exceedingly mischievous, for there are many that will not work, depending on these establishments.

*Mozzatta*....The labourers here work in summer thirteen hours. Breakfast one hour, dinner two hours, merenda one hour, supper one hour, sleep six hours. They are not in a good situation. I was not contented to take the general description, but went early in a morning with the marquis Visconti and Sig. Amoretti into several cabins, to see and converse with them. In this village they are all little farmers, I asked if there were a family in the parish without a cow, and was answered expressly there was not one, for all have land. The poorest we saw had two cows and twenty pertiche; for which space he paid five moggio of grain, one-third wheat, one-third rye, and one-third maize. Another for one hundred and forty pertiche paid 35 moggio, in thirds also. The poor never drink any thing but water, and are well contented if they can manage always to have bread or polenta; on Sunday they make a soup into which goes perhaps, but not always, a little lard; their children would not be reared if it were not for the cow. They are miserably clad, have in general no shoes or stockings, even in this rainy season of the year, when their feet are never dry; the other parts of their dress very bad. Their furniture but ordinary, and looks much worse from the hideous darkness from smoke that reigns throughout, yet every cabin has a chimney. They have tolerable kettles, and a little pewter, but the general aspect miserable. Fuel, in a country that has neither forests nor coal-pits, must be a matter of difficulty, though not in the mountains. They were heating their kettles with the cars of maize, with some heath and broom. In the cold weather, during winter, they always live in the stable with their cattle for warmth, till midnight or bed time. For day labour they are paid 10s. a day in winter, and 12s. in summer. For a house of two rooms, one over the other, the farmer of 20 pertiche pays 24 livres a year; that is to say, he works so much out with his landlord, keeping the account, as in Ireland, with a tally, a split stick notched. They are not, upon the whole, in a situation that would allow any to approve of the system of the poor being occupiers of land; and are apparently in much more uneasy circumstances, than the day labourers in the rich watered plain, where all the land is in the hands of the great dairy farmers. I drew the same conclusion from the state of the poor in France; these in the Milanese strongly confirm

the doctrine, and unite in forming a perfect contrast with the situation of the poor in England, without land, but with great comforts.

STATE OF VENICE....The people appear in the districts of Bergamo, Brescia, Verona, and Vicenza, to be in better circumstances than in the Padouan. And from thence to Venice there are still greater appearances of poverty; many very poor cottages, with the smoke issuing from holes in the walls.

*Villamagna*....The peasantry, a term which in all countries where the landlord is paid by a share of the produce, and not a money rent, includes the farmers, who are consequently poor, live here better than in the districts more distant from the capital; they eat flesh once a week; the common beverage is the second mash, or wort of the wine; eat wheaten bread, and are clothed pretty well.

#### SECT. VI...OF PROHIBITIONS.

PIEDMONT....The exportation of the cocoons of silk is prohibited; and the effect highly merits the attention of the politician who would be well informed, from practice, of the principles of political œconomy. It is a perishable commodity, and therefore it is not at all likely that if the trade were free, the quantity sent out would be anything considerable; yet, such is the pernicious effect of every species of monopoly upon the sale of the earth's products, that this prohibition sinks the price 30 per cent. While the cocoons sell in Piedmont at 24 livres the rubbio, they are smuggled to the Genoese at 30 livres; which export takes place in consequence of the monopoly having sunk the price. The object of the law is to preserve to the silk-mills the profit of converting the silk to organzine; and for this object, so paltry on comparison with the mischief flowing from it, the land-owners are cheated in the price of their silk 30 per cent.; the state gains nothing; the country gains nothing; for not a single pound would be exported if the trade were free, as the motive for the export would then cease, by the price rising: the only possible effect is that of taking 30 per cent. on all the silk produced out of the pockets of the grower, and putting it into those of the manufacturer. A real and unequivocal infamy, which reflects a scandal on the government, for its ignorance, in mistaking the means of effecting its design, and for its injustice in fleecing one class of men for the profit of another. I demanded why the Piedmontese merchants could not give as good a price as the Genoese. "They certainly could give as good a price, but as they know they have the monopoly, and the seller no resource in an export, they will have it at their own price; and if we do not give them this profit of 30 per cent. we cannot sell it at all." What an exact transcript of the wool laws in England!

Another prohibition here not equally mischievous, but equally contrary to just principles, is that of keeping sheep in summer any where in or near the plain of Piedmont; it is not easy to understand, whether the object of this law is that the sheep at that season shall be kept in the mountains, or that they shall not be kept in the plain. In winter they are allowed every where. The shepherds buy the last growth of the meadows at 5 or 6 livres per giornata for them, and pay for such hay, as may be wanted in frost or snow.

Corn from Sardinia is not allowed to be exported, but when the quantity is large, and then paying a heavy duty, yet this is the only commodity of the island; and the execrable policy that governs it has rendered it one of the most wretched deserts that is to be found in Europe.\* On account of this duty they pay no land-tax.† No wonder that the authors of such a policy want to sell their inheritance!

\* Riformamento della Sardegna, tom. i. p. 3.

† Ibid p. 147.

**MILANESE....**The export of cocoons are here also prohibited; and as it is rather more severely so than in Piedmont, the price is of course something lower. The duty on the export of silk is 7½s. per pound.

Keeping sheep in the vale of the Milanese, every where prohibited by government, from the notion that their bite is venomous to rich meadows. The same in the Veronese; and there is a dissertation in the Verona Memoirs in favour of them.

**STATE OF VENICE....Brescia....**The cultivation of the mountains is every where prohibited in this republic, lest the turbid waters falling into the Lagues, should fill up those channels, and unite Venice with the Terra Firma. Mr. Professor Symonds has remarked the ill effects of cutting woods on the mountains, relative to the mischief which rivers in that case do to the plains; it is suspected in Italy, that there are other reasons also; and they have observed in the territory of Aqui, in Piedmont, that hail has done more mischief since the woods have been cut down in certain districts of the mountains, between the Genoese territory and Monteferrat.\*

**Verona....**The export of wheat is prohibited when the price exceeds 24 livres the sack, of eleven pesi, of twenty-five pound; eleven pesi are two hundred and five pound English; and therefore 24 livres equals 26s. 6d. per quarter English of four hundred and fifty-six pounds; apparently a regulation that is meant as an absolute prohibition. The export of maize also prohibited, when it reaches a certain price, proportioned to that of wheat. The export of cocoons and unspun silk prohibited.

**Vicenza and Padoua....**The export of cocoons prohibited.

**Venice....**The export of wool, from the Venetian territory, has been always prohibited. The export of wheat is prohibited, when the price arrives at 22 livres the saccho; but so much depends on the magistrate, that there is no certainty, and consequently the trade crippled. The stajo, or staro Veneziano of wheat, is one hundred and thirty-three pounds grosso; four stari one mozzo. The sack of flour is two hundred and four pounds to two hundred and ten pounds.† The sack of wheat one hundred and thirty-two pounds grosso.‡ As the Venetian pound is about one-twentieth heavier than the English, 22 livres the sack about equals, not exactly, 36s. the English quarter, but the ratio of the price is of little consequence, in laws, the execution of which depends on the will of the magistrate.§ Another prohibition, which marks the short and fallacious views of this government, on every object but that of their own power, is in the duration of leases; no person is allowed to give a longer one than for three years; which is in fact to declare by law that no renter shall cultivate his farm well.

**ECCLESIASTICAL STATE....Bologna....**The government of this country, in respect to taxes, is the mildest perhaps in Europe; but it loses much of its merit by many prohibitions and restrictions, which have taken place more or less throughout Italy. Silk cannot be sold in the country; it must all be brought to the city. All wood, within eight miles of the same place, is a similar monopoly; it can be carried no where else. The export of corn is always prohibited, and the regulation strictly adhered to; and it may be remarked that the price is never low; the natural, and probably the universal effect of such a policy, must be a high price instead of that low one, which is the object of the state.

**TUSCANY....**In the states I have hitherto mentioned, to name prohibitions is to exemplify their mischief in the conduct of all the governments, through whose territories

\* Memoire della Soc. Agraria, vol. iv. p. 3.

† Tratto della Pratica di Geometria Perini, quarto. Verona, 1751.

‡ De la Lande's Voyage en Italie, tom. vii. p. 81.

§ On this point see Mr. Professor Symonds' excellent paper in the Annals of Agriculture.

I have yet passed ; but in Tuscany the task is more agreeable ; to give an account of prohibitions there, is to shew the benefit of their reversal, and of that system of freedom, which the late beneficent sovereign introduced.

In 1775 an unlimited freedom in the export and import of corn was established. The effect of this freedom in the commerce of corn has been very great ; in the first place, the price of corn has risen considerably, and has never for a moment been low ; the rise has been steady ; famines and any great scarcity have been absolutely avoided, but the augmentation of price on an average has been great. I was assured, on very respectable authority, that landlords, upon a medium of the territory, have doubled their incomes, which is a prodigious increase. This vast effect has not flowed immediately from the rise in the price of corn, but partly from an increased cultivation in consequence of that price, and which would never have taken place without it. On the other hand, the consumers feel a very great rise in the price of every article of their consumption ; and many of them have complained of this as a most mischievous effect. I was assured that these prices have been doubled. Such complaints can be just only with respect to idle consumers at fixed incomes ; a pension or an annuity is undoubtedly not so valuable now as it was before the free corn trade ; this is clear ; but it is equally certain that landlords, and all the mercantile and industrious classes profit greatly by the general rise : this fact is admitted, nor would the improvement of all the arts of industry, the situation of the poor most highly ameliorated, and the increase of population allow it to be questioned. Before the free trade the average price was  $5\frac{1}{2}$  pauls (each  $5\frac{1}{2}$  d.) per stajo, of fifty-four pounds ; now the average is 9 pauls. Here is a rise in the price of 40 per cent. Those whose interests, or whose theories point that way, will contend that this must be a most pernicious evil, and that the consumers of corn must suffer greatly ; it however happens, and well it deserves to be noted, that every branch of industry, commercial and manufacturing, has flourished more decidedly since that period, than in any preceding one, since the extinction of the Medici. This is one of the greatest political experiments that has been made in Europe ; it is an answer to a thousand theories ; and ought to meet with the most studious attention, from every legislator that would be thought enlightened.

No body can express himself better against the regulations in the corn trade, than Paoletti : “ Uno dei piu gravi e dei piu solenni attentati, che in questo genere si sia fatto, e che ancora, da una gran parte dei politici governi si fa all' ordine naturale e certamente quello, delle restrizioni e dei divieti nel commercio de'grani. Non han conosciuto mostro il piu orribile, il piu funeste quelle fortunate nazioni che ne seno state infestate. Le pesti, le guerre, le stragi, le proscrizioni dovunque aprirono il teatro alle loro tragedie non arrecarono mai tanti danni al genere umano, quanto questa arbitraria politica.”\*

It is remarked, by a very intelligent writer, that the early declension of Tuscan agriculture, was caused by the ill-digested and injurious laws of restriction and prohibition, in the beginning of the sixteenth century : the price of provisions was regulated, in order to feed manufacturers cheaply, not perceiving that the earth gave scanty fruits to poor cultivators ; that exalting the arts by the depression of agriculture, is preferring the shadow to the body. Wool was wanted for the fabrics, yet no encouragement given to breeding sheep. Merchants and manufacturers composing the legislative body, whose interests were concentrated in Florence ; all the other towns, and generally the country, were sacrificed at the shrine of the capital : they made a monopoly of the Levant trade, and even of ship-building ; which had such pernicious consequences, that in 1480, they

\* Iveri Mezzi, &c. Ap. Apol. 1773, octavo, p. 19.

were obliged to lay open the remnants of trades once flourishing.\* They shewed the greatest eagerness to encourage the planting of mulberry-trees; yet knew so little of the means of doing it, that they subjected the sale of cocoons to a multitude of restrictive regulations, and even fixed the price, and gave a monopoly of the purchase;† and even the power of fixing the price of silk was, by the government, given to four dealers; and in 1698, the whole trade was subjected to the price of one man; and such was the effect of these fine measures, that a law was passed forcing plantations of mulberries; four trees to every pair of oxen employed.‡ So utterly subversive of the intention will the prohibitory system always prove!

By the edicts of 1775, 1779 and 1780, of the grand duke, a multitude of restrictions, on the sale of cocoons and wool, and on the fabric of both silks and woollens, were abolished. A free trade in corn, oil, cattle, and wool, was given § about the same time; as well as the rights of commonage destroyed.¶ By the edict of March 18, 1789, the plantation and manufacture of tobacco was made free; and, that the farmers of the revenue might not be injured, the benevolent sovereign declares he will buy all cultivated on the usual terms, till the expiration of the farmer's lease.¶¶

I am very sorry to add to the recital of such an enlightened system, a conduct in other respects borrowed entirely from the old school: the export of cocoons has been long prohibited; and even that of spun silk is not allowed. But what is much worse than this, the export of wool, about six months ago, was forbidden, under the shallow pretence of encouraging manufactures. Such a monopoly, against the agriculture and improvement of the country, is directly contrary to the general spirit of the grand duke's laws. The same arguments which plead in its favour, would prove equally in favour of prohibitions, and shackles on the corn trade; he has broken many monopolies: Why give a new one? The most plausible plea for this is the example of England; but does he know that of all the fabrics of that kingdom, this of wool is the least flourishing; and precisely by reason of the manufacturers having the monopoly of the raw material, and thereby being enabled to sink the price 60, and even to 70 per cent. below the common rates of Europe? The total failure of this policy in England, which cheats the land of four millions a year, in order not to increase, but to hurt the fabric, should plead powerfully against so pernicious an example. They should know that the raw materials of our most flourishing fabrics are exportable; some free, and others under low duties; and that wool is an exception to all the rest; and at the same time, the manufacture that has made the least progress.\*\*

MODENA....The export of wool is prohibited; wherever this is the case, it is not to be expected that any exertions can be made in improving the quality; and accordingly we find that all the Modenese is miserably bad. The measure is intended as a gratification to the manufacture; and when that possesses the monopoly, the wool is sure to be

\* Ragionamento Sopra Toscano, 68.

† Cosmo I, first allowed the export of cocoons, February 22, 1545; subject to a duty of 18s. the pound, of one sort, and 3s. the other; augmented successively, and at last fixed to 2 livres.

‡ Ragionamento, p. 83.

§ Leggi dei, Sep. 14, 1774; Dec. 28. Also, Aug. 24, and Dec. 11, 1775.

¶ March 7, and Apr. 11, 1778.

¶¶ Della Coltivazione del Tabacco. Lastri. Firenze, octavo, 1789, p. 40.

\*\* See this point particularly explained in Annals of Agriculture, vol. x. p. 235, and in many other papers of that work. Some of these memoirs were translated and published in French, under the title of Filature, commerce et prix des Laines en Angleterre, octavo, 1790; but some of the best papers, for instance that above alluded to, and others, were left out of the collection.

worthless; which is the case here. They make in the mountains, some coarse things for the wear of the common people.

PARMA.... There is a fabric of earthen-ware at the city of Parma, to encourage which the import of all foreign ware is prohibited; the effect is, that the manufacture is contemptible, without an effort of improvement; it has the monopoly of the home consumption, which yields a great profit, and further nobody looks. It was justly observed to me, that with such a favour no flourishing manufacture could ever arise at Parma, as the advantage of the monopoly was greater: The policy of prohibitions has every where the same result.

SECT. VII...OF THE PRICES OF PROVISIONS, 1789.

*Nice*.... Bread, 3s. (the Piedmontese sol is the twentieth part of a livre, or a shilling, and the pound is about one-tenth heavier than the English.) Beef, 3s. 8 den. Mutton, 4s. Veal, 5s. Butter, 12s. - Cheese, 11s. Bread, last winter, 1 piccolin (one-sixth of a sol) cheaper. At these prices of meat, weighing-meat added.

*Coni*.... Bread, 2s. 3 den.; for the poor, 1½s. Beef, 3s. 2 den.

*Turin*.... Bread, 3s. Veal, 5s. Butter, 9s. Cheese, 9s. Brown bread, 2½s.; for the poor, 1s. 8 den. Nobody but the poor eats beef or mutton.

*Milan*.... Beef, 13s. Cow ditto, 10s. (the sol the twentieth of the livre, which is 7½d.; the pound grosso is to that of England, by Paucton, as 1.559 is to 0.9264.) Mutton, 10½s. Veal, 15s. Pork, 18s. Butter, 35s. Cheese, Lodizan, 42s.

*Codogno*.... Bread, 4 oz. 1s. Beef, 12s. per lb. Veal, 12s. Butter, 22s.

*Verona*.... Bread, 5s. per lb. of 12 oz. (equal to ¾ lb. English.) Twenty Venetian sols equal to 6d. English.

*Vicenza*.... Beef, 14s. per lb. of 12 oz. grosso; this ounce is to the English, as 690 is to 480. Mutton, 13s. Veal, 16s. Pork, 17s. Butter, 30s. Cheese, 32s.; ditto of Lodi, 44s. Hams, 44s. Bread, by the ounce sottile (which is to the grosso, as 1 is to 1½) 6s.

*Padua*.... Beef, 14s. per lb. of 12 oz. grosso (which is to the English pound, as 9966 is to 9264. Paucton.) Mutton, 12s. Veal, 16s. Pork, 16s. Butter, 32s. Cheese, 24s.

*Venice*.... Beef, 15s. per lb. grosso (to that of English, as 9758 is to 9264. Paucton.) Mutton, 13s. Veal and pork, 18s.

*Ferrara*.... Beef, 3½ baiocchi (10 to a paul of 6d.) per lb. of 12 oz. Mutton, 3 baioc. Veal, 4 baioc. Butter, 9 baioc. Cheese, 8 baioc.

*Bologna*.... Bread, 2 baiocchi per lb. (to the pound English, as 7360 is to 9264. Paucton.) Beef, 4 baioc. 2 quatrini. Mutton, 3 baioc. 4 quat. Veal, 5 baioc. 2 quat. Pork, 6 baioc. Butter, 10 baioc.; and in winter, from 15 to 20 baioc.

*Florence*.... The livre (of 8½d.) is 12 grazie, or 20 soldi, the sol is 3 quatrini; and the pound is three quarters English. Bread, 8 quatrini per lb. Meat in general, 7½s. Butter, 1½ paul (the paul 5¼d. English.) Cheese, 10s.

MODENA.... Bread, the best white, ¼ paul per lb. (the paul is 6d. English; and the pound is to ours, as 6513 is to 9264, or something under twelve of our ounces.) For the poor it is cheaper. Bread is thus dear, owing to the entrees and gabelle; a sack of flour, of 70 livres sells at 100 livres. Beef, 12 bolognini per lb. Mutton, ¼ of a paul, or 10 bol. Veal, 13 bol. Pork, 14 bol. Butter, 1 paul. Cheese, 40 bol.

*Lanesborough*.... Bread, 4s. for 18 oz. Meat of all sorts, from 3s. to 3½s. for 12 oz.; Cheese, from 4s. to 5½s. Butter, 6s. for 12 oz.



## CORN, 1789.

*PIEDMONT....Coni....*Rye, the eymena of 2 rubbio, or 50 lb. 3 liv.

*Chentale....*Wheat the eymena of 45 lb. aver. 47, 3 livres 15s. In common, 3 livres 15s. Maize, 2 livres.

*Turin....*Maize, 2 livres. Wheat, 3 livres 10s. the eymena of 50 lb. Rye, 2 livres 10s.

*Milan....*Wheat, 34 livres the moggio of 140 lb. 28 oz. Oats, 15 livres. Maize, 20 livres. Miglio, 18 livres. Rice, 44 livres.

*Codogno....*Rice 5 livres the stara. Willow wood, 14 livres 6 braccio long and 3 braccio broad. Flax, 5½s. for 5 oz. ready for combing; 50s. per lb.

*Verona....*Wheat, the export prohibited when it exceeds 24 livres the sack (26s. 6d. English quarter.) Maize, now 24 livres the sack, of 11 pesi, of 25 lb.; common price, from 20 livres to 22 livres; has been so low as 6 livres.

*Venice....*Wheat flour, 8½s. per lb. Bergamasque maize, 24s. the quaterole, of 6 lb. Common maize, 22s.

*Bologna....*Wheat, the corba, 24 pauls. Maize, 18 pauls. Oats, 12 pauls. Barley, 16 pauls. Beans, 18 pauls.

*Florence....*Wheat, 9 pauls the stajo, which may in a rough way be called 1d. per lb. this is 4s. 9d. per English bushel, of 57 lb.; and 5s. per bushel, of good wheat. Before the free corn trade, it was on an average, at 5½ pauls. Beans, now 5½ pauls to 7 pauls. Saggina (great millet) 4 pauls the stajo. Maize, from 4 pauls to 5 pauls. Barley, 5 pauls. Oats, 4 pauls. French beans, 7 pauls.

## WINE, FUEL, HAY, STRAW, &amp;c.

*Nice....*Wine, 7s. the bottle. Chareoal, 24s. per 100 lb. Wood, 15s. per 100 lb.

*Chentale....*Hay, from 5s. to 8s. the rubbio, of 25 lb.

*Turin....*Hay, 10s. the rubbio. Straw, the same. Wine of Brenta, 7 livres 10s. the 36 pints, each 4 lb.; for the poor, 4 livres. Wood, 12 livres the load, of 200 pieces, 3 feet long. Charcoal, 12½s. the rubbio. Candles, from 9s. to 10s. Soap, 7s. Lime, 5½s. the rubbio. Bricks, 22 livres per thousand.

*Milan....*Iron the pound of 12 oz. 5s. Chareoal, 100 lb. of 28 oz. 3 livres. Bricks, 30 livres per thousand.

*Mozzatta....*Wine, common price, 10 livres or 12 livres the brenta, now 6 livres.

*Milan....*Hemp, ready for spinning, 1 livre per lb. of 28 oz. Flax, ditto, 32½s. Oil, linseed, per lb. of 28 oz. 26s. Walnuts, 1 livre.

*Verona....*Wood, 5s. the peso, of 25 lb. (18 lb. English.)

*Vicenza....*Candles, 20½s. Soap, 20s. Dutch herrings; 3s. each. Iron, 11s. grosso. Charcoal, from 5 livres to 8 livres the 100 lb. Coals, from Venice, 4½ livres the 100 lb. Wood, the carro, of 108 cubical feet, 22 livres; of oppio, walnut, &c. the pieces the size of a man's arm. Sugar, from 25s. to 35s. sotile. Coffee, 3 livres 6s. Chocolate, 3½ livres or 4 livres; with vanilla, 6 livres or 7 livres. By the ounce grosso, which is to the ounce English, as 690 is to 480, is weighed flesh, butter, cheesc, candle, soap, &c. By the ounce sotile, is weighed sugar, coffee, drugs, rice, bread, silk, &c. it is as 1 is to 1½.

*Ferrara....*Wine, 1 baiocca the locali.

*Bologna*....Wood, the load, 30 pauls. Faggots, 24 livres per two hundred. No coal. Charcoal,  $1\frac{1}{2}$  paul the corba. Bottle of common wine, from 3 baioc. to 5 baioc.: common price of wine, from 20 pauls to 30 pauls the corba of sixty bocali. Sugar, 2 pauls 1 baioc. the pound. Coffee, 2 pauls 2 baioc. Of mōka, 3 pauls 5 baioc. Candles, 8 baioc. Wax ditto, 8 pauls. A footman with a livery, 50 pauls a month. A man cook, from 20 to 40 zecchins. An English gentleman's table is served, nine in the parlour and five in the kitchen, by contract, for 20 pauls a day.

*Florence*....To plough a stiora of land, 3 livres. Hay, 4 pauls the one hundred pounds (about 2l. 15s. a ton.) Straw, 3 pauls per one hundred pounds. Wine, 8 grazie the bottle. Charcoal, one hundred pounds, 4 pauls. Wood, the cataster of six braccia long, one and a half broad, and two high, 28 livres. Rent of a poor man's house, 18 pauls.

*MODENA*....Wood, 45 livres the load, of three braccia long, three high, and three broad. Wine, 40 livres the twelve pesi. Candles, 20 bol. Soap, 15 bol.

*PARMA*....Hay, eighty pesi, 150 livres (the pesi twenty-five pounds, each three-fourths of a pound English, and the livre  $2\frac{1}{2}$ d. about 1l. 9s. per ton.)

#### LABOUR.

*Nice*....Summer, 30s. (1s. 6d.) Carpenter and mason, 40s. (2s.)

*Coni*....Summer, 14s. Winter, 10s. (6d.) Mason, 25s.

*Savigliano*....Summer, 12s. Winter, 10s. Farm servants wages, about 100 livres, (5l.) a year, beside their food, which consists of three pounds or four pounds of bread, according to the season, a soup maigre, a polenta (a maize pudding) &c. &c. During the summer, they add cheese and a little small wine, with a sallad; and in harvest time a soup of good wine, which they call merendon, but they then work twelve hours a day.

*Turin*....Summer, 11s. Mason, 25s. Carpenter, 27s.

*Milan to Pavia*....Summer,  $22\frac{1}{2}$ s. (8d.) Winter, 10s. ( $3\frac{1}{2}$ d.) Manufacturers, 40s. Labourers pay 7 livres (at 7d. English) for a cottage, and a very little garden.

*Mozzatta*....Summer, 12s. Winter, 10s.

*Lodi*....Summer, 20s. Winter, 12s. Harvest, 30s. Mowing, 20s. a day; a good hand mows five pertiche a day.

*Codogno*....Weavers, 20s.

*Verona*....Summer, 30s. (9d.) Winter, 20s. (6d.)

*Vicenza*....Summer, 16s. Winter, 14s. Mowing, 30s.

*Padoua*....Summer, 25s. and wine. Mowing, 2 livres (1s.) a day: wheat, 3 livres ditto. Winter, 16s.

*Venice*....Summer, from 30s. to 40s. Mason, 4 livres: the lowest in the arsenal, 3 livres a day.

*Ferrara*....Summer, 25 baiocchi (1s. 3d.) Winter, 12 baioc.

*Bologna*....Summer, 12 baioc. and 2 bocali of wine, each three pounds four ounces. Winter, 10 baioc. (6d.) In harvest, to 20 baioc. Half a day, of four oxen and two men, 5 paoli (2s. 6d.) Manufacturers earn from 5 to 20 baioc. a day. The women that spin hemp, 3 or 4 baioc.

*Florence*....In the silk mills of Florence, they are now (November) working by hand, for want of water. The men earn 3 pauls (1s.  $4\frac{1}{2}$ d.) A girl of fifteen, 1 paul ( $5\frac{1}{2}$ d.) In the porcelain fabrics of the Marchese Ginori, common labour, 2 or 3 pauls. Painters,  $4\frac{1}{2}$  pauls. In summer,  $1\frac{1}{2}$  paul and food. In winter, 1 paul and ditto. To plough a

stiora of land, 3 livres. Threshing corn by the day, 1 livre and food. Cutting corn 18 grazie and food.

MODENA....Common labour, 1 paul and wine. Carpenter and mason, 2 pauls.

PARMA....Printer's men, 3 pauls a day (16½d.)

Lanesbourg....Winter, 10s. and food. Summer, 20s. and food.

## POULTRY.

Nice....Turkey, 7 livres. Fowl, 20s. Pigeon, 20s. Eggs, 12s. the dozen.

Turin....Turkey, 30s. Fowl, 15s. Duck, 25s. Goose, 25s. Pigeon, 10s. Eggs, the dozen, 8s.

Milan....Turkey, 11s. per pound. Fowl, 20s. Duck, 32s. Eggs, the dozen, 26s. Capon, 15s. per pound.

Bologna....Turkey of about four pounds 3½ pauls. Pair of capons, 30 baiocchi. Eggs, 1 baioc. each; in winter, 1½ baioc. Tame large pigeons, 24 baioc. the pair. Wild small pigeons, 12 baioc. Eels from 12 to 14 baioc. per pound. Tench, 10 baioc. per pound. Pike, from 12 to 15 baioc. Sturgeon, 5 or 6 pauls per pound.

MODENA....Capon, 1 paul. Fowl, 40 bol. Turkey, 4 livres. Duck, 4 livres. Twenty eggs, 25 bol. Pigeons, 1 paul the pair.

## RISE OF PRICES.

Milan....In 794 a decree of the senate and diet of Frankfort, canon four, that corn should sell at the following prices, no regard to scarcity and abundance: Moggio of oats 1 denaro; one of barley, 2 denari; one of rye, 3 denari; one of wheat, 4 denari; proportion 1080 to 1.

In 835, hogs, 20 denari.

In 857, one pound of silver, lira, 20 soldi of 12 denari; one denaro, now at Milan, on comparison of an ancient denaro of half a paolo, was as 1 to 90; for 90 denari make half a paol. The value of silver now to that of ancient times, as 1 to 12; therefore it is 1 to 1080.\*

In 975, un stajo di vino, 1 denajo; un moggio di frumento, 5 denaji; un carro di legna, 1 denajo, equal to 18 livres, at 1 to 1080.†

In 1152, rye and panic, 3 livres the moggio; 1 denaro equal to 130; consequently 3 livres is equal to 13 livres 10s. 10 den.‡

In 1165, 500 hogs, each 6 soldi; which now we must call 65 livres each.¶ Cart load of wood drawn by a pair of oxen, 12 denari; equal now to 6½ livres.

In 1272, 1 moggio of wheat, the common price 19 soldi. Millet, 12 soldi; and this to the money of the present time, is as a livre for a sol; that is, wheat 19 livres and millet 12 livres.‡

In 1315, 1 soldo for a mass, equal to twenty now; 1 fiorino d'oro, 30s. now 60 livres, as 1 to 40; the fiorino d'oro ancient, and the present zecchino the same thing. From this time to the present, the proportion of the money of those times to the present, is as 1 to 4.¶

In 1402, the fiorino o ducato d'oro, worth 42 soldi, equal to 16 livres 8s. at present.\*\*

Bologna....The prices of every thing are now at Bologna from 10 to 15 per cent. dearer than ten years ago; here attributed to the increased plenty of money from a rise of

\* Giulini, Storia di Milano, vol. i. p. 268.

¶ Ibid vol. vi. p. 332.

§ Ibid vol. viii. p. 254.

† Ibid vol. ii. p. 380.

¶ Ibid vol. x. p. 87.

‡ Ibid. vol. v. p. 527.

\*\* Ibid vol. xii. p. 63.

the price of the products of the country, hemp and silk selling much higher. Twenty years ago hemp was at 30 pauls, now at 50. And in Tuscany the prices of every thing doubled since the free corn trade.

It is worthy of the reader's observation, that the general prices of provisions and of living, as it may properly be called, have risen perhaps as much in Italy as in any country in Europe; certainly more than in England, as I could shew by many details if they were consistent with the brevity of a traveller. A fact of so much importance would admit of many reflections; but I shall observe only, that this sign of national prosperity (and I believe it to be one) is not at all confined to the countries in the possession of extensive manufactures and a great trade, since we find it in those that have none.

I shall not enlarge upon it, but barely hint that the possessor of a landed estate in Lombardy has raised his rents to the full as much in the last ten, twenty, thirty or forty years, as his brother landlord has in England, who has blessed himself with the notion that manufactures and commerce have done more for him, than for any other similar class in Europe. It is very common in the English parliament, to hear the deputies of our tradesmen expatiate on what the immense manufactures and commerce of England have done for the landed interest. One fact is worth an hundred assertions: go to the countries that possess neither fabrics nor commerce, and you will find as great a rise perhaps in the same period.

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## SPAIN.

### CULTIVATION, &c.

THE vale of Aran\* is richly cultivated, and without any fallows. Follow the Garonne, which is already a fine river, but very rapid: on it they float many trees to their saw-mills, to cut into boards; we saw several at work. The vale is narrow, but the hills to the left are cultivated high up. No fallows. They have little wheat, but a great deal of rye; and much better barley than in the French mountains. Instead of fallows, they have maize and millet; and many more potatoes than in the French mountains. Haricots (French beans) also, and a little hemp. Saw two fields of vetehes and square pease. The small potatoes they give to their pigs; which do very well on them; and the leaves to their cows; but assert that they refuse the roots. Buck-wheat also takes the place of fallow, many crops of it were good, and some as fine as possible.

The whole valley of Aran is highly peopled; it is eight hours long, or about forty miles English, and has in it thirty-two villages. Every one cultivates his own land. A journal of meadow sells in the valley for 800 livres irrigated, but by no means so well as in the French mountains, nearly an arpent of Paris, which is something more than an English acre. The lower arable lands are sold for 500 or 600 livres; the sides of the hills proportionably; and the higher lands not more than 100 livres. Their crops of all sorts vary from two and a half to three quarters English the acre. Hay harvest no where begun.

\* The route in which these observations were made, is marked in the journal inserted in the first volume; also the dates.

The mountains belong as in the French Pyrenees, to the parishes; each inhabitant has a right to cut what wood he pleases for fuel and repairs, in the woods assigned for that purpose; others are let by lease at public auction for the benefit of the parish, the trees to be cut being marked; and in general the police of their woods is better than on the French side; when woods are cut they are preserved for the next growth.

Have scarce any oxen; what few they kill they salt for winter. Taxes are light; the whole which a considerable town is assessed at being only 2700 livres, which they pay by the rent of their woods and pastures let: but if calculated by *tailles*, houses, &c. and including every thing, the amount would be about 3 livres a year on a journal of 600 livres value. This is the proportion of an acre of land worth 30*l.* paying 3*s.* a year in lieu of land and all other taxes.

Coming out of Veille, see to the right some of the most stony land I have ever beheld, yet good hemp and buck-wheat were growing on it. In the hedges many of the plants common to them in England. The pastures on the mountains good quite to the snow; but the low meadows not watered with the attention given them by the French in their Pyrenees. Pass several of the thirty-two villages of the valley of Aran; population very great for they crowd on each other; and this results here from the division of property, and not from manufactures, which have more than once been supposed the only origin of great population.

Much *millefolium* here, and other plants common with us. Plough with bullocks; all we saw pale reddish or cream-coloured, and with horns.

No wood at the top, but pasturage and rocks of micaceous schistus; met a great herd of dry cows and oxen cream-coloured. It is remarkable that a pale reddish cream-colour holds from Calais quite across France hither, with very little variation.

Flocks of sheep and a pen for oxen and cows—the latter milked for cheese. Plough with oxen in yokes and bows as in England, and not yoked by the horns as in the south of France. Come to fallows (which is a point of worse husbandry than we have seen for some time) manuring by asses loaded with baskets. The trees here (pines) are finer than on the French side; they are all cut for the Toulouse market, being carried over the mountains and floated down the Garonne; from whence we may draw conclusions on the comparative demand of the two kingdoms. Land sells here from 400 livres to 500 livres the journal.

Come to the valley d'Estredano, where wheat and rye are cut. Every scrap on the descent is cultivated; an extensive savage view of mountain, with patches of culture scattered about the declivities: but fallows are found here.

Pass Rudase, on the top of a rocky mountain, come presently to vines, figs, and fruit trees; snow in sight. As we descend to the vale, every spot is cultivated that is capable of being so.

Cross the river to Realp; about which place is much cultivation, as the mountains slope more gently than hitherto. Hedges of pomegranates in blossom. The town is long and has many shops. Hemp is the great object in it; of this they make ropes, twine of all sorts, bags, and have some looms for converting it into cloth. Corn and hay all carried on panniers.

Pass Sort, a vale spoiled by the river, which exhibited the depredations of the Italian rivers, so excellently described by my learned friend Mr. Professor Symonds.

Hitherto, in Catalonia, we have seen nothing to confirm the character that has been given of it; scarcely any thing has a tolerable appearance. It is much to be questioned, from the intelligence, whether they have any such a thing as a farmer who rents land: only patches of property; no maize, and French beans very poor; fallows every where

on the hills, and yet the rye after them miserable. Old vineyards of late quite neglected, overrun with weeds, yet the grapes of a size that shew what the climate is; they are now as big as peas. In the towns every thing as bad; all poor and miserable.

Rising up the mountain, which is all of pudding stone, we find it is all cut into terraces, supported by many walls, with rows of vines on them for raisins, not wine, mulberries, and olives: but here are fallows, and I thought I perceived traces of these hills having been formerly more cultivated than at present.

Pass Colagese. Come to a regular vineyard, the rows twelve feet asunder, the intervals alternate fallow and corn. The features of the country now begin to relax, the mountains are not so high, and the vales are wider. The leaves of a good mulberry-tree sell for 44s. or 22d. English.

Many walnut-trees full of fruit. Much is tythed by the church: see much corn threshing every where.

Cross two pieces that had rye last year, left now to weeds, and will be under rye again next year; an extraordinary course. Mulberry leaves never sold, but if so, the price would be about  $4\frac{1}{2}$  livres a tree. Cows all red. Land in the vale sells from 20l. to 25l. English the journal. The road leads up Monte Schia, the whole of which consists of a white stone, and argillaceous marl. Snow on the distant mountains.

Look back over a great prospect, but totally to the eye without wood. Cross a hill to another great vale, where is much, and some rich cultivation, as the hills are not steep, but sloping.

Pass in sight of St. Roma, near it the road leads by a small round lake, but it is on very high ground, no hills near it; it is said to be very deep. Here they were hoeing a barley stubble, just ploughed, to form ridges, on which they sow French beans. This district is called that of shells: millet just up; pass a large waste almost entirely covered with lavender; corn on a part of it; but after a crop, they leave it to weeds to recover again. Here also they practice the alternate husbandry of one bed, or broad-ridge, corn, and another fallow. Plough with cream-coloured oxen. In breaking up the wastes here, they cut the spontaneous growth to dry, then pile it into heaps with the earth pared and placed on it; this is all burned; we saw heaps ready to be burned to the quantity of five hundred loads an acre: but the crops are wretched for many miles, scarcely the seed again.

In our inquiries, meet with some traces of what in France are called metayers, that is, a sort of farmers who cultivate the land for half the produce; the landlord taking one half, and the tenant the other.

For two hours and a half, pass a waste mountain covered with shrubs, and scattered with ever-green oaks, and lower down the evident remains of old terraces, which have once been cultivated, but now overrun with weeds. To Fulca; the ploughs here have all long beams, as in the south of France, which reach to the yokes of the oxen, and consequently they have no traces; two small sticks form the mould-board; they plough all flat.

In this district not one acre in an hundred cultivated, all rocks, shrubs, and weeds, with patches of wretched oats on the mountain sides. The road leads up one which is all of stone, covered with rosemary, box, brambles, &c. At the top break at once on the view of a deep vale, or rather glen, at the bottom of which a muddy river has spoiled the little land which might have been cultivated. The hills are steep, and all is cultivated there that could be so, but the quantity very small.

Descend into a very rich vale, and to the town of Paous. There we saw many persons winding silk, the cocoons were in warm water, and wound off by a well-contrived reel, something different from those used in France.

*Prices....*Bread, 3s. per pound, of twelve ounces.  
 Mutton, 6s. per pound, of forty-eight ounces.  
 Pork, 15s. per pound, of forty-eight ounces.  
 Bottle of sweet white wine, 5s.  
 Bottle of sweet red wine, 2s.

Here they were threshing, by driving mules around on a circular floor of earth, in the open air; a girl drove three mules round, and four men attended for turning, moving away the straw, and supplying the floor with corn. Their crops are all brought home by mules or asses with panniers; met several; they each carried six sheaves, equal to twenty common English ones; where roads are bad, this is the only way in which it can be done.

Pass a great waste of argillaceous marl, in which are strata of tale: much of it a soft white rock; the strata in some places clear and transparent, shining, break in thin flakes; the country for many miles waste, so that there are not more, I guess, than one acre in two hundred cultivated.

More deserts for several miles. Some alternate fallow husbandry between vines, and the crops so contemptible, that they produce not more than the seed. Pass some vineyards surrounded on every side by deserts; no water, and yet the vines and grapes are of the most beautiful luxuriance; from which I conclude, that immense tracts of these waste lands might be applied with equal profit, if there were men and capitals enough in the country.

Meet a farmer, who pointed out to us a piece of land, containing exactly a Catalonia journal, from which it appeared to be pretty nearly the same measure as an English acre. They stack their corn by the threshing floor, drive mules, &c. around upon it, and draw the straw, when cleared, with ropes by a mule to the stack, in which it is deposited for winter use.

To Beosca, mostly desert hills, but some broad vales, which are cultivated; about that place many mulberries, vines, and corn, but all the last gained by fallow. A farmer here pays a seigneur, who lives at Barcelona, 2000 livres a year for his farm, which is reckoned a large one. Through all this country, they collect from every waste spot amongst their cultivated lands shrubby wood and weeds, with which they burn heaps of clods and earth, and spread the ashes on the fallow as a manure for corn.

There seems every where to be inclosures sufficient for ascertaining distinct properties, but not for security against any sort of cattle. No where any wood to be seen, except fruit trees, olives, or ever-green oaks, which are almost as sad as the olive; altogether nothing for beauty of landscape. The hills all rocks, and the vales vines, scattered with those trees. Some new plantations of vines. Towards Toora, the country is much more cultivated; the sides of the hills covered with olives. The vale has many mulberries, and much tillage; and for some miles past there are many scattered houses, which has not been any where the case before: remarked one great improvement, which was a vineyard, with vetches sown in the alternate husbandry between the rows, instead of a fallow, to be followed by corn.

Leave Calaff. Crop and a fallow; some vetches; much cultivation; and better corn than we have in general met with; some sown in squares, as if in clusters, but could not learn the fact. In some parts many vetches, instead of being fallow; they are planted by hand, and wheat sown after. The soil, a good adhesive loam, brown with a reddish hue, better than the white land, which travelled with us so long yesterday: most of the corn cut.

Great waste, and mount a hill, from whence an extensive view; all the country alike, no wood; and not one acre in ten cultivated. Pass four or five cream-coloured bullocks, and one or two blood-coloured. I note them, having seen so few in so many miles.

French beans, eighteen inches by twelve; a good deal of cultivation; but vast wastes, and country of a rocky, savage aspect; many pines, but poor ones. Within four hours of Montserrat, vines at six feet asunder, the first we have seen planted in that manner, which shews the proprietor content with having one product only on the ground.

Wastes continue; not one acre in a hundred cultivated. All broken country, and scarcely any vales of breadth.

At the bottom we came again to olives. Meet two very fine cream-coloured oxen, which the owner says would sell for about eighteen guineas; feeds them with straw, but gives oats or barley when they are worked; they are in such good order, that the straw must either be much more nourishing than ours, or their work very light indeed. From the marks in the pine-trees, conjecture that they draw resin from them.

Pass Orevoteau, where is a hedge of aloes about four feet high. A gradual descent for some time on a wretched stony desert, of nothing but aromatic plants, thin, and scattered with the dismal ever-green oaks, more dull and disagreeable, if possible, than the olives.

Near Esparagara, vines at five or six feet, which cover the ground; red loam, mixed with stones. This town is the first manufacturing one we have met with, or which seemed to be animated with any other industry than that of cultivation. The fabric is woollen cloths and stuffs. Spinners earn 6s. a day, and food. Carders, 11s. They have also many lace-makers, who earn 9s. a day. These are Spanish money; their sol is something higher than the French, which is our halfpenny.

Fallow every where, yet many of the stubbles full of weeds. Corn yet in the field, and poor. Some vines promiscuous, at four feet; some in rows, at six feet. Country disagreeable; many beds of torrents, without a drop of water, and shocking to the eye. Apricots, plums, melons, &c. ripe, sold in the streets, from the open ground. A pair of very fine cream-coloured oxen, 24l. English: the amazement is, how they can be kept in such order, in a country so arid and desert, and that has not a pound of hay in it.

The country now is far more populous and better built: many vines and great cultivation, but with fallows. The soil all a strong red loam; a way cut through a vineyard of this soil, which shewed it to be seven feet deep; at the bottom was a crop of fine hemp; indeed the soil to the eye was as good at the bottom as on the surface.

They plough with mules a-breast, without a driver, having a line for reins, as in England; the beam of the plough is long enough to reach to the circular iron, about nine inches under the yoke, to which the mules are collared. The yokes are like those in which oxen are worked, only with collars instead of bows. This method, which is very common in France also, has both its advantages and disadvantages; it will be a light draught, when the pitch of the beam is proportioned to the height of the mules, but if the share must be raised or lowered according to their height, it will be bad both for the land and the animals. To have the line of traction, from the draught to the body of the plough, is not quite correct, but it is much better than the common plough beams, made either too long or too short: in this case the length of the beams is ascertained; but the chief origin and intention of it is cheapness. The mould-board of the plough here has no iron on it, and is fixed to the left side; the share is double, as if to work with a mould-board on either side; this is a great fault; only one handle. It



did its work tolerably. The wheat in sheaves is yet in the field, but the stubbles all ploughed, a narrow slip only left, on which the wheat remained: this shews good attention to the succession of crops.

PRICES OF PROVISIONS, &c. AT BARCELONA.

Bread, 4s. and a fraction per pound, of twelve ounces.

Mutton, 22½s. per pound, of thirty-six ounces.

Pork, 45s. per pound, of twelve ounces.

That of the poor people very little less; but they buy the soldiers' bread, which comes cheaper; they live very much on stock-fish, &c.

Hams sometimes 3 or 4 pesettos, or shillings, per pound, of twelve ounces. Wine, 4s. or 5s. the bottle.

Common day wages are 25s. French; sometimes rise to 33s.; the very lowest, 22½s. Stocking weavers earn 33s.

Cream-coloured oxen in carts, their horns sawn off to the length of six inches, two yoked a-breast, and one mule before. A pair of good oxen sell at 25l. English. Vale from a quarter to half a mile broad.

All the corn in the country is left in the field till it is threshed, and they say it never takes hurt. A hill cut through, thirty feet deep, for the road, and walled on each side. The sea close to us on the right all the way; and the vale I speak of is between that and the hills: some of them are sandy, and planted with vines, which yield per journal four charges, the charge selling at 13 or 14 pesettos, and a journal for 300 Spanish livres; this is the journal, selling for 35l. 8s. 9d. and producing about 2l. 14s. very inadequate to the value of the land; there are great quantities of fruit trees of all sorts.

At Gremata; after which a vale for a mile and a half, or two miles, the soil sandy, and much cultivation. On the hills many vines. Some corn without fallows; it is all cut, but not carried, and the land all ploughed. Vines.

A wheat stubble ploughed up, and the land sown with buck-wheat, which is now up.

Part of a vale highly cultivated, but a great part waste, though on the same level to the eye, but much spoiled by a torrent, for a quarter of a mile broad; it is entirely ruined, yet there is no water now, nor any channel, all being level; in such cases as these, and indeed in most others, industry, united with good capitals, would remedy the evil. Eight men working a sandy field, by way of digging with an instrument very common here, a sort of hoe, sixteen inches long, and nine broad, with a handle so short, that the body is bent very much in using it. Vale two or three miles broad, and unites with an opening in the mountains. French beans often under maize, but that crop much thinner, and nothing gotten by it. Some very fine orange-trees, near twenty feet high, large stems, and thick round umbrageous heads. All this vale before Maturó is under a very fine cultivation. They have much lucerne; and an article of attention I had not before observed, was, tubs made on purpose for carrying the riddance of privies and urine to their fields.

Hemp yields ten quintals the journal. Vineyards give three, four, and five charges of wine per journal, and sell for 200 or 300 Spanish livres the journal: other lands, not irrigated, from 100 to 150 livres. For above a league vines on sand; very little other cultivation; the vale is two miles broad; sells at 150 livres Spanish the journal; on the hills, and near the sea, vines; mountains cultivated imperfectly almost to the top; but there is much waste. Houses scattered every where.

The cultivators are metayers, that is, they pay a portion of the crop instead of rent: the produce is divided into three parts; two for the farmer, and one for the landlord, in which case the farmer is at every expence whatever. Some vineyards are let at from

15 to 40 pesettos ; I have not met any where in France with vineyards let, for they are all in the hands of the proprietors. Land in general lets from 15 livres to 35 livres.

Come to a great cultivated vale, but no water, or but little ; maize, six inches to two feet high, in squares, on land from which the corn has been cleared ; the account we received. I suspect the highest to be previously sown in a bed, and transplanted as soon as the land was ready to receive it ; millet also after corn ; the soil a rich black loam.

Pass Malgra. Vale two or three miles broad ; vines and cultivation. A great deal of fine maize, called all over Catalonia *Milæ*. I found the same name for it afterwards in Languedoc, where they speak the same language as the Catalans. Lets for 15 livres, one with another. Maize is sown, grain by grain, after corn ; the soil a granite sand. A thick woodland, all inclosed. Pomegranates make very fine thick hedges. Much wood and vines ; no watering nor fallows ; houses scattered every where ; soil sandy, but good. Very bad ploughing ; cream-coloured oxen. Inclosures become still thicker. Poplars planted over some fields, and vines trained to them, and from one to another : reading accounts of this husbandry in books, I had formed an idea that it must be singularly beautiful to see festoons of vines hanging from tree to tree, but there is nothing either pleasing or striking in it, and the wine is never good for want of sun, and owing to its being dripped on by another plant, which robs it also of its nourishment ; corn is sown under them, which is damaged still more. Broad flat vale, formed of the ruins of granite.

Pass for several miles in a vale, where the country has different features. It is all inclosed ; much oak, a few vines, trained up trees. Soil bad. Two poor bits of meadow I noted, for they were the first I had seen bad in Spain. Many fields overrun with spontaneous rubbish. Maize and haricots cultivated here together, as in many other quarters. Some scattered houses. Much waste on gentle hills that have vineyards on them, and would all yield that production, if planted. A sloping hill of granite sand, well cultivated. Vines, trained to oaks and poplars, with many fruit trees. The price of wheat here is 15 or 16 pesettos, for the  $3\frac{1}{2}$  quarterons, weighing five and a half quarters, and each quarter twenty-six pounds ; this is one hundred and forty-three pounds of wheat, costing  $15\frac{1}{2}$  pesettos, which will be 50s. the English quarter. Barley half the price.

Come to a great waste, spreading over many hills, for several miles ; to northern eyes a most extraordinary scene. It is a thicket of aromatic and beautiful flowering shrubs, with very little mixture of any that are common with us. Large spreading myrtles, three or four feet high, and covered with their sweet-scented flowers, jessamines, bays, and other shrubs, with which we crowd our shrubberies, are here worse nuisances than heath with us, for we saw neither sheep nor goats. View after this a large plain, bounded by mountains, and scattered every where with houses ; a good deal of cultivated inclosure ; but on entering find much waste in this plain. Vines now form hedges, and surround the fields. Come now to cattle, of which we have hitherto seen very little ; saw several small flocks of sheep, most of them entirely black, some without horns, others with, and curling round the ears. All the oxen cream-coloured, except two, with the necks and end of their tails black ; all well made, and in fine order. Large breadth of corn, and some fields left apparently to grass. I suspect fallows.

The country still thickly inclosed, some pieces of grass, and a few of meadow, which are not burned, hot as the climate is. More cattle here than we have yet seen. They keep their sheep and hogs (all black) together, and the girls, &c. who attend them spin hemp.

Pass Goronota, and many wastes for some miles on gentle slopes; the soil good, but covered with aromatic shrubs; no cattle seen in any of them. Level vale with much culture, and much pasture: many large oaks on old double banks, also tall poplars; all inclosed, and like many parts of England, as maize and vines are not here; a thick woodland. In this part the soil is a deep, rich, brown, adhesive loam; the corn not carried, but the land ploughed and sown with French beans. They have pease, beans, maize, hemp, &c. without watering, and, that circumstance considered, the crops are good. The ploughs are drawn by cream-coloured oxen, guided by a line, and without a driver. Some meadows without water, with many quails. They are metayers, paying the landlord one-third of the produce, but not of phang, which is for oxen; phang is their name for clover; and this is the first time we met with any information about it. It puzzled us much to discover what phang could be; but I found by accident a plant of trifolium alpestre, and shewing it to a farmer, found by his description, that it was clover (*trifolium pratense*) beyond all doubt. They were now ploughing a wheat stubble, in order to sow it directly with phang. Their culture of it is singular, and very good: it is mown for hay once in the spring, yielding a fine crop; the land directly ploughed and planted with monget, which is their name for fallow-hoeing crops, such as French beans, millet, pease, &c. This monget is kept very clean, and wheat sown after it, which is off soon enough for a second crop of French beans. - A course with them is,

1. Maize.
2. Wheat, and sown after with clover.
3. Clover and French beans.
4. Hemp and French beans.
5. Wheat and millet.

Vines are here planted in espaliers; small poles are laid on pegs driven into posts, which stand at six or eight feet asunder, and the vines trained to them; corn is sown between the rows; good land, yet waste join it. Many hedges are planted with the yellow-blossomed prickly acacia, which answers perfectly well for that purpose.

Within four miles of Gerona husbandry continues good. Trees have vines trained to them. Much cattle, mules, horses, sheep, and hogs, kept in the stubbles; fine cream-coloured oxen in the ploughs. The soil fine deep reddish loam. Now reaping a crop of square pease, three feet high, stout as lupines, with pods like that plant; all here an inclosed woodland. Hemp six feet high and not watered. To the left of Gerona, mountain beyond mountain, branches of the Pyrenees, and very high, but seemingly a good deal of cultivation on them. Fine rich deep soil in the vale before Gerona; the same husbandry: crops of corn very fine, not carried, though all the land quite green with young millet: this extreme confidence in the climate shews clearly what it must be.

A journal of the vale land sells for two hundred Spanish livres, or 23l. 12s. 6d. and lets at 8 to 10 livres, that is, 1l. 1s. English; but none of it is irrigated. They do not tythe either lambs or other live stock.

#### PRICE OF PROVISIONS AT GERONA.

Bread, 3s. per pound of twelve ounces; and excellent.  
 Beef, 10s.  
 Mutton, 6s.  
 Pork, 8s. per pound of sixteen ounces.  
 Cheese, 20s. per pound of twelve ounces.

They have no mutton or beef except what comes from France.

The poor live chiefly on vegetables and a little pork; their labour 20s. a day.

Leave Gerona—Fine maize, planted thin, with good cabbages under it: this is a system which promises well, but cabbages here are only for people, and not for cattle. Three measures and a half make a journal, and a pair of oxen plough three measures a day; buy their oxen in the French mountains at a year old. Their hills are either wood or cultivation, but mixed with part rocky waste. Cross some hills which contain a great deal of waste, but see a broad valley to the right; all inclosed and well cultivated; to the eye rich; houses scattered.

At Marenia, iron 4s. or 5s. per pound of sixteen ounces. The road up a hill; twenty or thirty women giving it a winding direction, by levelling earth; on inquiry, find it is done by the communities, and that they earn nothing; hence it is by corvees. Enter a wood of cork-trees, many of them barked half way up; the texture of this tree is remarkable, it seems formed of layers of bark, one under another.

The country now generally cultivated; the fields ploughed, but have had a crop. Some well-planted olives ploughed under. All the corn we see is wheat; as to barley, it was cut and threshed the first week in June, and the land ploughed and sown with something else.

From Gerona to Calderoles, three hours and a half, generally cultivated; but wastes scattered, and mountains every where in sight. The course here is,

1. Barley, left to weeds, &c. for cattle.
2. Wheat and millet, or French beans.
3. Oats or barley, and maize for cattle.

No fallow, or phang; French beans are called phasols.

Leaving Calderoles, the country all cultivated; many olives, and under them vines; all well inclosed; no waste.

Pass Basera: a torrent has here destroyed a vale half a mile broad; pass it by a ferry. Country now neither so rich nor so well cultivated, as on the other side of that town. Maize planted at six feet, and two rows; French beans in the intervals; olives scattered, but the maize very poor under them. Country more poor and stony, yet but few wastes. Olives and many tall pines. Wastes with pines; the sea two miles to the right, and the ridge of mountains in the front, seems to end abruptly at it. Many vineyards, and planted with olives; all under culture, and well inclosed with acacia hedges; several with ditches to them.

The vale of Figuera bounded finely by the mountains; many olives and vines, and a good deal of corn, but neither soil nor cultivation equal to what have passed; the former is more of a stone brash. Reach Figuera.

The 21st left Figuera, and breakfasted at Jonquieras. Enter the bottom of the mountains very soon; pass through many olive grounds; the trees are large, and stand about sixteen feet asunder; soil good red loam, but stony; no watering. A quart of oil, two and an half pounds of twelve ounces, sells, retail, for a pesetto. Olives bear only every other year. Our guide says, he knows a tree in Arragon, which yields from fifty pounds to eighty pounds for a crop. In these twelve miles to Jonquieras, vines scattered all the way on the hills; some few olives; many cork-trees latterly: much cultivation, but a good deal of waste also. French beans in rows, and ploughed between with oxen. Soil all the way a granite sand.

The first leading feature of the minutes is the immense quantity of mountains and other wastes, which are found in every part of Catalonia. We travelled about three

hundred and forty miles through the province, and may conclude, from what we saw, without any danger of being deceived, that not one acre in an hundred is under any sort of cultivation; in such gross calculation one would take care to be within the truth, and if I said not one in one hundred and fifty, I believe I should still be on the safe side of the assertion. When the fact is connected with the reputation which the province has of being, next to Valentia, the best cultivated, and, without exception, the most industrious in Spain, conclusions very unfavourable to the state and policy of that monarchy, must necessarily be drawn by every reader. The advantage of possessing the second city of the kingdom, a place of great trade, and containing one hundred and twenty thousand souls, is very considerable, and must have done much to bring the province even to its present situation. At the same time that these boundless wastes were offending the eye in every quarter, we could, in no part of Catalonia, condemn the people for want of industry; on the contrary, they seem very well to merit the character they have gained: the activity which is seen through all the towns upon the coast, and they are very numerous, and very populous, can hardly be greater in a country submitted to numerous festival days by its religion: the fishery in all those places is considerable, and attended to with an unabating spirit. The women and children make lace; and wherever the soil is good, or water conducted, cultivation is in a high state of perfection. Even in the interior country, we saw every where signs of much industry; and, amidst a poverty which hurt our feelings, we generally saw something to convince us, that it was not the fault of the poor people that greater exertions were not made. Those interior parts depend entirely on their agriculture; and the height to which they climb the mountains in order to find a spot tolerably level for cultivation, shews that their minds and bodies are ready for laborious exertions, whenever there is a prospect of enjoying the reward. With so much industry among the people to what are we to attribute the waste state of their country? The inquiries necessary for a complete investigation of such a question were not to be made by travellers: a longer residence would have been necessary, but a few circumstances should be mentioned, which are probably connected intimately with it.

First, the poverty of the people in the interior country is striking; their towns old, ill-built, dirty, and wretched; the people ill-dressed, and generally deficient in the wealth best adapted to such a country, cattle: in the higher Pyrenees this is not so much the case; they have cattle, and are in every respect in a better condition, owing to the plenty which great commons give in a country of good pasturage, and where wood is in profusion. The number of sheep we saw in general was not the twentieth part of what the wastes, bad as they are for that animal, would maintain; and that of goats so small as to indicate the same thing strongly. This poverty not being the effect of a want of industry, must result from a government inattentive to their interests, and probably oppressive; and from a total want of the higher classes residing amongst them. Till we came to the rich country near Barcelona, that is to say, in about two hundred miles, we saw nothing that had the least resemblance to a gentleman's country seat; those who have estates let in it are absent; those we heard of live at Barcelona; and the whole country is thus abandoned to the very lowest classes, and the wealth and intelligence which might contribute to its improvement, diverted into distant and very different channels; this is a great misfortune to the people, and which will long contribute to keep things in their present state. To the same cause it is owing, that the roads, so essential in the improvement of a country, are left in a state which precludes the use of wheel-carriages; which, with the unnavigable state of all the rivers, except for rafters of timber grossly put together, cuts off that system of reciprocal purchase and

sale, that interior commerce, which is the best a country can possess. These are also evils which the residence of men of fortune is the most likely to correct, and much above the power of peasants and mountaineers. With all these disadvantages there are still circumstances which make it surprising that more land is not cultivated. Vines and olives succeed very well on the poorest and most arid soils; their growth and luxuriance in spots surrounded on every side with wastes, and in soils not better, yield a conviction, which leaves no doubt, that the adjoining lands would, if planted, give a similar produce. The profit of doing it will not be suspected, if the revenue and value of cultivated lands on comparison with the wastes be considered. Two points here force themselves on our notice; first, the want of capital for undertaking the work; and, secondly, the waste being in all probability in possession of absent landlords, who will not give sufficient encouragement to others to do what they neglect doing themselves.

Where cultivation climbs up the mountain sides, it is by small proprietors, who purchase of the communities of the parishes the property of the land; wherever the soil is in hands that will sell just the portion which is in the power of a man to buy, great exertions are sure to be the consequence. There is no spur to industry so great as the possession of a piece of land, which, in a country where the means of subsistence are contracted for want of more diffusive and more various employments, is the only comfortable dependance of a man, who wishes to be the father of a family. The parish that will sell a waste at a moderate price, will be almost sure to see it cultivated; but the great lord, who rarely, or never, sells any of his property, unless ruin forces him to sell the whole, is equally sure of perpetuating the deserts, which are the disgrace of his country. He would let them, and perhaps upon advantageous terms; but it demands considerable capitals, and a very enlightened state of agriculture, for speculations of that sort to take place; the only capitals, which can be found in Catalonia, for such a purpose, are the hands of men willing to work; aided, perhaps, by some little savings, which have originated from the view of wastes that are to be purchased. All that has been done, and it is much in some districts, is to be traced clearly to its origin.

That these observations are just, will be confirmed by the prices of all the necessaries of life in that province; they have nothing very cheap; every article of consumption is somewhat dearer than in France; and it is more than once noted, that all the meat they eat comes from that kingdom. Their mules are bred in France, and great imports of cattle and sheep are common. This is a direct premium upon every species of rural industry, and its not having operated greater improvements, must be owing to the causes on which I have touched.

To cultivate their wastes, to spread irrigation wherever it is possible to carry it, are the two first objects in Catalonian improvement; all others are inferior; they have, however, some which ought not to be neglected. Their wine and oil are objects of the greatest importance; for it is by these, probably, that all the lower wastes should be improved, which are not capable of irrigation; to improve the manufacture of these two articles, in such a manner as to increase the demand for them, would be one great means of accelerating the cultivation wanted; they are both bad; the wine is thick, muddy, and poisoned by the borachio; and the oil is generally rancid; both would otherwise be excellent; to remedy these defects, and force those commodities, by their merit, into commerce, would tend powerfully to enrich the province; and to enrich it in the very best method, by one, which would, at every step, accelerate its improvement. Wool is another commodity, which is of considerable value, and might be produced in an infinitely greater quantity than at present.

The reader will not expect from a traveller, who throws his ideas on paper amidst the movements of a journey, that correct attention which leaves nothing untouched; I attempt no more than to glance at some prominent features, and to delineate them roughly; to draw into one point of view, the conclusions which ought to be the object of all useful travels, it would be necessary to see much more, to reside longer, and to travel with greater advantages than I possess. This little journey has been very far from affording such materials, but it has not to me been barren; it has removed many false ideas from my mind, which the writings of men, who have either been inattentive to, or ignorant of agriculture, had placed there, relative to this province; and I know better how to appreciate the praises or condemnation which are given of this or other countries, in similar climates.

There are many persons who travel for enjoying the beauty of prospect; and there are others, who seek for a residence better adapted than their own, to their health or their fortune; to such I will add a few words: To the taste of a man that is fond of a country in a northern climate, there are few objects more pleasing to the eye, or more refreshing to the imagination, than the natural landscape scenes of a well-cultivated and well-peopled country. These have, in England, features that charm and instruct. Inequalities of country, not too abrupt; woods that present rich masses of shade; rivers that offer the contrast of their silver bosoms, gliding gently through vales of constant verdure, which are neither hurt by their rapidity, nor rendered marshy by their sluggishness; inclosures which mark the value and the culture of the soil; and scattered habitations of the poor clean and comfortable, mixed with the houses of farmers, in a state of ease and prosperity; and with the seats of gentlemen, who find society and liberal pleasures, without deserting the fields which give them their support, for the profusion and waste of a capital. No philosophical eye can view such a scene without pleasure, nor contemplate it without instruction. Such a scene is not to be met with in Catalonia; the latitude which spreads over their heads a clear expanse of blue, which lightens up in their heavens a blazing sun, with rays of which we have no feelings, which bids the perfumes of the east breathe over their wastes, and gives to their gardens a profusion of most delicious fruits, forbids it. Infinitely the greater part of the province is rock or mountain, without verdure, and without other wood, than ever-green oaks, olives, or pines; and no where except in the Pyrenees, with any masses of shade that give effect to the prospect. The only verdure in the country, tolerably durable, is that of the vineyards. Great wastes are covered with shrubs, which, however beautiful, when detached, have very little effect in a general prospect. To look for neat cottages, or good farm-houses, is to look in vain; and to find the landlords of the country you must go to Barcelona and Madrid. The deficiency of verdure destroys half the idea of rural beauty; the eye, dazzled with the unvarying splendour of the solar beams, and tired with wandering over arid heaths, aches for cooler and more quiet scenes, and languishes to repose on the verdant mead. When watered, where alone there could be verdure, all is a crowded scene of trees, and corn, and hemp; of glorious fertility, but forming the good feature of a landscape only when looked down upon from an eminence immediately above it. Hence, I own, that in respect of beauty of prospect, I must prefer many parts of France, and more in England, infinitely to any thing I saw in Catalonia, a country whose most striking features are its rocks.

I take the climate to be equal to any thing that is known in the world; I was there in the hottest season of the year, and travelling twelve and fourteen hours a day, yet bore it without any such oppression as could give an idea of its ever being insupportable; and both men and women stood their field business through the day, except two hours,

which they take for repose. Supposing, however that July and August are esteemed much too hot, still the rest of the year must, from every circumstance we heard, be delicious—they spoke with rapture of the pleasantness of the month of May; and no doubt but the winter must be a charming season, where such vegetables as green pease are gathered through every month of it, from the open fields. In regard to wholesomeness for invalids, one circumstance should be considered, which may be applied equally to all watered arable lands: I should conceive, that they must of necessity, in so hot a climate, be very unwholesome; and little better than rice-grounds, which are known every where to be pestiferous. The land is kept constantly watered, it is therefore little better than an earth sponge, or mass of mud; innumerable fibres of vegetables are mixed with it; the heat, the moisture, and the rich soil form a putrid fermentation, which gives health and luxuriance to vegetables, but must fill the air with phlogistic effluvia, I should apprehend far from wholesome to the human body. This is a consideration for physicians, and for those whom they send to southern climates.

#### IRRIGATION.

THE prospects down the vale of Aran beautiful; it is without fallows, fine hemp instead of them. Look down on the town of Esteredano, around which culture rises pretty high up the mountains. All the corn cut is reaped and bound in sheaves. Walnuts. Descend into the vale. Figs. Watered meadows. Ray-grass predominates; much common clover, white clover, trefoil, vetches, &c. A causeway for irrigation across the vale; the meadows are uncut, and have two and a half tons per acre on an average; the corn all through three quarters an acre. Pass a rich flat common; part of this vale fed by horses, hogs, mules, asses, and a few oxen.

Advancing, what meadows there are are well watered; as are French beans, hemp, and a small quantity of lucern.

Leave Pocblar; they have lucern, but not good, the gardens are all watered; mulberries; price of silk this year 18 livres the pound. Cultivation all around among the olive-trees; but it is corn one year and fallow another. Cross the river, which is here sixty yards wide. Wheels for raising the water of it into the gardens, ten or twelve feet high; they are of a very simple construction, something like the common water-wheels of a mill, but made very light; the fellies of the wheel are hollow in divisions, taking the water in through holes at equal distances, and as the stream turns the wheel, it delivers the water out of the same holes at the top of its revolution into a trough, which conducts it where wanted; it is cheap, simple, and effectual. Many peach-trees scattered about the gardens, &c. Mount the hills; pass two large tracts of above one hundred acres, destroyed by the torrents. Great quantity of pudding-stones. The mountains around are of interesting and bold features. The country in general here has a great mixture of cultivation and waste; it is for some space pleasing enough to the eye, but the produce is, I believe, very low; we saw many oats, and scarcely any that will produce more than a quarter an acre. They have no meadows; and I should observe, that our mules have not found such a thing as hay; straw and barley are the food; in all those spots which would give grass, corn and legumes are sown, as more necessary and more valuable; and this, I am told, is the case over all Spain, lucern excepted.

Near Monte Schia—they have here poor crops of flat barley: of water, they know well the value, a spring of any account being carefully conducted into a reservoir, and let out at seven in the morning and at night to water.



Advancing, there is some good hemp, watered; and I see enough of the country to find that the water is all in all; where that is to be conducted, they get crops that pay well; but where no water, they have not the power or the knowledge to turn the soil, however good it may be, to a profitable account; fallow the only effort, and the success every where miserable.

Cross a fine stream with many acres under it, yet no watering; the reason I cannot tell, unless the land is common; if so, it is easily explained.

The soil stony; the large, of the pudding class; but in the midst of this arid wretched desert, come to a spring, which rises out of the earth into a small reservoir, and is immediately used for irrigation; maize, hemp, cabbages, beans, and all fine; the contrast shews the astonishing effect of water, and that in this climate the soil is the least object; the sun and water do the whole.

Passing Paous; every thing changes the features; the vale on comparison with those we have seen, is wide, and also flat, and water plentifully conducted in canals, which pass every quarter, so as to let into the field of every proprietor; having passed above one hundred miles of dreary mountain, this vale, so great was the contrast, had the appearance of enchantment: the care and attention given to irrigation cannot be exceeded. The land is prepared for it, by levelling with a nicety as curious as for making a bowling-green, and this (conducting the water excepted, which is common to every one) is the only expence; this general level is divided into oblong beds, from six to eight feet wide, by little ridges of fine mould, drawn up nicely with a rake every time the ground is sown, in order that the water may not spread over too much at once, in which case, the irrigation would be unequal; there would be too much of a current at the part where the water enters, a circumstance of no great importance in watering grass land, but which would be mischievous in arable; small trenches take the water from the carrier canals, and passing by the ends of those beds, the farmer opens them at pleasure to distribute the water where wanted. As soon as the land is sown it is watered, and periodically till the plants are up; moderately while they are young; but every day, and sometimes twice a day, when full grown: the effect is surprising, and infinitely exceeds that of the richest manures that can be spread upon any land. The rapidity of vegetation is so great, that there are but few crops, which demand all the summer for coming to perfection; I believe hemp is the only one; that plant is now five to seven feet in height, and of so thick a luxuriance, that nothing can be imagined finer. The rye stubbles are ploughed and sown with French beans, which are up and watered. After hemp wheat is the crop.

Watered maize here, seven to nine feet high. Every time we see any irrigation, we are struck more and more with the importance of water, even on soils which are apparently mere rock, and on the most arid deserts, it gives at once the utmost luxuriance of vegetation. Vines and olives, however, stand in no need of it, but thrive admirably on the driest soils without it: not one acre, however, in twenty, is planted with them that might be.

Come to more watered grounds; gardening and husbandry mixed; peaches; apples; ripe pears; pomegranates in the hedges, as large now as walnuts in the shell; onions and lettuces in great plenty. Some watered lands have been sold at 1300 livres the journal.

Near Martorelle is a fine irrigated valley; French beans, seven feet high. Good lucern, cut three or four times a year; onions, cabbages, and lettuces; but the hemp, every where a principal crop, not great. The land all formed into the beds for watering; which I have already described.

Exceeding fine hemp, watered. Maize thick, and in ear. Many fine and tall poplars by the river.

They are now (July) ploughing their stubbles for French beans. Their course is,

1. Hemp.
2. Wheat; and after wheat, French beans.

Three crops are therefore gained in two years. The products good. Very fine mulberries. A journal, which is here also about an English acre, of rich land in the vale, not watered, sells for 500 livres: watered, for 1000 livres.

Leaving Barcelona, enter immediately an extraordinary scene of watered cultivation, and which must have given the general reputation to the province. Nothing can well be finer. The crops in perpetual succession, and the attention given to their culture great. Not the idea of that fallow; but the moment one crop is off, some other immediately sown. A great deal of lucern, which is cut four, five, six, and even seven times in a year; all broadcast, and exceedingly thick and fine, from two and a half to three feet high, when cut. It is all watered every eight days. We meet many mule loads of it going into the town, each four hundred and fifty pounds, or four quintals and a half, which sells for 4 pesettos, or near 4s. English; suppose it 4s. for five hundred pounds, it will not be difficult to calculate the produce of an acre. All I saw would yield ten tons, green, per acre, at each cutting, and much of it a great deal more; let us suppose five cuttings, or fifty tons per acre, at 16s. a ton, this is 40l. sterling per acre. It is to be remembered that the growth we saw was the third, perhaps the fourth, and that the first and second are in all probability more considerable, it will not, therefore, be thought any exaggeration to calculate on five such. I by no means assert that lucern yields always, or generally so, as I speak only of what I see. I have very little doubt, however, but this is the amount of that portion, which is thus cut and sold to Barcelona; possibly one-third, certainly one-fourth is to be deducted for the expence of carriage; this is the most difficult part of the calculation, for it depends on how many times the mule goes in a day, which must also depend on the readiness of sale, and other circumstances. The profit is, however, amazingly great. All the other lucern I have any where seen sinks, in my idea to nothing, on comparison with the vast and luxuriant burthens given by these watered grounds. The finest crops I have known in England are drilled, but there is a fallacy to the eye in the drilled crops, in proportion to the distance of the rows; they appear thick while they are really thin, but in broadcast ones, which satisfy the eye, there is no deception; and these immense burthens, through which the scythe is with difficulty moved, produce more at one cutting than two feet drills would at three, with the advantage of the herbage being finer and softer. But weeds in England and Catalonia are two very different things; it well deserves, however, with us, a better trial than it has yet generally received; I have viewed broadcast crops, particularly Rocque's on a very rich garden soil, and Dr. Tanner's, on a common turnip loam, which, though not to be named with the Spanish, were certainly encouraging.

Hemp, through all these watered lands, is the predominant crop, it is seven feet high, and perfectly fine; some of it is already harvested. I am sorry to see that the watered part of the vale is not more than a mile broad. Indian fig, called here *figua de maura*, grows six or seven feet high, very branching and crooked, the arms at bottom as thick as the thigh of a common man; those and many aloes in the hedges. Every garden or farm has a small house, with a reservoir for water, which is filled in most by a water wheel, with jars around the circumference. The gardens between Barcelona and the fort, and also within the walls, are watered in the same manner; the water is let into

every little bed, in the same way as I have already described. They are crowded with crops, and kept in most beautiful order; those in and close to the town, scattered with mulberry-trees. But in the district of which I am speaking at present, among the hemp and lucern, neither vine, olive, nor mulberry. These watered lands belong generally to proprietors who live in Barcelona, and are let at 30 to 40 Spanish livres the journal.

The valley, in its widest part is three miles broad. Here it lets at 34 Spanish livres a year the journal, and sells from 600 to 1000 livres; each of these livres being about 54s.: (1000 Spanish livres makes 2700 French ones.) Taking the medium, or 800 livres, and the French livre at 10½, this makes the price of a journal 90l. 2s. 6d.; and the rent of it 4l. The gross rent of the land, therefore, pays nearly 4½ per cent.; but whether this is clear rent, the tenant paying all taxes, and doing the small repairs of his house, &c. or whether there are deductions on these accounts, are questions which were neither forgotten nor resolved. To shew the quick succession of their crops, they have corn in stocks on the borders of some of the fields, and the land ploughed and sown with millet, which is already nine inches high. Many bleaching grounds.

Advancing—the irrigated land lets from 24 to 40 Spanish livres: that not irrigated, at 15 livres. Water, therefore, here more than doubles the rent of the land; and in other places we have found the difference yet greater. The soil all the way a red and brown deep friable loam, with a sufficient adhesion for any crops. They sow French beans after hemp, and then sow wheat.

At Ballalo, two hours from Barcelona, we meet with the first vineyards, but the hills here come down to the sea; and where they do not, the vale is not more than half a mile wide. Lycium in the hedges; some few mulberry-trees. Oranges in the gardens, a few palm-trees, with vines around them.

A journal of watered hemp produces from 10 to 12 quintals; if not watered, the product much inferior; the price 14 to 17 Spanish livres the quintal, or 35s. English which makes 19l. 5s. an acre. This is, however, to be understood of a very fine acre. The mountains are at half a mile distant, and partly cultivated to the top. All the way inclosed, and the men mending gaps in their hedges.

Every scrap of flat land well watered, from wells and reservoirs; the hill covered with vines.

Land, near Canet, well watered, sells for 500 Spanish livres the journal; vineyards for 300 livres. They give, in good years, to twelve charges. Unwatered land, 100 to 150 livres.

Enter a flat vale, half a mile broad, not watered. Hemp, very poor; maize, seven feet high. Vineyards, under regular plantations of olives; corn cut, in stocks, and the land ploughed. A journal sells for 200 livres, and further on, when irrigated, for 1000 livres, which is an astonishing difference.

While the mountains and waste parts of the province present an unfavourable prospect, the watered districts are, on the contrary, scenes of most exuberent fertility. To a person, from the north of Europe, there can hardly be a more striking spectacle than the effect of watering in these southern climates; it converts an arid stony waste, which would yield nothing but vines and olives, and on which every sort of grain would hardly return the seed, at once into fields, pregnant with the richest harvests; on such soils, it gives almost the whole value of the land; and on the richest it raises it, at the least, double; and in some instances, five times. It enables the cultivator to have a succession of crops, more important than any thing we know in the north. The reaping one crop is but the signal for immediately putting in another; in doing which, they exert them-

selves with the utmost activity ; ploughing universally as soon as the corn is cut ; and are by this means enabled to have constantly two crops a year. The extreme fertility of these lands has, however, led many travellers into great or ignorant exaggerations ; they have asserted that the land yields many crops at the same time, one under another, which is both true and false. It is fact, that corn, wine, oil, and silk, are produced by the same field, in some few instances ; but it is not from hence to be concluded, that the goodness of the land, or the importance of irrigation is at all shewn by that circumstance. The fact is, that it is impossible to raise one crop under another, without losing in one nearly as much as you gain in the other ; the olive, being a large tree, cultivation may be carried on under it, but the crop gained is poor, and shews that exactly in proportion to the shade is the injury sustained by the produce which is shaded. If the trees are thick, the corn is hardly worth the reaping ; it is the same in other cases, and I was well convinced, from viewing their grounds with this design, that the soil can carry, profitably, but one crop at a time ; several may be crowded on it, but nothing is gained ; with grass under trees, this is not the case so much in a hot climate ; but even grass is damaged, and it is not the question at present, as they have none. A country to be supported, and in a hot climate, without meadows or pastures, sounds very strange to English ears, and it is among the curious circumstances of this part, and I am told of the rest of Spain. If they applied to grass the land that is proper for it, they could not possibly have bread to eat ; straw here is given instead of hay, and entirely supplies its place, and the oxen and mules which we saw, did not shew in the least, by their looks, any deficiency in nourishment. Lucern is not at all common through the interior part of the province, and where they cultivate it, it is used green. Maize is sometimes sown merely for its herbage, as it might be, I believe, profitably in England, late in the spring, to avoid our frosts ; it is one of the most nourishing plants in the world.

The consequence of water being so apparent in the province, I could not but attend particularly to their exertions in conducting it, and I concluded that not one acre in twenty, perhaps in forty, is watered, that might be. In the flat vales where canals of irrigation are made, at a small expence, a very good, though by no means a complete use is made of them ; but on the declivities of the mountains, it is necessary to erect a mound of solid masonry across the river, and to cut the canal partly out of rocks, and to support it by walls of stone, as I have seen in France ; and having thus diverted a large portion of the water of a river, to carry it on its level, along the side of the mountain as far as it will go ; such exertions demand a much greater capital than is to be found upon the lands of Catalonia : it could be done only by a great lord, who knew the importance of such undertakings, who resided on his estate, and whose income was spent in something else than the taste and pleasures of a capital. But leaving such exertions to individuals, who either have not the money or not the will to employ it, is to perpetuate wastes. It is the king only who can make those efforts ; a monarch who should be determined to improve his kingdom would presently find the means of doing it. The importance of water is so well known, that if a canal is made to conduct it, the proprietors or farmers of the lands below would readily and speedily make use of it, paying proportionably for the quantity they took ; this is the system in Lombardy, and the effect is great. It would be the same in Catalonia, but the capital for the great work of the canal, must probably be supplied by the king, if not the whole, at least a considerable portion. Such money should be lent to undertakers at a moderate interest. Exertions of such a nature, with a proper general attention given to these objects, would make them fashionable among the great lords of the kingdom, and fertile provinces would soon be created out of barren and desolate wastes. Arbitrary power has been exerted for ages in efforts of barbarity,

ignorance, and tyranny; it is time to see it employed in works that have the good of mankind for their aim. A beginning, and a very good one, is made in the construction of some great roads, on a scale of true magnificence, which is never exhibited with such effect as in works of public utility; and whenever the importance of cultivation is well understood in Spain, and the right means of advancing it clearly analysed, irrigation will then receive an attention that has not hitherto been given. Such is the necessity of water, for various productions in this climate, that rivers ought to be no more than infinitely multiplied channels, and collected in one stream only, as a reservoir for fresh and repeated deviations.

## SHEEP.

On the northern ridge of the Pyrenees, bearing to the west of Bagnere de Luchon, are the pastures of the Spanish flocks. The ridge is not, however, the whole; there are two other mountains in a different situation, and the sheep travel from one to another as the pasturage is short or plentiful. I examined the soil of these mountain pastures, and found it in general stony; what in the west of England would be called a stone brash, with some mixture of loam, and in a few places a little peaty. The plants are many of them untouched by the sheep: many ferns, narcissus, violets, &c.; but burnet (*poterium sanguisorba*) and the narrow-leaved plantain (*plantago lanceolata*) were eaten, as may be supposed, close. I looked for trefoils, but found scarcely any: it was very apparent, that soil and peculiarity of herbage had little to do in rendering these heights proper for sheep. In the northern parts of Europe, the tops of mountains half the height of these, for we were above snow in July, are bogs; all are so which I have seen in our islands, or at least, the proportion of dry land is very trifling to that which is extremely wet; here they are in general very dry; now a great range of dry land, let the plants be what they may, will in every country suit sheep. The flock is brought every night to one spot, which is situated at the end of a valley on a river, and near the port or passage of Picada: it is a level spot sheltered from all winds. The soil is eight or nine inches deep of old dung; not at all inclosed, and, from the freedom from wood all around it, seems to be chosen partly for safety against wolves and bears. Near it is a very large stone, or rather rock, fallen from the mountain. This the shepherds have taken for a shelter, and have built a hut against it; their beds are sheep-skins, and their doors so small that they crawl in. I saw no place for fire, but they have it, since they dress here the flesh of their sheep; and in the night sometimes keep off the bears by whirling fire-brands: four of them belonging to the flock mentioned above, lie here. Viewed the sheep very carefully, and by means of our guide and interpreter, made some inquiries of the shepherds, which they answered readily, and very civilly.

A Spaniard, at Venasque, a city in the Pyrenees, gives 600 livres, French (the livre is  $10\frac{1}{2}$ d. English) a year, for the pasturage of this flock of two thousand sheep: in the winter he sends them into the lower parts of Catalonia, a journey of twelve or thirteen days; and when the snow is melted enough in the spring they are conducted back again. They are the whole year kept in motion, and moving from spot to spot, which is owing to the great range they every where have of pasture. They are always in the open air, never housed, or under cover, and never taste of any food but what they can find on the hills.

Four shepherds, and from four to six large Spanish dogs, have the care of this flock; the latter are in France called of the Pyrenees breed; they are black and white, of the size of a large wolf; a large head and neck; armed with collars stuck with iron spikes:

no wolf can stand against them; but bears are more potent adversaries; if a bear can reach a tree he is safe, he rises on his hind legs, with his back to the tree, and sets the dogs at defiance. In the night the shepherds rely entirely on their dogs; but on hearing them bark, are ready with fire-arms, as the dogs rarely bark if a bear is not at hand. I was surprised to find that they are fed only with bread and milk. The head shepherd is paid 120 livres a year wages, and bread; the others 80 livres and bread. But they are allowed to keep goats, of which they have many, which they milk every day; their food is milk and bread, except the flesh of such sheep or lambs as accidents give them. The head shepherd keeps on the mountain top, or an elevated spot, from whence he can the better see around, while the flock traverses the declivities. In doing this, the sheep are exposed to great danger in places that are stony; for by walking among the rocks, and especially the goats, they move the stones, which, rolling down the hills, acquire an accelerated force enough to knock a man down, and sheep are often killed by them. Examine the sheep attentively. They are in general polled, but some have horns; which in the rams turn backwards behind the ears, and project half a circle forward; the ewes horns turn also behind the ears, but do not project; the legs white or reddish; speckled faces, some white, some reddish; they would weigh fat, I reckon, on an average, from fifteen to eighteen pounds a quarter. Some tails left long. A few black sheep among them; some with a very little tuft of wool on their foreheads. On the whole, they resemble those on the South Downs; their legs are as short as those of that breed; a point which merits observation, as they travel so much and so well. Their shape is very good; round ribs, and flat straight backs; and would with us be reckoned handsome sheep; all in good order and flesh. In order to be still better acquainted with them, I desired one of the shepherds to catch a ram for me to feel, and examine the wool, which I found very thick and good of the carding sort, as may be supposed. I took a specimen of it, and also of a hoggit, or lamb of last year. In regard to the mellow softness under the skin, which is a strong indication of a good breed, with a disposition to fatten, he had it in a much superior degree to many of our English breeds, to the full as much so as the South Downs, which are, for that point, the best short-wooled breed which I know in England; the fleece was on his back, and weighed, as I guessed, about eight pounds English; but the average, they say, of the flock, is from four to five pounds, as I calculated by reducing the Catalonian pound of twelve ounces, to ours of sixteen ounces; and is all sold to the French at 30s. per pound French. This ram had the wool of the back part of the neck tied close, and the upper tuft tied a second knot, by way of ornament; nor do they ever shear this part of the fleece for that reason; we saw several in the flock with this species of decoration. They said that this ram would sell in Catalonia for 20 livres. A circumstance which cannot be too much commended and deserves universal imitation, is the extreme docility they accustom them to; when I desired the shepherd to catch one of his rams, I supposed he would do it with his crook, or probably not be able to do it at all; but he walked into the flock, and singling out a ram and a goat, bid them follow him, which they did immediately, and he talked to them while they were obeying him, holding out his hand as if to give them something. By this method he brought me the ram which I caught and held without difficulty.

The mountain pastures belonging to the Spaniards, not used by themselves, they let to the owners of large flocks who bring them from the lower part of Catalonia, as with the French mountains; these flocks rise to four thousand sheep; the rent in general being from 5s. to 7s. a head, for the summer food. Every inhabitant possesses cattle, which he keeps in the common mountains in what quantity he pleases; but others, who

do not belong to the parish, pay 5s. to 7s. a head for the sheep, and 10s. for a cow; which disproportion they explain by saying, that sheep must have a much greater range.

They have good sheep in various parts of Catalonia, but all are sent to Saragosa or Barcelona.

The mountains and wastes in some parts have no sheep; only goats.

Cross great wastes, which in other countries would be sheep-walks; but none here; for five-sixths of the spontaneous growth are aromatic plants.

See two small flocks of sheep, exactly like those in the Pyrenees, described the first day of this journey,

A small flock of sheep, that give five or six pounds of wool each.

Several small sheep-folds. Such notes as these shew how few they are, on comparison of what they ought to be.

In travelling over the lower mountains, after quitting the higher Pyrenees,\* the deficiency of sheep struck me very much; the climate is too dry to think of a luxuriant vegetation of grass; but if the rosemary, lavender, and other aromatic useless plants were destroyed, and the land, by cultivation, properly adapted, was to be laid down to such plants as would feed sheep, fine pastures might not be gained, but much valuable sheep-walk would be created, and the quantity of wool increased an hundred fold. Such a system would unite well with olives, which might be thinly scattered over such improvements. To import immense quantities of sheep from France, and to take no steps to increase them at home, is a blind conduct, especially when it is considered, that in a proper system, they cannot be increased without being at the same time, the means of improving fresh land.

PRODUCE OF THE KINGDOM OF VALENCIA IN 1787.

	Reals de Vellon.	English Money.	
		l.	s. d.
Silk, 2,000,000 lb. at 60 reals,	120,000,000	2,000,000	0 0
Hemp, 25,000 quintals, at 160 reals,	4,000,000	66,666	13 4
Flax, 30,000 quintals, at 200 reals,	6,000,000	100,000	0 0
Wool, 23,000 quintals, at 160 reals,	3,680,000	61,333	6 8
Rice, 140,000 cargas, at 150 reals,	21,000,000	350,000	0 0
Oil, 10,000 quintals, at 180 reals,	1,800,000	30,000	0 0
Wine, 3,000,000 arrobas,	84,000,000	1,400,000	0 0
Dry raisins, 60,000 quintals, at 40 reals,	2,400,000	40,000	0 0
Figs, 60,000 quintals, at 32 reals,	1,920,000	32,000	0 0
Dates and palms,	1,200,000	20,000	0 0
		<u>£.4,100,000</u>	<u>0 0</u>

\* There is no line of boundary to be fixed, with any precision to the Pyrenees; I am inclined to think that all the mountains we saw, Montserrat perhaps excepted, are branches of that stupendous chain, uniting in some direction. The whole mountainous part of the province, that is, eighteenth-twentieths of it, is properly the Pyrenees.

## PRICES AT MADRID, 1788.

	Average.	Eng. money.	
		s.	d.
Beef, 14 to 15 quartos per lb.	15 quartos.	0	3 $\frac{3}{4}$
Veal, 24 to 30 quartos per lb.	27	0	6 $\frac{3}{4}$
Mutton, 15 quartos per lb.	15	0	3 $\frac{3}{4}$
Fresh pork, 15, 17, to 20 quartos per lb.	17	0	4 $\frac{1}{4}$
Salted pork, 17 to 20 quartos per lb.	17	0	4 $\frac{1}{4}$
Ham, 18 to 22 quartos per lb.	20	0	5
Tallow Candles, 15 quartos per lb.	15	0	3 $\frac{1}{4}$
Soap, 16 quartos per lb.	16	0	4
Butter (Mantica de Flandes) 8 reals per lb.	8 reals.	2	8
Goat's milk, 6 to 7 quartos per el quarto,	7 quartos.	0	1 $\frac{3}{4}$
Mancha cheese, 18 quartos per lb.	18	0	4 $\frac{1}{2}$
Turkey, 12, 20, to 45 reals a piece,	25 reals.	8	4
Fowl, 8, 11, to 14 reals a piece,	11	3	8
Hare, 5 to 9 reals a piece,	7	2	8
Rabbit, 5 to 8 reals a piece,	6	2	0
Partridge, 4 to 8 reals a piece,	6	2	0
Pigeons, 5 to 6 reals a piece,	5	1	8
Eggs, 21 to 42 quartos a dozen,	31 quartos.	0	7 $\frac{3}{4}$
Potatoes, 4 to 6 quartos per lb.	5	0	1 $\frac{1}{4}$
Garvanzos (large pease) 10 to 12 quartos per lb.	11	0	2 $\frac{3}{4}$
Wheat flour, 13 quartos per lb.	13	0	3 $\frac{1}{4}$
Rice, 11 to 12 quartos per lb.	11	0	2 $\frac{3}{4}$
Brandy, 2 reals per el quarto,	—	0	8
Common wine, 26 to 28 r. the arroba (about 18 bottles) 27 reals.	—	9	0
Valdefunas wine, 36 reals per el quarto,	—	12	0
Charcoal, 4 reals and 5 quartos the arroba,	—	1	5 $\frac{1}{4}$
Wood, 3 reals the arroba,	—	1	0
Common bread, 6 quartos per lb.	—	0	1 $\frac{1}{2}$
Pan candial, 6 quartos per lb.	—	0	1 $\frac{1}{2}$
Common oil, 15 quartos per lb.	—	0	3 $\frac{3}{4}$
Valencia oil, 4 reals per lb.	—	1	4
French oil, 7 reals per lb.	—	2	4
Coffee, 34 quartos per lb.	—	0	8 $\frac{1}{2}$
Sugar, 30 to 38 reals per lb.	34	11	4
Chocolate, 6, 8, to 10 reals per lb.	8	2	8
Tea, 11 quartos per oz.	—	0	2 $\frac{3}{4}$
Hair-powder, reals per lb.	—	0	8

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**MAJORCA.**

SOME circumstances relating to this island, which I procured from good authority at Barcelona, and at Bayonne, from Spaniards who had resided many years in it, I think too interesting to be omitted, as they may serve, if for no other purpose, at least to point



the inquiries of some future traveller, who shall have an opportunity of visiting that island.

*Climate....*The most delicious that has been experienced by various persons well acquainted with France, Italy, Spain and Portugal; and resulting in a good measure from the variety of the face of the country, which rises from some beautiful plains to gentle slopes, which, after many undulations of surface, finish in the mountains. In the greatest heats of July and August, the hills preserve the temperature almost vernal: nor are the heats ever suffocating in any part. The winters, except on the highest parts of the mountains, are mild and pleasant, as may be gathered from the circumstances of vegetation, almonds blossom in December, are in full bloom in January; and many wild flowers are in all their beauty quite through the year. Spinnage, green pease, beans, lettuce, endive, cellery, &c. are in perfection the year round. In the depth of winter, ice is seen to the thickness of one-tenth of an inch, but melts before the day is much advanced. No sharp cutting winds are ever felt, either in winter or in spring; and a person who resided there sixteen years, never saw a fog. The houses have no chimnies; but when artificial warmth is wanted, almond-shells are burnt in brasieres. This extremely agreeable temperature of the climate was confirmed to me by general Murray and his lady, who resided there many years; and the former mentioned a circumstance, which shews how erroneous it would be to judge of any climate by the latitude; Leghorn is nearly in the same parallel, but the severest cold he ever felt, in March, was at that place, where, in washing, the water became ice before a towel could be well dipped in it.

*Culture and Products....*The hills are formed in terraces, and planted and cultivated with great attention. Olives are planted, and under them wheat sown; in the flats, many almonds and mulberries. Oranges and lemons are in such quantities, that they export many to France. They are in great profusion, and the most beautiful to be imagined. The mountains of Soleya are famous for peaches, and all sorts of fruit. Hedges of pomegranates are attended with medlar and quince trees, alternately on one side, and on the other mulberries; but the best fence is the prickly pear, the fruit of which is ripe in July, which is eaten, both leaf and fruit, by cattle, and are supported on it in fine order, when other things fail in the heat. Musk and water melons are in great perfection.

Sugar-canes do well; but no such thing as rice, as neither swamp, marsh, nor bog. Irrigation is well understood and much practised.

A common course of crops,

1. Wheat.
2. Barley.
3. Beans.
4. Pease.

Capers (which are a weed) come up in the wheat stubbles, which give a crop; then the stubble and caper-bushes are burnt, and the barley and legumes succeed, and after those artichokes.

They plough with a pair of oxen or mules.

The proprietors in general keep the land in their own hands.

#### LIVING.

This island, which by every account might be made a paradise, is one of the cheapest spots in Europe to live in; upon an income of 150*l.* a year sterling, men of the better

sort live comfortably and bring up a family. Every vegetable production for the table with all kinds of fruits, are not only in uncommon profusion but excellent of their sorts. Poultry no where better; turkeys are kept in great droves, and driven to feed on-berries as regularly as sheep to pasture; they are fattened on myrtle-berries, and are not only of a delicious flavour but a great size, even to thirty-six pounds weight. Mutton is excellent; some sheep are so small from the island of Yuvica, that three legs are sometimes served up in one dish.

All these circumstances united, seem to point out this island as an excellent winter residence for those who can no longer resort to Nice or Hyeres, and is probably a better climate than either of them.

PRODUCE OF THE ISLAND OF MAJORCA IN 1786.

		<i>Pesos.</i>	English money.		
			<i>£.</i>	<i>s.</i>	<i>d.</i>
Wheat,	475,336 fanegas	1,521,075	342,241	17	6
Barley,	152,880	300,664	67,649	8	0
Oats,	122,068	134,274	30,211	13	0
Pulse,	102,037	244,888	55,099	16	0
Almonds,	60,500	129,066	29,039	17	0
Oil,	193,030 arrobas	476,140	107,131	10	0
Wine,	1,665,660	322,829	72,636	10	6
Hemp,	24,446	83,180	18,715	10	0
Flax,	5,038	15,367	3,457	11	6
Carobs,	500,300	83,333	18,749	18	6
Figs,	175,000	62,000	13,950	0	0
Cheese,	-	25,000	56,250	0	0
Wool,	472,795 lb.	61,341	13,801	14	6
Straw of wheat and barley,	-	125,045	28,135	2	6
Silk,	5,347 lb.	24,061	5,413	14	6
Sweet oranges,	-	45,000	10,125	0	0
Fruits of all sorts,	-	170,000	33,250	0	0
Pimienta,	-	13,000	2,925	0	0
Capers,	-	4,500	1,012	10	0
Increase of sheep by birth,	-	126,942	28,561	19	0
— of goats,	-	31,430	7,071	15	0
— of black cattle,	-	25,704	5,783	8	0
— of hogs,	-	240,000	54,000	0	0
— of horses, mules, and asses,	-	74,100	16,672	10	0
Many articles are not mentioned in this account, and are reckoned to amount (the specified produce comprised) to		4,983,326	1,121,248	7	0
The extent of Majorca is $123\frac{1}{2}$ square leagues, whereof twenty to one degree.					
Majorca is reckoned to be the $\frac{1}{178}$ part of the continent of Spain; and the whole of Spain does not amount to 250,000,000 pesos per annum, according to the opinion of many well-informed Spaniards.			Majorca. 316,011 3 0 Spain. 55,933,988 17 0		





Engraved by P. Maverick. From 1857.

# Monte Blanco.

From the Valley of Chamouray in the Alps, ascended by Saigeyre.

AN ACCOUNT  
OF THE  
ATTEMPTS THAT HAVE BEEN MADE  
TO  
ATTAIN THE SUMMIT OF MONT BLANC.

WRITTEN IN THE YEAR 1786.

[FROM SAUSSURE.\*]

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WHEN I was writing the preliminary discourse and the first part of this work, I looked upon the summit of Mont Blanc as absolutely unattainable. In my first excursions to Chamouni in 1760 and 1761, I had it published in all the parishes of the valley, that I would give a considerable recompence to whoever should find a practicable route. I had even promised to those who made unsuccessful trials to pay them for their labour: these promises were of no avail. Pierre Simon made one attempt at the Tacul side, and another at the side of the glacier of Buissons, but returned without any hope of success.

However fifteen years after, that is to say in 1775, four of the Chamouni guides attempted to gain it by the mountain de la Cote, this mountain which forms a ridge pretty near parallel to the glacier of Buissons, approaches to the ices and snows which continue without interruption to the top of Mont Blanc.

There is some difficulty to overcome before entering on these ices, and to cross the first crevices; but these first obstacles once surmounted, there remains no more than the length of the way, and the difficulty of accomplishing in one day the ascent and descent. I say in one day, because the people of the country think it not safe to run the risk of passing the night on these snows.

These four travellers got very well over the first obstacles; they then endeavoured to follow a great valley of snow, which appeared to conduct them immediately to the summit of the mountain. All appeared to promise them the most happy success; they had the finest weather imaginable, they neither met with openings too large, nor precipices too rapid: but the reverberation of the sun on the snow, and the stagnation of the air in this valley made them undergo as they said a suffocating heat, and gave them at the same time such a distaste for the provisions with which they were provided, that overcome by inanition and weariness, they had the grief to be forced to return the same way they went, without having met any visible insurmountable obstacle. It however appears that the efforts they had made were very great, for their strength was very much tried in this excursion, and from it they became more or less ill.

This disappointment however did not prevent three other of Chamouni guides from undertaking the same task, and by the same road in 1783. They passed the night at the top of the mountain de la Cote, crossed the glacier, and followed the same valley of snow. They had already got to a good height, and were proceeding courageously, when one of the boldest and most vigorous of the three was suddenly seized with an insurmountable propensity to sleep: he desired the other two to leave him and go on without, but they could not think of abandoning him, and leaving him to sleep on the snow; persuaded as they were that the heat of the sun would kill him: they therefore

\* Voyage dans les Alpes, ii. 550.

renounced the undertaking and returned back together to Chamouni. For this propensity to sleep, produced by the rarity of the air, left him as soon as they had descended low enough to find themselves in a thicker atmosphere.

It is very likely that even if this overpowering propensity to sleep had not stopped these brave fellows, they would not have been able to have gained the summit of the mountain, for in effect though they had attained a great height, they had still a great way to go, the heat incommoded them excessively, a thing surprising at this height; they had no appetite; the wine and provisions that they took with them had no charms for them. One of them\* told me seriously that it was useless to carry any provisions in this excursion; and that if he should make another trial by the same way, he would only take a parasol and a smelling bottle. When I figured to myself this tall and vigorous mountaineer grappling with the snow, and holding in one hand a little parasol, and in the other a bottle of eau sans pareille, this image had something in it so ridiculous and strange, that nothing could be more convincing to my mind than the idea he had formed to himself of the difficulty of this undertaking, and of consequence of its absolute impossibility for people who have neither the head or the joints of a good guide of Chamouni.

Yet M. Bourrit would again make another trial at the end of the season, he likewise slept at the mountain de la Cote, but an unexpected storm coming on obliged him to turn back just at the entrance of the glacier.

For my part, after the informations which I had received from those who had made the attempt at this side, I looked on the success as absolutely impossible, and this was the opinion of all the intelligent people of Chamouni.

M. Bourrit, who interested himself more than I did in the conquest of Mont Blanc, thought he ought to try it by some other side; he gained from all parts all the intelligence he could; at length he learned that two hunters in following some chamois had got on some ridges of rock to so very great a height, that from the place to which they were come, to the summit of Mont Blanc, there remained no more than four or five hundred toises to get up by the declivities of snow which were not very rapid, and in so open an air that there was nothing to fear from that sort of suffocation, that had been found in the valley of snow which ends at the mountain de la Cote.

Charmed with this discovery, M. Bourrit ran to La Grue, the village where these hunters lived, and immediately engaged them to make another trial with him. He left the village the same evening, and arrived with them at break of day at the foot of some steep rocks which it was necessary to pass. The morning air was of an extraordinary keenness; M. Bourrit seized by the cold and overpowered by fatigue could not follow his guides. Two of those, after having left him with the third at the foot of the rocks mounted alone, not only to the top of the same rocks, but very far on the snow: they said that they had reached to the foot of the highest summit of Mont Blanc, from which they were separated only by a ravine of ice, in which, if they had had more time and help they could have made stairs by which they might easily have got to the top.

As soon as this trial had permitted me to believe in the possibility of success, I resolved to make the attempt as soon as the season would permit; I charged two men of the neighbourhood † to watch near the mountain, and to give me notice as soon as the melting of the snows would render it possible. Unhappily they accumulated during the rigorous winters of 1784 and 1785, and those which have frequently fallen during the cold and rainy summer which has succeeded this winter have retarded my departure till the middle of September.

\* Jorasse.

† Pierre Balme and Marie Goutet.

I always prefer making these excursions with my guides only ; but M. Bourrit, who was the first to make known this route, having desired that we should make this attempt together, I consented with pleasure. We took with us his son, a young man of twenty-one years of age, whose talents promise a most happy success, and whom the love of botany, and the grand objects of contemplation that our Alps present, has often conducted on the traces of his father.

I had reckoned on sleeping as high as possible under coverings in form of tents : but M. Bourrit had conceived the happy idea of sending two days before three men of Chamouni to construct for us under shelter of a rock, near the base of the Aiguille du Goute, a sort of hut or hovel of dry stones ; an excellent precaution which would secure us from the danger of a storm, if we should have the misfortune to meet one.

These dispositions made, we agreed to meet on Monday the twelfth of September at the village of Bionassay, situated about a league to the north-east above that of Bionnay, M. Bourrit and his son came there from the priory of Chamouni, which is four leagues to the north-east of this village. I left Geneva the eleventh of September, and came in a carriage to Sallenche ; and the next morning I went on horseback to Bionassay passing by St. Gervais and by Bionnay.

The village of Bionassay is situated in a very uneven valley, open to the south-east, and shut at all other sides. It is commanded by the glacier of the same name, and separated, at the north-east, from the valley of Chamouni by a small chain of slate and calcareous mountains.

I observed between Bionnay and Bionassay some remarkable stones, but I mean to give the lithological account of this little journey in another place ; those details would too much damp the interest of which it is susceptible.

I arrived the first at Bionassay with Pierre Balme, who had come as far as Sallenche to meet me ; we should have slept at this village, but as there was no inn there, I had asked at Bionnay which of the peasants of the place was in the best situation to entertain us, they directed me to the Conseiller de la Commune named Batandier. This honest peasant received me with great cordiality ; and M. Bourrit coming in the evening from Chamouni, our host gave each of us a good little room, with a bed filled with fresh straw on which I passed a very good night.

The next morning I felt some uneasiness for the weather, the barometer not having mounted during the night more than the sixteenth of a line ; which is much under what it rises to from evening to morning, when fine weather is perfectly settled. My observation, compared with that which M. Pictet made at Geneva, gives to the situation of Batandier's house four hundred and eighty-eight toises above our lake, and of consequence six hundred and eighty above the sea.

We had then still to mount one thousand eight hundred toises before we could get to the summit of Mont Blanc, but we had two days to perform it in : as the first day we were only to go as far as our hut. As its situation had been left to the choice of its constructors, we were ignorant of its height, but wished to find it placed as high as possible.

At day-break one of the Chamouni guides, who had worked at the construction of the hut, came to inform us it was almost finished, but that it would be necessary to take another piece of fir, to make the roof more solid. We ordered a man of Bionassay to carry one, and two others loaded themselves with straw, and two more with wood for firing. Others carried provisions, furs, and my physical instruments, and thus we formed a caravan of sixteen or seventeen people.

I had hoped that we might have gone near two leagues on our mules, but it was with difficulty we could make use of them even for one. M. Bourrit the father even wished to go the whole way a foot.

We immediately mounted an easy slope by the side of a profound ravine, in which runs the torrent which issues from the glacier of Bionassay. Then a rapid ascent conducted us to a little plain below the glacier: we traversed this plain in its whole length: we then coasted the glacier for some moments, and we finished by leaving it and taking a straight north-east direction by a very rough but not too fatiguing slope, and without any danger.

All the upper part of this slope is called Pierre-ronde, without the origin of this name being known; for there is neither rock nor stone there remarkable for its roundness. This slope is free from wood, bushes; and almost all vegetation is covered only with fragments, and presents a most savage aspect. At the left are seen bare rocks which conceal the valley of Chamouni, and to the right, the rocks and ices of the base of Mont Blanc; for as for its head and shoulders, they are concealed by its low and projecting bases.

Although this ascent was long enough, I was always afraid to see the end of it and come to the hut, because I wished to get as high as possible the first day, and to make the most of the second, which would be the most interesting, but at the same time the most painful: thus, always counting for nothing the present fatigue, we ascended, almost without perceiving it, the seven hundred and forty-one toises which our hut lay above the village: we got to it about half an hour after one, although we had not set out till eight, and divers little accidents had made us lose more than half an hour of the time.

The situation of this hut was the happiest that could have been chosen in so wild a situation. It was joined to a rock in the bottom of an angle, sheltered from the north-east and north-west at about fifteen or twenty paces, above a little glacier covered with snow, from which issued a clear and fresh stream which answered every purpose wanting to our caravan.

Opposite the hut was the Aiguille du Goute, by which we were to attack Mont Blanc. Two of our guides,\* who had scaled the Aiguille, shewed us the ridge which we should climb. They even offered to take advantage of what remained of the day to reconnoitre the mountain, choose the easiest route and mark steps in the hard snow: we accepted the offer with thanks. To the right of these rocks we admired a summit of snow called la Rogne, which appeared to us of a prodigious height, we were however told we should see it under our feet, from the Dome of l'Aiguille. All the lower part of this high summit was covered with extremely rugged glaciers, which emptied themselves into that of Bionassay. At every moment vast masses of ice detached themselves from this glacier, which we could see fall, and precipitate themselves with a horrid crash and dissolve in clouds of dust, that the air raised by the fall of ice rose up like clouds to a surprising height.

Behind our hut was a small chain of rocks about forty feet above it. I made haste to get up it, my travelling companions quickly followed me, and there we enjoyed one of the finest views I ever met on the Alps.

These rocks, whose height is one thousand two hundred and twenty-nine toises above the lake, and one thousand five hundred and twenty-two above the sea, are at the north-west side quite precipitous. There is seen under the feet the southern extremity of the valley of Chamouni, above which we were about nine hundred toises. The rest of this charming valley is shortened in the view, and the high mountains which border on it

\* Gervais and Goutet.



appear to form a circus round it. The high points seen in profile subdivide themselves in a forest of pyramids which closes the bounds of this circus, and seem destined to defend the entrance of this charming retreat, and preserve its peace and innocence. From that side, the view extends to the Gemmi, which is known by its double summit which has given it that name. But I shall not undertake to give a detail of the immense heap of mountains which is discovered from this summit, let it suffice to say that it presents the most ravishing prospect to those who delight in such beauties.

I chose this summit for my observatory, I suspended my hygrometer and my thermometer in the air to a stick which kept them in the shade, whilst I standing on the most projecting point of the rock measured with my electrometer the degree of ærial electricity. It is true that the cold north wind which then blew did not permit me to remain long in that situation, it was necessary to find out a milder temperature under cover of the rocks which surrounded our hut; but as soon as I had warmed myself, I returned again to enjoy the prospect and continue my observations. I will give an account of them in a chapter apart.

I had the chagrin of not being able to make an experiment from which I had promised myself much pleasure: that of the necessary heat to boil water at different heights. The physicians know the profound researches of M. De Luc on this subject, their precision and their exactitude leave no doubt of the results; nevertheless M. le Chevalier Shuckburgh thinks he has found out another rule.

It was interesting to repeat these experiments, particularly at such heights as no naturalist had ever attempted. For eighteen months I had been asking of M. Paul, a thermometer armed with a micrometer and adapted to a portable kettle: but the want of proper tubes, and the multiplied occupations of this excellent artist, had so retarded the execution of this instrument that it was not ready till the day before our departure. However it appeared to be in very good order, I tried it the same night and again with success at Bionassay; and I hope it will succeed equally well every where else, but at the height of the hut the lamp destined to make the water boil would not burn; it was a lamp constructed on the principles of those that M. Argand had invented, but made in a hurry, and from a bad model: the tinder which served it as a wick burned at first very well: but presently this tinder turned into coal and afterwards went out, an accident which did not happen in a thicker air. Unhappily our apparatus was disposed in such a manner that it was impossible to make our water boil on a wood fire, the only one here in our power. After then having uselessly tried this apparatus a thousand different ways, I was obliged to give up the experiment, or put it off till another opportunity.

But the beauty of the evening, and the magnificence of the spectacle, which the setting sun presented from my observatory, consoled me for this disappointment. The evening vapour which, like a light gas, tempered the sun's brightness, and half concealed the immense extent we had under our feet, formed the finest purple belt, which incircled all the western part of the horizon, whilst to the east the snows at the base of Mont Blanc coloured by this light presented the finest and most magnificent spectacle. In proportion as the vapour descended and became more dense, this belt became narrower, and of a deeper colour; and appeared at last of a blood red, at the same instant small clouds which rove above this chain, darted a light of such brightness, that they resembled flaming stars or meteors. When the night was quite set in I returned there; the sky was then perfectly clear, and without clouds, the vapours were only observable at the bottom of the vallies: the stars shining but without any tinkling, spread over the tops of the mountains an extreme feeble and pale light, but sufficient however to

distinguish the masses and the distances. The repose and profound silence which reigned in this vast extent, still heightened by the imagination, inspired me with a sort of terror; it appeared to me as if I had outlived the universe, and that I saw its corpse stretched at my feet. Sorrowful as ideas of this nature are, they have a sort of charm which can hardly be resisted. I turned my looks oftener towards this obscure solitude than towards Mont Blanc, whose shining and phosphorical snows still gave the idea of movement and life; but the keenness of the air on this isolated point presently forced me to retire to the hut.

The coldest part of the evening was three quarters of an hour after sun-set, the thermometer could keep no higher than two and a half degrees above the freezing point. An hour after it got a degree higher, and another in the night, still the fire afforded us great satisfaction; indeed we scarcely should have been able to have done without it.

But this hut, this asylum of such consequence to us, deserves to be described. It was about seven feet by eight, and four in height: it was inclosed by three walls, and the rock which it was attached to served for a fourth; flat stones placed without mortar formed these walls; and the same sort of stones, supported by three or four branches of fir, composed the roof: an opening of three feet square, left in the wall, served for an entrance. Two paillasses placed on the ground served us for beds; and an open parasol placed against the entrance served us at the same time instead of a door and curtains. M. Bourrit, and still more so his son, were incommoded by the purity of the air; they did not digest their dinner, and could not eat any supper. For my part, whom the pure air does not incommode, if I use no violent exercise, I passed an excellent night in a light and quiet sleep.

When the parasol was not before the door, I could see from my bed the snows, the ices, and the rocks situated below our hut; and the rising of the moon gave to this view the most singular appearance. Our guides passed the night, some squatted in the holes of rocks, others wrapped up in cloaks and blankets, and others sat up and watched by a little fire, which they kept up with a part of the wood we brought with us.

As M. Bourrit the year before, at the same season, and in the same place, suffered severely from insupportable cold at sun-rise, it was settled that we should not set out till after six o'clock. But as soon as day began to appear, I mounted to my observatory and there waited the sun's rising. I found the view still very fine, less singular however than at the sun's setting; the vapours, less condensed, did not form in the horizon a cordon so distinct and highly coloured, but in return I observed a singular phenomenon. It was formed of rays of a fine purple, which parted from the horizon to the west, precisely opposite the sun; they were not clouds, but a sort of thin vapour homogeneous substance: these rays, to the number of six, had their centre a little below the horizon, and extended to ten or twelve degrees from this centre.

We had the precaution to take a warm mess of soup as a preventative against the cold; we then made an equal division amongst our guides of provisions, precautionary clothing, and of my instruments, and in this manner set out at a quarter past six with the greatest hope of success.

Elevated as we were to one thousand four hundred and twenty-two toises above the sea, we had still one thousand toises to get up before we could attain the summit of Mont Blanc; in effect, the most exact measures allow this summit to be two thousand four hundred and twenty-six toises above the Mediterranean. Of these one thousand toises, we had to go about six hundred on the rocks of the Aiguille du Goute, and the remainder on the snow.

This Aiguille, or high mountain, seen from the environs of Geneva, presents itself under a round form, straight before, and under the highest summit of Mont Blanc. The ridge of rocks which descend from it appear like blackish furrows. From our hut we could distinguish this Aiguille under the same aspect as from Geneva; but as we were very near it, it concealed from us the height of Mont Blanc; we only saw the sky above these rocks.

The rapidity of the couloirs, or hollows, is so great, that it is impossible either to get up or down, and even if one should happen to fall, it would be found very difficult to retain one's self; one must either roll or slide to the bottom of the mountain.

This slope, by which we were to get up, as seen from Geneva, and also from our hut, appeared sharp and inaccessible; yet our guides assured us that on a near approach all these seeming difficulties would vanish: they even went so far as to say that the ascent from Bionassay to the hut was more difficult and more dangerous than what remained for us to attain the summit of Mont Blanc. It may then be easily conceived with what courage and hopes we set out.

We began by traversing not a very sloping glacier, which separated us from the base of the Aiguille, and in twenty minutes came to the first rocks of the ridge by which we were to get on this base. This ridge is rapid enough, and the broken or disunited rocks of which it is composed do not offer a very commodious path. However, we mounted them very gaily in an hour and some minutes: the temperature was such as we could desire: the air, between three and four degrees above the freezing point, was no colder than necessary not to heat us in ascending; we enjoyed the lively and encouraging pleasure to perceive our progress by the gradual decline of summits which not long before had appeared above us. I felt a most lively joy, and which perhaps may appear puerile, when after having ascended twenty-five minutes I came to discover the lake of Geneva: it was the first time I had found myself high enough on the bases of Mont Blanc to be able to perceive it. I had also the pleasure to find here two handsome plants, *aretia Alpina*, and *aretia Helvetica*. This last is extremely rare in the Alps of Savoy. When we had attained the highest part of the ridge, it was necessary to climb a steep slope of snow to get on the glacier which forms the plateau of the base of the Aiguille, and there, for the first time, we were assisted by the hands of our guides, who were always anxious to offer us their help. It was near three quarters after seven o'clock when we got on this plateau: we had flattered ourselves with the hopes of getting there sooner; and as we knew that this was but a small part of the whole of our undertaking, I thought I ought not to stop to observe the barometer.

We then passed right to the foot of the Aiguille, and were upon the point of getting to it, when we saw with much surprise a man, who did not belong to our caravan, ascending before us at the glacier of Bionassay. But this surprise changed into a cry of joy of all the cavalcade, when we discovered him to be Guidet, the brave fellow who the year before had accompanied M. Bourrit, and had gone with Marie Goutet almost to the summit of Mont Blanc: he was not at home when we sent for him; he had not begun his journey till late in the preceding evening, had got up the mountain in the night, and came by the shortest cut into the track that he knew we should take. The guides the most loaded hastened to let him have his share of the baggage, and he gaily took his place in our rank.

The glacier that we were traversing touches on one of the ridges of the Aiguille of Goute, which is by its rapidity impracticable. This ridge is separated from that which we were to follow by one of those rapid couloirs of which I have already spoken: it was necessary to traverse this couloir: the snow which covered it was still frozen, and exces-

sively hard; happily Goutet and Gervais, who had passed there the day before in the afternoon, had found this snow softened by the sun, and had marked places in which we could put our feet. These traversings are what I most fear: if your feet fail, you have little hope of being able to keep up; but when you directly ascend or descend, if you fall it is easier to stop yourself. Guidet wanted to pass below us, in case our footing should fail, to which we would not consent, as the slope by which he had to pass in so doing was still more rapid and dangerous than where we were; and we followed the method I had used in descending the glacier of the Aiguille du Midi. Each of us placed himself between two guides, who firmly held the two extremities of one of their long sticks; this stick formed at the side of the precipice a sort of barrier on which we supported ourselves; this barrier moved with us, made our walking secure, and preserved us from all danger.

After having traversed this couloir, we attained the ridge of the rock we had to climb, and here it was that our task became difficult. We found this ridge incomparably more steep than that which had conducted us on the base of the Aiguille, the rocks of which it is formed being more incoherent, quite disunited by the injuries of the air; sometimes they rolled from under our feet; sometimes pieces came away in our hands when we laid hold of them; often not knowing where to lay hold, I was obliged to catch at the leg of the guide next before me. The ascent in some places was so steep, that sometimes this leg was level with my head: in addition to our troubles, the snow which had fallen two days before filled up the intervals of the rocks, and concealed the hard snow or ice which we found here and there under our feet. Often the middle of the ridge became absolutely impassable, in which case we were obliged to go by the sides of dangerous couloirs by which it was bounded; at other times we met interruptions in the rocks, and it was necessary to cross snow which covered slopes extremely rapid. All these obstacles augmented gradually in our approach to the summit of the Aiguille. At length, after five hours ascent, three of which passed on this fatiguing ridge, Pierre Balmat, who preceded me, seeing that not only the slope continually became more steep, but that we still found, as we advanced, a greater quantity of fresh snow, proposed that I should rest myself while he went before a little to examine what we should do. I consented with so much the more willingness, as I had not sat down since our departure in the morning: I had sometimes stopped to take breath, but always standing, supporting myself on the stick. As he advanced he kept calling to us to wait for him, and not to proceed farther till his return. After an hour's absence he returned, and informed us that the quantity of fresh snow higher up was so great, that we could not attain the summit of these rocks without extreme danger and fatigue, and that there we should be obliged to stop, because the top of the mountain, beyond the rocks, was covered with soft snow to the depth of a foot and a half, through which it was impossible to advance. His guetres, covered as high as his knees, attested the truth of this report, and the quantity of snow all round us was also a sufficient proof of it. In consequence we agreed, though with regret, to proceed no farther.

The barometer, which I had tried during this halt, only supported itself at eighteen inches, one ligne, fourteen sixteenths, and the thermometer in the shade at two and a half. At this time the barometer, observed at Geneva by M. Pictet at one hundred and fourteen feet above the lake, supported itself at twenty-six inches, eleven lignes, thirty-one thirty seconds; and the thermometer in the open air at fourteen degrees de Reaumur. This observation, calculated by the logarithms without regard to the temperature of the air, would give one thousand nine hundred and thirty-five toises above the sea. If we regard this temperature, in following the formula of M. De Luc, we should take

off seventy-two toises ; but if we adopt the principles of naturalists, who have laboured to perfect M. De Luc's, we should make a much less considerable deduction. For, according to the Chevalier Shuckburgh, we should retrench but thirty toises ; and according to M. Trembley, but twenty-eight ; and so the height of the place where we stopt would be one thousand nine hundred and seven toises above the sea. Although I could not make these calculations on the place itself, as I did not know the height of the barometer in the plain, I well saw that we ought to be about one thousand nine hundred toises, and I told my fellow-traveller so ; and in the chagrin we felt for not having been able to complete our enterprise, it was some consolation to us to know that we had been higher than any other known observer in Europe had ever been before.

I observed the hygrometer, the electrometer, the structure of the rocks which surrounded us ; I collected several samples of these rocks ; we admired the immense extent of the prospect which presented itself to our view : to the south-west we could see the river Isere much beyond Chambery, and our view to the north-east extended to Gemmi, and in this demi-cirle, whose diameter is about fifty leagues, we darted above the highest mountains ; we could see our lake at the left of the mole, and on the right the mountains of Abondance. The Jura alone terminated our horizon to the north-west, for we saw it even above the summit of the Buet, which was more than two hundred and seventy toises below us.

Meantime our guides pressed us to return. Although the thermometer in the shade supported itself only at two, five, and that the immediate action of the sun's rays made it only amount to four, seven, yet this same sun appeared to us extremely ardent, and when we stood still we could scarcely bear it without the help of a parasol. This made our guides fearful that the late snow, half melted by its rays, would augment the difficulty of the descent. It is known that dangerous ways are more difficult in descending than mounting, and we had passed some very bad in getting up. However, by walking with care, and the help of our guides, whose strength and courage were equally admirable we returned without any accident to the plateau of the base of the Aiguille of Goute.

As I was no longer pressed for time, I observed the barometer at the border of the slope towards the lake, and its height compared, according to M. De Luc's method, with that which he then had, gives to this plateau one thousand four hundred and ten toises above our lake, or one thousand five hundred and ninety-seven above the sea, which makes about nineteen toises more than the summit of Buet. It was also a satisfaction to me to have found there a more convenient situation for divers experiments, more elevated than the Buet, and of an easier access also. This same elevation, calculated according to Mr. Trembley's formula, would be one thousand four hundred and forty-four toises above the lake, and one thousand six hundred and thirty-seven above the sea.

From thence I re-descended to the hut very slowly, and in observing at leisure the rocks over which I passed. On my arrival there I found M. M. Bourrit, who had gone before us, and who felt so little fatigued from the journey, that they were getting ready to descend to the village of Bionassay. This was the more surprising, as M. Bourrit the younger had been ill the day before, and indisposed all the night : M. Bourrit the father, always pre-occupied by the dread of the cold, from which he suffered so much the preceding year, had mounted and descended the mountain with furred shoes, in which his foot had no stability, and which rendered this excursion so much the more tiresome for him.

For my part, from having found myself so well the preceding night in the hut, I resolved to pass this night also in it; either to continue my meteorological observations, or to observe in my descent the nature and structure of the mountain, which I could not have done if I had left it the same day; for night came on before M. M. Bourrit had got half way down.

Immediately after their departure I went and placed my instruments on the rock which I called my observatory, I there still enjoyed the magnificent spectacle of the sun's setting; and after a very good night in the hut, I continued in the morning my meteorological observations: I compared with great exactness, by means of a level, the elevation of this rock with that of the mountains which appeared to equal it nearly in height. I then descended slowly in picking up stones, and stopped a good while to observe those which are carried down by the glacier of Bionassay. Here are found all those of which the Aiguille of Goute is composed. I went to dinner at Bionassay, and from thence a horseback to sleep at Sallenche.

If this attempt should be made again, I think it would be necessary to erect the hut, where one should sleep, at least two hundred toises higher than ours, that is to say, at the very foot of the rocks of the Aiguille du Goute; and thus attack those sharp and uneven rocks with all the vigour that a night's rest gives, and before the heat commences. I likewise think that if some guides were sent two or three days beforehand to form a sort of stairs in the most rapid slopes, or at least choose the easiest passages; for our guides, almost as great strangers as we in those deserts, were often divided in their opinions in the route we should take; yet nothing is less certain than that we had always taken the best. But whatever means may be imagined to facilitate this enterprise, it should not be hazarded in a year of great snow, but at a time perfectly safe, with muscular joints, and a head well accustomed to the sight of precipices.

## FURTHER ATTEMPTS TO ASCEND MONT BLANC.\*

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I HAVE given in the second volume, chap. 52, the history of the useless attempts that were made, to the year 1785, to attain the summit of Mont Blanc.

To complete this history, I ought to say a word of an excursion made for the same purpose in 1786. This excursion was not successful, though it certainly was that which determined Dr. Paccard and Jaques Balmat to undertake the one made at the end of the summer of the same year.

It may be remembered that the 13th of September, 1785, I had attempted with M. Bourrit, to scale Mont Blanc by the Aiguille du Goute, but that we met with new fallen snows which forced us to stop at the height of 1935 toises above the sea.

As the obstacle that these snows had opposed to our design, appeared to us to be the effect of the lateness of the season, I resolved to repeat the attempt the following year, at a time when the new snows should be less formidable. In consequence, and to lessen as much as possible the fatigue experienced in the last journey, I ordered Pierre Balmat to erect a hut at the foot of one of the ridges of the Aiguille du Goute, and as soon as the season would permit to make some excursions on that side, in order to choose the most convenient route for me to take.

To execute this project, Pierre Balmat, Marie Goutet, and another guide, went the 8th of June, 1786, to sleep at our old hut at Pierre Ronde, and set out for it at break of day; they got up the same ridge that I had followed the preceding year, and attained, although with great difficulty, the summit of the Aiguille du Goute, after having all successively fallen ill from fatigue and the rarity of the air. From thence by proceeding an hour on the snows in the same direction, they came to the height of the Dome du Goute; there they found Francois Paccard and three other guides, with whom they had concerted this rendezvous, and who had passed by the mountain of La Cote to come to the same place, always believing that it could be only by the Aiguille du Goute that the summit of Mont Blanc was to be attained; and they had divided themselves into two parties to make a comparative trial of the two routes which led to the summit of du Goute. This comparison was entirely to the advantage of the route by the mountain de la Cote. Francois Paccard and his companions had arrived an hour and a half sooner, with much less fatigue and danger than Pierre Balmat, who had passed by the Pierre Ronde.

After having joined, they traversed a great plain of snow, and came to a ridge which unites the summit of Mont Blanc to the Dome of Goute; but this ridge was found to be so narrow between two precipices, and at the same time so dangerous, that it was impossible for them to follow it, and attain the summit of Mont Blanc. They then examined at different parts the approaches to this summit, and the result of this search was, that it was absolutely inaccessible at least by the Dome of Goute. They returned from thence to Chamouni by the mountain de la Cote, much discontented with their expedition, and harassed by a storm accompanied with snow and hail.

\* Sauss. vi. 137, quarto.

But they did not all return ; one of those who had followed Francois Paccard by the mountain of la Cote, was Jaques Balmat, since become famous by his ascent to the summit of Mont Blanc. He was not to be of the party in this excursion ; he had joined Paccard and his party almost in spite of them. In returning from the Dome of Goute, as he was not on good terms with the others he walked by himself, and kept apart from them to search for chrystals in a rock at some distance. When he wished to rejoin them or at least follow their traces on the snow, he could not find them ; mean time the storm came, and being fearful to venture himself alone in the middle of these deserts in the storm and at the approach of night, he preferred squatting himself down in the snow, and there patiently wait till the storm should cease and the coming of day-light ; he there suffered much from the hail and cold ; but towards morning the weather cleared up, and as he had the whole length of the day to return, he resolved to consecrate part of it to the trying if he could not, among these vast and unknown solitudes, find out a way by which the summit of Mont Blanc might be attained. It was thus that he discovered that which has been followed, and which is certainly the only one by which it can be attained.

He did not immediately on his return to Chamouni make his discovery known, but as he found that Dr. Paccard had thoughts of making a similar attempt, he communicated the secret to him, and offered to serve him as a guide. The success of this enterprise has been made known to the public by the relations which have been given of it by Dr. Paccard and M. Bourrit.

What is remarkable in the discovery of this route is, that it is the same which presents itself the most naturally to those who view Mont Blanc from Chamouni, and is also that which those who made the first attempt tried, but of which they became disgusted by a singular prejudice. As it proceeded by a sort of valley between great heights, it was imagined too warm, and that it excluded the air too much. This valley is nevertheless very wide, and accessible to the winds, and the ices which form the bounds are not of that nature to heat it. But fatigue and the rarity of the air gave to those, who made the first attempts, this oppression of which I have so often spoken ; they attributed this oppression to the heat and stagnation of the air, and they no longer endeavoured to attain the summit otherwise than by the known and isolated ridges, such as that of Goute.

The people of Chamouni likewise had an idea that sleeping on the heights would be attended with death, but the trial made by Jaques Balmat in passing the night on them, banished this fear ; and the impossibility of coming to it by the ridges forced them to take the most natural and apparent route.

#### JOURNEY OF SAUSSURE IN AUGUST, 1787.

DIVERS periodical works have informed the public, that last year in the month of August two inhabitants of Chamouni, Mr. Paccard a physician, and Jaques Balmat the guide, attained to the summit of Mont Blanc, which till then had been deemed impossible.

It was made known to me the next day, and I immediately set out to endeavour to follow their traces ; but there fell so much rain and snow that I was forced to give up the project for this season. I commissioned Jaques Balmat to visit the mountain in the beginning of June, and to let me know as soon as the sinking of the winter snow should render it practicable. In the interval I went into Provence to make experiments by the sea side, with a design to compare them with those I proposed to make on Mont Blanc.



Jaques Balmat in the month of June made two useless attempts, mean time he wrote me word he had no doubt but it might be done in the month of July. I then set out for Chamouni. At Sallenche I met the courageous Balmat, who was coming to Geneva to inform me of his new success; the fifth of July he had attained the summit of the mountain with two guides, John Michel Cachat and Alexis Tournier. It rained on my arrival at Chamouni, and the bad weather continued three weeks; but I was determined to wait till the end of the season, rather than miss a favourable opportunity.

This opportunity so much desired came at last, I took my departure accompanied by a servant, and eighteen guides who carried my instruments and other necessary apparatus.

My eldest son was extremely desirous of accompanying me; but I was afraid he was neither strong enough nor sufficiently accustomed to excursions of this nature, therefore insisted that he should give up the design. He staid at the Priory, where he made, with much care, observations similar to those I made on the top.

Although it is hardly two leagues and a quarter in a direct line from the Priory of Chamouni to the summit of Mont Blanc, it takes eighteen hours to walk it, on account of the bad road, the turnings, and about one thousand nine hundred and twenty toises to get up.

To be perfectly at liberty in the choice of the places where I should sleep, I had a tent carried, and the first night I slept under it on the summit of the mountain of Cote, which is situated on the south of the Priory, and at seven hundred and seventy-nine toises above this village.

This journey is free from pain and danger, the ascent is always on the grass or on the rock, and the excursion is easily made in five or six hours. But from thence to the top, there is nothing but ice and snow to walk on.

The second journey is not the easiest. We had immediately to cross the glacier of the Cote to get to the foot of a chain of rock inclosed by the snows of Mont Blanc. This glacier is difficult and dangerous. It is intersected by large, deep, irregular crevices; and it is often difficult to pass them except over bridges of snow, which are sometimes extremely slight, and suspended over abysses. One of my guides had nearly perished here. He had gone the day before with two others to reconnoitre the passage, happily they had had the precaution to fasten themselves together by cords; the snow gave way under him in the middle of a wide and deep crevice, and he continued suspended between his two companions. We passed by the opening which had been formed under him, and I trembled at the sight of the danger he had run. The passage of this glacier is so difficult and winding, that it took us three hours to go from the top of the Cote to the first rocks of this isolated chain, though it is little more than a quarter of a league in a direct line.

After having attained these rocks, we soon quitted them again to go up a winding valley full of snow, which stretches from north to south to the foot of the highest summit. This snow is intersected at different distances by enormous and superb crevices. Their lively and neat form shews the snow disposed of in horizontal beds, and each of these beds answer to a year; be the largeness of its crevices what it may, the bottom can no where be discovered.

My guides wished we should pass the night near some of those rocks which are to be met with in this route, but as the highest are six or seven hundred toises lower than the summit, I was desirous to get higher up. To do this, it was necessary to pitch our tent amid the snows, this I had much trouble to make my companions consent to. They imagined that during the night there reigned on these high snows an insupportable cold,

and seriously believed they should perish there. At last I told them, that for my part I was determined to do it with those amongst them on whom I could depend; that we would dig deep in the snow and cover this hollow with the covering of the tent, and there shut ourselves in together, and in this manner we should not suffer from the rigour of the cold. These arrangements having encouraged them, we pursued our course.

At four in the evening we got to the second of the three great platforms of snow which we had to pass, and there we pitched our tent, one thousand four hundred and fifty-five toises above the Priory, and one thousand nine hundred and ninety-five above the sea, ninety toises above the pike of Teneriffe. We did not attempt to get to the last platform, because there we should be exposed to the fall of avalanches.

The first platform by which we had lately past is not exempt from them. We had passed over two of these avalanches, which had fallen since Balmat's last journey, the broken remains of which covered the whole valley.

My guides immediately set about excavating a place where we might pass the night; but they very soon felt the effect of the rarity of the air.\* These robust men, to whom seven or eight hours walking is in reality nothing, had hardly thrown up five or six shovels of snow when they found it absolutely impossible to continue; they found it necessary constantly to relieve each other. One of them who had turned back a little to fetch some water in a cask from a hollow, was taken ill in going, returned without water, and passed the night in the most agonising pain. Myself who am so accustomed to the air of the mountains, and who feel better in this air than in the plain, I was overcome with weariness in observing my meteorological instruments. This illness caused in us an ardent thirst, and we could not procure water but by melting the snow, for the water we had seen in coming up, was found frozen when they returned to fetch some, and the little chaffing-dish we had with us afforded a slow supply for twenty thirsty persons.

From the middle of this plateau, enclosed between the last summit of Mont Blanc, to the south, its high steps to the east, and the Dome du Goute to the west, there is scarce any thing to be seen but snow; this snow is quite pure, of a dazzling whiteness, and on the high summits forms the most singular contrast with the almost black sky of these high regions. No living creature to be seen, no appearance of vegetation; it is the dwelling of silence and cold. When I represented to myself Doctor Paccard and Jaques Balmat arriving the first at the close of day in these deserts, without shelter, without succour, without even knowing that mankind could exist in those places they were attempting to get to, but continuing nevertheless boldly their career, I could not but admire their resolution and courage.

My guides always occupied with the fear of cold, so closely shut all the openings of the tent, that I suffered much from the heat and impurity of the air, occasioned by the respiration of so many people. I was obliged to get out in the night for the sake of taking breath. The moon shone with the greatest lustre in the middle of the sky of a dark ebony colour, Jupiter seemed to throw out strong rays of light from behind the highest summit to the east of Mont Blanc, and the reverberating light all over this extent of snow was so dazzling, that only the stars of the first and second magnitude were distinguishable. At length however we began to sleep, when we were awaked by the noise of a great avalanche, which covered part of the declivity that we should have to climb the next day.

At break of day the thermometer was three degrees below the freezing point. It was late when we set out, owing to the necessity we were under of melting snow for

\* The barometer stood but at 17 inches  $10\frac{3}{4}$  lines.

breakfast, and to have some to carry with us; it was no sooner melted than drank, and those people who religiously guarded the wine I had brought with us, continually stole the water I had in reserve. We began by ascending the third and last platform, then took to the left to get on the highest rock at the east of the summit. The declivity extremely slanted, thirty-nine degrees in some places, and every where borders on precipices, and the surface of the snow was so hard, that those who went first were obliged to break it with a hatchet before they could gain a footing. It took us two hours to climb this declivity, which is about two hundred and fifty toises high. Coming to the last rock, we took to the right inclining westerly to climb the last declivity, the perpendicular height of which is about one hundred and fifty toises. This declivity inclines only to twenty-eight or twenty-nine degrees and is not dangerous; but the air is so rarified that our strength visibly failed, as near the summit I could only go fifteen or sixteen steps without taking breath, I even felt now and then a sort of fainting which obliged me to sit down, but in proportion as I recovered my respiration, I felt my strength return; when recovered enough to proceed, I seemed as if I could get to the top at one stretch. All my guides in proportion to their strength were in the same situation. It took us two hours from the last rock to the summit, and it was eleven o'clock when we gained it.

My first looks were fixed on Chamouni where I knew my wife and her two sisters were, their eyes fixed to a telescope following all our steps with an uneasiness, too great without doubt, but not less distressing to them. I felt a very pleasing and consoling sentiment when I saw the flag which they had promised to hoist the moment they observed me at the summit, when their apprehensions would be at least suspended.

I could now enjoy without regret the grand spectacle I had under my eyes. A light vapour suspended in the lower regions of the air, concealed from my sight the lowest and most distant objects, such as the plains of France and Lombardy; but I did not much regret this loss. What I had just seen and what I saw in the clearest manner, is the whole of all the high summits of which I had so long desired to know the organization. I could hardly believe my eyes, it appeared to me like a dream, when I saw placed under my eyes those majestic summits, these redoubtable Aiguilles, the Midi, the Argentiere, the Grand, whose bases even had been for me of such difficult and dangerous access. I seized their relation to each other, their connection, their structure, and a single glance cleared up doubts that years of labour had not been able to dissolve.

During this time my guides pitched my tent, and set out the little table on which I meant to make the experiment of the ebullition of the water. But when it was necessary for me to dispose of my instruments and observe them, I found myself every moment obliged to suspend my work, and attend only to my respiration.

If it is considered that the barometer was then only at sixteen inches one line, and that thus the air had little more than half of its ordinary density, it may be comprehended that it was necessary to supply it by the frequency of inspirations. When I was perfectly quiet, I only felt a slight pain at my breast; but when my attention was fixed for some moments in continuation, and particularly when in stooping, I leaned on my stomach, I was obliged to rest during two or three minutes, to recover myself again. My guides felt the same sensations. They had no appetite; and to say the truth, our provisions, which were all frozen, were not in that state calculated to excite one; neither did they care for wine, or brandy, indeed they had found that strong liquors increased this indisposition, without doubt by increasing the quickness of the circulation. It was fresh water only that did them good, and afforded them pleasure; but time and trouble were wanting to make a fire, without which we could not have any.

I nevertheless remained at the top till half after three, and although I lost not a single moment, I was not able in these four hours and a half, to make all the experiments I have frequently made in less than three hours at the sea side. I made however with care the most essential ones.

I got down easier than I expected. As the motion in descending does not press the diaphragm, it does not confine the respiration, and one is not, therefore, obliged to stop so often to take breath. The descent from the rock to the first platform was nevertheless very difficult by its great steepness, and the sun shined with such brightness on the precipices beneath us, that it needed heads well accustomed to such sights not to be terrified. I again slept on the snow two hundred toises lower than the preceding night. There it was I became convinced that it was the rarity of the air which incommoded us on the summit; for if it had been from weariness we should have been much sicker after this long and dangerous descent; but, on the contrary, we supped with a very good appetite, and I made my observations without any obstruction from indisposition. I even believe that the height where this indisposition begins is fixed, beyond which it is impossible to proceed farther. For my own part I find myself very well at one thousand nine hundred toises above the sea, but as soon as I get higher I feel myself indisposed.

The next day we found the glacier of the Cote changed by the heat of these two days, and still more difficult to pass than it was getting up. We were obliged to descend a declivity of snow, inclined to fifty degrees, to avoid a crevice which had opened during our journey. At length at half after nine we found ourselves approach the Cote mountain, very happy to find ourselves again in a place where we were not afraid of it sinking under our feet.

There I met Bourrit who wanted to engage some of my guides to go up again with him; but they found themselves too fatigued, and wished to rest themselves at Chamouni. We descended very gaily to the Priory, where we got to dinner. It was a great pleasure to me to have them all return safe, and well with their eyes and face in the best possible state. The black crapes with which we had provided ourselves, and with which we covered our faces, had perfectly preserved us from the temporary blindness, and chopped and burned faces often occasioned by the reverberation of the snow, which those who had gone there before us had felt.

#### DETAILS OF THE JOURNEY.

IN going from the Priory to Mont Blanc, by the Cote Mountain, you must begin by following the road to Geneva, as far as the village of Buissons, and then take the path which leads to the glacier of that name. But at the foot of the declivity which leads to this glacier, you turn to the right which leads to the Hamlet of the Mount.

This hamlet is situated on a hill of gypsum; on the surface of this hill are seen hollows, some in the form of funnels, others on the contrary have only a narrow orifice, and widening farther in. I was shewn one in a field scattered over with bushes, the opening of which was but a foot wide, but farther in its diameter was ten or twelve feet of a spherical form. Without doubt, these hollows are made by the waters which dissolve, and draw with them the gypsum which forms the hill, whilst the vegetable earth, withheld by the roots of grass and bushes, rests suspended above these cavities. As to the spherical form of these cavities, it is difficult to explain; neither are those geometers who give the account.

A little beyond the mount we began to ascend, in pursuing the borders of the torrent which issues from the glacier of Tacony; there instead of fixed rocks, we only find wrecks, displaced rocks, composed of quartz, of mica, of schistæ hornblende, or of ferruginous horn stone, which dissolves in the air, and changes into oxide of iron of a rusty colour. These fragments have frequently a rhomboidal form.

Soon after are seen to our left yellowish rocks, which decompose, and whose nature is the same as those fragments. As to their structure and situation, they are, in general, conformable to the other works of Chamouni.

In proportion as we got higher we found the horn rock abound more in these fragments, nevertheless one meets some fine knots of granite of felspar, of an almost black gray, mixed with white quartz; of quartz crossed with threads of amianth and others.

This ascent is extremely wild, at the bottom of a narrow valley, with the glacier of Tacony in front, bristled with flakes of ice, not clear and white, like those of Buissons, but soiled by a black mud, and intersected with rocks of the same colour: but in getting up higher we discovered above this glacier, clear and sharp-edged snows of the Dome of Goute.

Till within half a league beyond the Hamlet of the Mount, you may go on mules for about two small leagues from the Priory; but all the rest on foot.

Soon after we got above the glacier of Tacony, some part of the way became difficult; we then met with a clear fountain of fresh water, where the guides already fatigued with their loads took some rest.

There we faced the glacier of Tacony, remarkable for the different colours of its ices, which at our side on the right bank is muddy and black, whilst on the opposite bank they are transparent and white.

The rocks on both sides are the same as those I have above described; they divide frequently into oblique angled parallepipeda; their situation and structure are also the same.

In getting up higher we found hardy gray rocks, resembling veined granites, with lengthened knots and veins of quartz, parallel to their beds and layers. Afterwards we got nearer the glacier, and climbed a sloping declivity to the Moraine, whose ridge we followed for some time; we soon after left it entirely by getting higher on the mountain to the left.

Half an hour after having quitted the glacier, we came to the foot of a pretty high sharp rock, which guards a narrow and deep cavity, from which there is no way of getting but by scaling this rock; this passage is called the Mapas or bad step: they had placed a ladder there for me, on a supposition I should want it, but as I was unwilling to give my guides a bad opinion of my intrepidity, I passed on without touching it.

Beyond the Mapas we were obliged to pass by some narrow corners on high sharp ridges.

We then followed an uneven ridge, with the precipice to the right, and very uneven fields to the left; after that we climbed a slope to a cavern, where I slept the 20th of August 1786, when, immediately after Dr. Paccard's journey, I endeavoured, by following his steps, to attain the summit of Mont Blanc. But in the night there happened such a storm of rain and snow, that I was obliged to return sorrowfully, and put off the attempt till the following year.

Each of these journeys took me about four hours, without including rest, from the Priory of Chamouni to this cavern.

The summit of this rock, to the north-west of this cavern, presents a very fine prospect: it forms one of the heights of the narrow ridge of the Cote mountain, which se-

parates the glacier of Tacony from that of the Buissons. The neck by which it is passed is about six hundred toises above the Priory of Chamouni. From this ridge is seen the two glaciers just mentioned, and which lay immediately under our feet, all the valley of Chamouni, to the defile de Balme, and the two chains which border this defile: farther on is seen the tower d'Ai, and the Aiguille of Midi, which overtops St. Maurice, as well as other heights at a greater distance. From the opposite side is seen the mountain beyond the glacier of Tacony, which bears the name of this glacier, and the trenches of the beds of this mountain. These beds shew with the greatest regularity their position. Finally, in the same direction the profile of the Aiguille of Goute also offers the same position of beds.

But the most singular point of view is that of the ridge itself, on which we stood, seen at its full length from the north-west side. Great blocks of rocks with sharp angles, boldly and singularly heaped on each other, crown the summit of this ridge, and present the most wild and fanciful aspect; the smiling and beautiful parish of Ouches appears divided by these sterile rocks, and forms with them a striking contrast.

One of these blocks, which is sharp angled, projects very much over the precipice, and is called from its shape, the bird's beak. It is said, that a shepherd who laid a wager to go and seat himself on the point of this beak, actually got to it, and sat on it, but that in moving to come away, he lost his equilibrium, fell, and was killed upon the spot.

The rocks of this part of the ridge are for the most part of schistus, composed of black hornblende, and white felspar.\* There is frequently found in the crevices of these rocks, translucent little crystals, of felspar a little inclining to green.

It was twelve when we came to this ridge; I stopped half an hour to give my guides time to dine. During this time I amused myself with the sight of some people a great way beneath me, who were crossing with great difficulty, supported by their guides, the lower plateau of the glacier of Buissons, and who very probably were proposing to themselves at their return to make a pompous recital of their undertaking, and the risks they had run.

I looked, but looked in vain, on the second platform, for two of my guides, who had flattered themselves with the expectation of getting before us to the ridge, where we were, in passing by this platform of the glacier, which in effect presents a more direct route to the Priory. But as some of the way is very bad, we were very uneasy at not seeing them. They however rejoined us, but very late.

After having crossed this ridge, we continued to ascend obliquely, between the glacier of Buissons and the top of this same ridge, the rocks of which are always of veined granite, here and there mixed with beds of sienite schiste, or of a foliated rock, composed of bladed hornblende, and felspar. The beds of these rocks are always in the same situation.

We passed under a deep cavern, where Jaques Balmat, in his preceding journey, had concealed the ladder which was to assist us in crossing the crevices of the glacier, likewise a pole to make use of in very bad places. He found the ladder, but the pole was stolen; it is singular that thieves should find their way to such a place; however, it cannot be said they were highway robbers.

We also passed by the foot of the Aiguille de la Tour, which is the highest point of this ridge. We afterwards climbed some granite veined rocks, always situated in the same

\* Sienit schiefer of Werner.

manner; and we arrived, at three quarters after one, at the summit of the Cote mountain, at the place where we were to pass the night.

The first journey took us but six hours and a half from the Priory to our sleeping-place.

This sleeping-place consisted of a great heap of blocks of granite, among which my guides hoped to find shelter, and where Dr. Paccard and Jaques Balmat had slept the first night of their expedition. These blocks have been forced there by the glacier which is very near, and which is to be crossed to make a way to the summit of Mont Blanc. And there it is we quitted the firm ground to embark on ice and snow to the end of the journey.

The crossing of the glacier in the morning while the snow is hard is to be preferred, as it becomes much more difficult when the heat of the sun has softened the snow.

This is what Marie Goutet found under whom the snow gave way, when he went to reconnoitre the way we should go the next day. Happily, as I have said in the abridged relation, he rested suspended by the cords which fastened him to his two comrades, who had accompanied him. At their return we were all eager to have an account of the expedition; as soldiers are to ask the spies of an army news of the enemy's situation. Marie Goutet, with great seeming indifference and even gaiety, told his story; notwithstanding which, his recital cast a shade of sorrow on the countenances of his hearers; the most heroic smiled at it, but the rest viewed it in a more serious light. Mean time nobody talked of returning there, but, on the contrary, began to look out for a place of shelter to pass the night: some went to my old lodging, where they hoped to be warmer; others fixed themselves between the blocks of granite, for my part, I slept under my tent with my servant and two or three of my ancient guides.

The next day, 2d of August, notwithstanding the interest we all had in setting off early, there arose such difficulties among the guides in the arrangement and division of their loads, that it was half after six o'clock before we set out, each fearing to load himself, less from fear of the hardship, than of sinking in the snow by the weight of himself and load, and by this means fall into a crevice.

We got on the glacier, opposite the blocks of granite under which we slept; the entrance on it was easy enough, but we soon found ourselves entangled in a labyrinth of rocks of ice separated by large crevices, in some places opening very wide, in others covered either wholly or in part by the snow, which sometimes forms a sort of arches underneath, and which are sometimes the only resources in one's power to get over these crevices; in other respects it is an uneven ridge of ice which serves as a bridge to cross over. In some places, where the crevices are quite empty, we had to go down to the bottom and get up at the other side by stairs cut with a hatchet in the very ice: but in no part is the rock found or seen;\* and sometimes after having got to the bottom of these abysses, surrounded with almost perpendicular walls of ice, you can hardly conceive how you shall get out again, however as long as they walked on the ice, though ever so narrow the ridges, and slanting the declivities of it are, these intrepid Chamouniards, whose head and feet are equally firm, appear neither afraid or uneasy; they talk, laugh, and defy each other in jest; but when they pass over these slight roofs suspended over deep abysses, they walk in a most profound silence; the three first tied together by cords, about five or six feet distance between them; the others two by two holding their sticks by the ends, their eyes fixed on their feet, each endeavouring to place exactly and lightly his foot in the traces of the one before him. Above all it was after we had seen the place where

\* Their bottom is always of snow or ice.

Marie Coutet had fallen, that this sort of fear increased; the snow had quite given way suddenly under his feet and formed round him an empty space of about six or seven feet in diameter, and discovered an abyss to which was seen neither bottom nor sides; and that in a place where no exterior danger appeared. When after having got clear of some of these suspicious snows we found ourselves on a rock of ice, the expressions of joy and serenity shined on all our countenances, and our jokes and good humour returned. We then held a council on which way we should take, and grown bold by success, we exposed ourselves with the greatest confidence to new dangers. It took us three hours to cross this redoubtable glacier, although hardly a quarter of a league in breadth. From this time we had only to walk on snow, often rendered extremely difficult by the very great slants of the declivities, and sometimes dangerous when these declivities bordered on precipices: but in this case at least we had no dangers to encounter but what we saw, and where we ran no risk of being swallowed up, without either strength or address being of any avail to us.

In going from this glacier, we were obliged to climb one of those declivities of snow extremely sloped, after which we had to pass to the foot of the lowest and most northerly rock of a small chain of insulated rocks, in the middle of the ices of Mont Blanc.

This chain runs pretty near from north to south, and is entirely composed of primitive foliated rocks, the elements of which are of blackish or greenish plates of hornblende, of felspar, of plombagine, with a little quartz and mica.

There is found there also a greenish stone, brilliant enough, translucent, fibrous and schistose, pretty hard, fusible by the blow-pipe, in a globule of 0.3, line of green glass, translucent, of a greasy lustre. This substance agrees much with the steatite asbestiforme of St. Gothard; but its parts are finer, it is more brilliant, harder, more fusible, and produces a clearer glass. But except another species is made, I cannot compare it to any other.

As to the rest, the felspar, which forms a part of the composition of these rocks, is of the sort which I call fat, because it has a fat and oily lustre. All the rocks of this chain have their beds situated like those of the Cote mountain, according to the general law of the Chamouni rocks, but are inclined low.

This chain at the eastern side is separated from the Aiguille du Midi, and some mountains, which join this Aiguille with Mont Blanc by an extremely wild glacier, almost wholly composed of seracs.

The name of serac, in our mountains, is given to a sort of white compact cheese, taken from whey, and pressed in a sort of rectangular cases, where it takes a cubical form, or rather rectangular parallelipidus. The snows at a great height frequently take this form when they freeze, after having in part imbibed water. They then become extremely compact; in this state, if a thick bed of this hardened ice comes on a declivity, and should, as it often happens, slide down in a body on this declivity; and, in so sliding, if some parts of the mass should not go equally with the rest, their weight forces them to break in pretty near rectangular fragments, some of which may measure fifty feet, and which, by reason of their having no mixture, are as regularly formed as if they had been chiseled.

On the faces of those great parallelipids is seen one of these beds of snow accumulated from year to year, and passing gradually from the state of snow to that of ice, by the infiltration and successive freezing of rain and other waters which result from the superior beds after melting.

We had also at our right great heaps of snow into this form of serac, and we should have been obliged to pass between their intervals with much difficulty and danger, had



it been ever so little later in the season, but a bridge of snow which would have melted in a few days, served us to cross an enormous opening, and saved us the trouble of passing amid the seracs.

We rested ourselves some moments in the shade of some rocks of the isolated chain, of which I have spoken higher up.

We then went to the west, after which we again approached it at the place where the year before I had the hut erected with the intention of sleeping there, but, as I have already mentioned, bad weather prevented me from getting there. In other respects, this station had been badly chosen, being too near the first; as it is not more than one hundred and twenty toises above the top of the Cote mountain; so that we should have had nine hundred toises to ascend the third day; whilst, on the contrary, it was necessary for several reasons to leave the smallest portion for the last.

The nature of the rocks which compose this part of the insulated chain is still the same; and there is besides observable some argillaceous schistus of the nature of slate, and some schistose granite rocks with some knots of quartz; the situation of their beds is always the same, but approaches nearer to the vertical. There, and higher up, this chain is frequently interrupted by snows; the points of these rocks project like little islands or shelves from the sea of snow which covers this vast region. My guides caused me to lose a great deal of time here under the pretext of breakfasting and resting; their intention was to delay our journey, that we should not be able before night to venture ourselves on that part of our way where we should meet no more rocks, and where we should be obliged to sleep on the snow. We did not set out again till eleven o'clock, although we arrived about nine.

I again found the *Dispensia Helvetica* in flower on these rocks.

We had from thence a glimpse of the lake across the valley of Abondance from the first rocks; but in continuing to ascend saw it still better, we could even very well distinguish the town of Nyon. The mountains of Faucigni appearing lower and lower before us, Paiguille percée of Reposoir was that which kept longest in sight, owing to its nearness to us, and its projecting summit in a distant horizon, for we could only call the view of those completed over which we could see the Jura. Every victory of this sort was a subject of joy to the whole party: for nothing animated and encouraged us more than a distinct view of the progress we made.

After an hour's walk we came to an immense opening, along which we had to coast. And although a hundred feet wide, we could perceive no bottom to it.

The moment we were standing on its edge resting ourselves, admiring its depth, and observing its beds of snow, my servant, by I do not know what heedlessness, let fall the stand of my barometer, which he held in his hand; it slid with the rapidity of an arrow on the slanted wall of the opening, and fixed itself at an immense depth at the opposite side, where it continued vibrating, like the lance of Achilles on the banks of the Scamander. I felt a very lively movement of concern, because it not only served as a prop to the barometer, but also to a compass, a telescope, and many other instruments which fastened on it; in a moment some of my guides, sensible of my concern, offered to go for it, but as my fear of exposing them to too much danger prevented my consenting to it, they protested there was no danger, and immediately one of them passed a cord under his arm, and the others let him down to where it was, he drew it away and brought it back in triumph. I had a double uneasiness during this operation: first, the danger of the suspended guide; next, as we were within view of Chamouni, from whence with a telescope all our movements were perceivable, I thought that if at this moment our friends had their eyes fixt on us, they would, without doubt, think one of us had

tumbled into the abyss, and that the others were getting him up. I have been since informed, that happily at this moment they were not looking at us.

We were obliged to cross this same opening on a dangerous bridge of snow; after which, by a very sloping declivity of snow we came to one of the rocks of the insulated chain, where I slept the day of my return from the summit, and for that reason I called it the rock of Happy Return; its height is one thousand seven hundred and eighty toises.

We arrived there at half after one, and dined in the sun with a good appetite, but much regretted the want of water, when one of the guides thought of a very ingenious method to procure some: they threw some balls of snow against the rocks exposed to the sun, part of which sticking melted by the heat of the rock, and we saved it by little and little as it fell; to relieve themselves they threw the snow-balls by turns, and formed a sort of well, which supplied us with as much water as we wanted.

This rock, as well as that which is more to the south, and the last of this insulated chain, is like the others composed of primitive schistose rocks, mixt with quartz, hornblende, and felspar, with knots, some of pure quartz, others of granite rocks. The highest shew some veins, some of black hornblende pretty near pure; others of white felspar; but an oxide of iron which comes from the hornblende dissolved, gives to all these rocks a yellowish cast. The beds of these schistuses are also situated according to a former observation, but are almost vertical.

This insulated rock, in the midst of snow, appeared to my guides a delightful place, an island of Calypso; they could not prevail on themselves to quit it, and seemed determined to pass the night there. In the abridged relation has been seen what trouble I had to make them leave it.

From thence in an ascent of about thirty-five minutes we attained the first great platform of snow which presents itself in this route. The declivity of this platform is from ten to twelve degrees, but it is a plain in comparison of the declivities we had climbed.

At our left lay the Aiguille du Midi, which began visibly to lower to our right; the Dome of Goutte, where the dissolved hornblende predominates. The summit of this dome cut almost a sharp point on our side, covered with a roof of snow, half circular, like the arch of a bridge, and crowned by a continuation of those enormous blocks of snow of a cubical form which I have named seracs, presented the most singular and magnificent view. Before us the summit of Mont Blanc, the object of our undertaking, still appeared to us of a prodigious height; at its left, the rocks which we call its stairs, and some very superb pieces of snow, which by the dazzling of the sun appeared strikingly singular and beautiful.

It took us twenty minutes to traverse this platform; and this time appeared long to us, for since the last voyage of Jaques Balmat, it had been covered by two enormous avalanches of seracs, which fell from the Dome of Goutte; we were obliged to cross over these avalanches under the continual fear of being overtaken by others. I had however the pleasure of observing those seracs which we seldom have an opportunity of viewing near us. I measured some which were more than twelve feet every way; the bottom, or that part which had united with the rock was formed of white, translucent ice, and more compact than ordinary ice. The opposite side which had been originally the top, was still of snow, though a little hardened, and there is seen in the same block all the shades between these two extremes. We were surprised to find that several of these blocks had arrived there without being disfigured, and even that they had ever come there, for the Dome of Goutte, from which they were detached is at a great distance, and the declivity is not very slanting: without doubt they had slid in the morning on

the snow which had been frozen and hardened by the cold of the night, and their own velocity had been very great.

From this platform we were an hour ascending a declivity of thirty-four degrees, which brought us to the second platform where we were to sleep.

We had at first long and serious deliberations respecting the choice of the place we should fix the tent under which we were all to collect to encounter the cold of the night, of which the guides had formed to themselves so frightful an idea. Besides the cold we had two other dangers to guard against, the one from above, the other from beneath: the business was to choose a situation which should screen us from the danger of the avalanches which might fall from above, likewise from that of crevices concealed by superficial snow. The guides trembled at the thoughts of this snow loaded with the weight of twenty men collected in a small space, and softened by the heat of their bodies melting and giving way all of a sudden, and swallowing us all up in the middle of the night. A frightful crevice whose winding we had traced in coming to this platform, and which might have extended, for what we knew, to the place immediately under us, proved at least the possibility of such a supposition. However, we found at about one hundred and fifty yards from the entrance of the platform a place which appeared to us secure from all those dangers. There they set about shovelling the snow away, and fixing the tent over the place they had made for it. In the abridged account I have related the indisposition my guides felt here from the rarity of the air.

After some moments of repose Marie Goutet and two others went on the Dome of Goute to look for the stones covered with glass bubbles, that I have described in the second volume, and brought back some very fine ones, and one among others very remarkable in its having sprinkled on its surface the bubbles of a colour analogous to the part of the corresponding stone, blackish or greenish upon the hornblende, and whitish on the felspar; which proves clearly that they have been formed by a superficial fusion of the rock, and of consequence that thunder has produced them; in fact, by what other means could this effect be produced on the surface of a rock surrounded by snow? The same guides afterwards went to examine the declivity we had to get up the next day. They returned satisfied with having found covered with snow a crevice, which in the preceding journey had given them a good deal of trouble to get over; but the declivity by which we were to ascend appeared to them extremely abrupt, and formed of very hard and slippery snow, and I saw clearly by this account that they were in doubt of my being able to get up it.

On mountains free from snow, and whose heights does not exceed one thousand or one thousand two hundred toises it is very pleasant to get in good time to a sleeping place; the coolness of the evening refreshes you after the fatigues of the day, and you sit down on the grass or on a rock, are amused in observing the gradations of the light, and the changes which almost always accompany the setting of the sun, and twilight.

But in high mountains covered with snow the close of the day is extremely painful, one cannot tell where to place one's self; if you sit still you are frozen, and fatigue joined to the rarity of the air deprives you of strength and courage, necessary to warm yourself by exercise. This is what we felt in the situation we were now, to which we came about four o'clock. We were all frozen with cold; and waiting with the greatest impatience till the tent was fixed; as soon as it was, we all got into it, and in a short time the babbling of the guides and the nausea of those who were sick, forced me to leave it.

I hastened supper as much as possible. Afterwards they had great difficulty in fixing themselves in such a manner as they might be able to pass the night; I was allowed to stretch myself in a corner; but as for the rest they could only sit down on the straw

between each other's legs ; and the air corrupted by the respiration of twenty persons crowded into so small a space occasioned our passing the bad night of which I have spoken.

The next day we soon traversed the second platform, at the entrance of which we had passed the night ; from thence we ascended to the third, which we likewise soon crossed, and in half an hour came to the great declivity, by which in drawing to the east, we got upon the rock which forms the left shoulder of the top of Mont Blanc.

At the beginning of this ascent I was out of breath by the rarity of the air ; however by resting a moment every thirty or forty paces, but without sitting down, so far recovered my breath, as to be able in about forty minutes to get to the entrance of the avalanche which had fallen the preceding night, and which we had heard from our tent.

There we all stopped for some minutes in hopes that after having rested our lungs and legs, we should be able to get over the avalanche pretty quick and without resting to take breath, but in that we deceived ourselves, the sort of weariness which proceeds from the rarity of the air is absolutely insurmountable ; when it is at its height, the most eminent peril will not make you move a step faster. But I infused fresh courage into my guides by repeatedly telling them that this place was really the least dangerous, because all the loose snow of the heights above us had already come away.

Beyond this avalanche the declivity became continually more sloping, and on our left bordered on a frightful precipice ; it was necessary to get over a pretty large opening, the passage of which was incommoded by a rock of ice, which forced us to the border of the declivity. The foremost guides had cut steps here and there on the hard snow as they went on : but as they had left the spaces too long it was necessary to take such long steps that one ran the risk of missing ones footing, and sliding without remedy to the bottom. At last, towards the top the thawed surface became thinner ; then it broke under our feet, and underneath it eight or nine inches of crumbled snow, which rested on a second crust of hard snow, into which we sunk to the calves of our legs, after which we slid down the side of the precipice, to which we were only held by the upper crust, which thus found itself loaded with a great part of the weight of our bodies ; and if it had broken we should infallibly have slid to the bottom ; but I did not think of the danger, my resolution was taken, I determined to go on as long as my strength would enable me, and I had no other thought than that of advancing with a firm step.

It is said when you walk on the border of a precipice you should not look at it, and is true to a certain point ; but the following advice is the result of my long experience. Before you engage in a dangerous passage you should begin by contemplating the precipice, until you get quite familiar to it, and it has lost its force on the imagination, and you can look at it with a sort of indifference ; meantime you should study the way you should go, and mark as you may say your steps : after which the danger is no more thought of, and you only think of following the prescribed way. But if you cannot bear the sight of the precipice and accustom yourself to it, give up the enterprise, for if the path be narrow, it is impossible to look where to place your feet without looking at the precipice at the same time : and this sight if taken unawares dazzles you, and may prove your destruction ; this rule of conduct in danger appears to me applicable to moral as well as natural cases.

I employed there, and in other dangerous situations the manner of helping one's-self by the guides, which appears to me the surest, for him who employs them, and the least inconvenient for those who help him ; it is to have a light but strong, stick, eight or ten feet long ; two guides placed the one before and the other behind, keeping the stick by

the side of a precipice, the one guide at one end, and the other at the other, and yourself in the middle, with this walking fence you support yourself as occasion requires; this neither incommodes nor tires the guides, and may serve to support themselves in case one of them should slip or fall into a crevice. It is in this attitude that the Chevalier Mechel has represented me in the large coloured plate that he had engraved from our caravan in the middle of the surrounding ices.

At length in two hours and a half, reckoning from the place where we slept, we attained the rock that I call the left shoulder of the second stairs of Mont Blanc. In this place there opened to my view an immense horizon and quite new, for the summit being at our right, nothing concealed from our view the whole of the Alps on the side of Italy, which I had never before seen from such a great height; but I reserve this detail for the following chapter. There I had the satisfaction to see myself certain of attaining the summit, since the remaining ascent was neither very sloping nor dangerous. We here stopped to eat a bit, seated on the borders of this magnificent terrace; but the bread and meat we brought with us were frozen; yet the thermometer had never been lower than three degrees below the freezing point, and these aliments, shut in and covered in a dosser carried on a man's back, ought to have been a little preserved from the cold by the heat of his body. I am persuaded that on the plain in the same degree of cold these aliments would not have been frozen, and very likely that there even a thermometer shut up in a dosser would not be lower than 0; but in this rarified and constantly renewed air, the bodies or substances impregnated with water undergo a very great evaporation, and on that account imbibe the cold more than the dry ball of a thermometer: at nine in the morning, the thermometer was a half a degree above 0, and my hygrometer at fifty-nine. The naked rocks that we met there, and which form two sorts of black and projecting ridges, which are very well seen from the borders of our lake to the left of the highest summit of Mont Blanc, are of granite, here reduced to scattered fragments; there, in solid rocks divided by pretty near vertical fissures, the direction of which is conformable to that which generally reigns in these mountains, that is to say, from N. E. to S. W. and which in consequence I looked upon as beds.

The felspar which enters into the composition of these rocks is white bordering on gray, or on green, or on a reddish colour; it gives by the blow-pipe a glass, from which may be obtained globules of 0, 6, transparent, without colour but full of bubbles.

This felspar is sometimes pure, covered or even mixed with a gray substance verging on sea green; without brightness, earthy, brittle, stripped with a gray whiteness. This substance appears to be of an earthy steatite; it is difficult to get fragments of it free from felspar; those which I have been able to separate, have melted by the tube into green-glass, translucent and of an extremely fat aspect. They discolour on the fibres of sappare, and dissolve it with effervescence.

The whitish half transparent quartz, which enters into the composition of this granite, appears fattish on breaking: a fragment of the fifteenth of a line in length, by a thirtieth in thickness or of 0,067, on 0,033, fixt at the extremity of a loose thread of sappare, became quite round at the flame of a blow-pipe, in losing a little of its transparence which under this volume appeared perfect, and formed in itself some bubbles in its interior. This quartz is then more fusible than rock crystal, in the proportion of 0,035 to 0,014.

These granites are frequently mixed with hornblende, sometimes blackish, sometimes bordering on green.

There is also seen here chlorite often of a green colour, sometimes in nests, and even in thick masses. It is tender but not crumbly; of a very fine grain, and its small parts

seen through a microscope, appears like small blades very translucent, of a clear green, but they have not the regularity of those of St. Gothard which I have described. This fossile, as well as the hornblende, appears to supply in these granites the place of mica, which only shews itself in very small and scarce blades.

Some of these granites appear rotted, there are observed in them small cavities of an angular, irregular form full of a rusty brownish dust. In breaking these granites there is found in their interior parts small brown pyrites tarnished on the outside, but brilliant and of a very pale yellow inside, and whose fragments are attractable by the loadstone. It is from the mixture of these pyrites that these cavities are formed. My guides found some fragments of these same granites, in which are seen cubical pyrites of three or four lines in thickness, which on breaking appear very brilliant, and of a brassy high coloured yellow; they do not alter on being exposed to the air.

On these rocks are also found some quartz with some veins and nests of delphinite or green schorl of Dauphine; it is but confusedly crystallized, but to be distinguished by its swelling under the blow-pipe, and the black and refractory scorïæ into which it changes.

In some places these granites degenerate into irregular schistose rocks, formed of quartz and felspar, without any mixture of mica, and whose beds are separated and covered with clay of a nut-brown ferruginous colour, and melts into a black glass.

In these same granite rocks are inclosed a layer of granitel, almost entirely composed of black and shining lameller hornblende, and of gray felspar translucent, of the colour of rusty iron at its surface.

To conclude, my guides found in these rocks a palaiopetre or primitive petrosilex of a gray colour bordering on green, translucent at a line thick and even to 1, 2; scaly or shelly on breaking, hard, interiorly mixed with spots of a deep green, which are scarcely visible but by a glass, and which appear to be of steatite; and also with some spots of pyrites, which in dissolving stain of a rusty colour the places near it. This stone in melting turns to a green glass like that of felspar.

After having rested and examined these rocks, I resumed my journey about nine o'clock. As I had measured from Chamouni the heights of the parts of the mountain, I knew that I had not more than about one hundred and fifty toises to go, and that by a declivity of not more than twenty-eight or twenty-nine degrees, on a firm and not slippery snow, free from crevices, and distant from precipices, I therefore hoped to attain the summit in less than three quarters of an hour; but the rarity of the air prepared me difficulties greater than I could have foreseen. I have observed in the abridged relation, that towards the latter end, I was obliged to take breath every fifteen or sixteen steps; mostly standing supported on my stick, but obliged about every third time to sit down; this necessity of resting was absolutely insurmountable; I endeavoured to overcome it, my legs failed me, I felt a swooning, and I was seized with a dazzling quite independent of the power of the light, as the double crape which covered my face perfectly screened my eyes. As it was with extreme concern, that I thus saw the time pass that I had hoped to dedicate to the making of my experiments on the summit, I made several attempts to shorten my rests; I endeavoured for example not to exert my full strength, and to stop at every four or five steps, but I gained nothing by it; I was obliged at the end of fifteen or sixteen steps to rest as long as if I had done it without intermission, what is remarkable is that I did not feel this great uneasiness till eight or ten seconds after I gave over walking. The only thing which did me good and increased my strength was the air of the north wind; when in ascending I had my face turned to that side, and strongly inhaled the air coming from thence; I could without stopping go twenty-five or twenty-six yards.

The generality of these sensations felt by the twenty people of which our party was formed, and the details which I have given in my abridged account, cannot leave any doubt respecting the cause of these phenomena. They beside perfectly agree with what is known as to the necessity of the air, and even of an air of a certain degree of density, for the preservation of animals of a warm nature.

Pretty near the middle of this ascent we passed near two small rocks, projecting over the snow. The highest of them had been lately shattered, and its fragments thrown over the fresh snow to the distance of several feet. And as assuredly no body had been there to blow up this rock with powder, or break it with an iron bar, there can be no doubt but it was produced by thunder. Yet I could not discover any glassy bubble. In the abridged account I have said that it proceeded from its constituent parts being extremely refractory; but this is an error, for I have since then seen fragments from the rocks of the Dome of Goute, which are exactly of the same nature of the one now in question, and which are covered with glassy bubbles. This difference proceeds rather from the greater or less violence of the stroke they have received, or of the less or greater moisture then contained in them. Among these scattered fragments were seen leaves of granite in masses more or less thick, whose great faces were pretty near parallel to each other.

The lower rock presents the form of an horizontal smooth table, its length from north to south six feet six inches, and its breadth four feet from east to west. This table sinks into the snow from above or from the west; but from the lower side or from the east its border rises four feet eight inches six lines above the snow. It is a solid block without any visible separation. I carefully took its dimensions that it might be known hereafter if it should increase or diminish.

These rocks, situated near two thousand four hundred toises above the sea, are interesting on account of their being the highest of our globe examined by naturalists; Messrs. Bouguer and Condamine had been on the Cordilleres to an equal and even some toises greater height than our rocks (two thousand four hundred and seventy toises :) they did not understand stones, but as they say they have sent a great many cases full of specimens from the mountains on which their trigonometrical operations had conducted them, I should have been very desirous to have these specimens examined by judges.

The deceased duke of Rouchefoucauld, a man as much distinguished for his knowledge as his virtues, and who has been the innocent victim to the troubles of a country for which he had made and would still have made the greatest sacrifices, was willing at my request to examine these rocks with the greatest care and attention, either at the Jardin du Roi or at the Academy of Sciences, of which he was a member, but he could neither find them nor gain any intelligence of what was become of them.

The scarcity of specimens of rocks situated so high, and the consequences that might be drawn from their nature in different systems of geology, engage me to give a particular description.

They are granite in mass, where hornblende and steatite take the place of mica, which is there rare, a bright sun and a magnifying glass are necessary to be able to distinguish some white and bright scales; it is even doubtful if these brilliant particles, which it is impossible to take off, are really mica.

Felspar is the prevailing part of these granites; it evidently forms about the three-fourths of their mass. Their chrystals, pretty near paralleloepid, vary in size; some are seen an inch in length and six lines broad. They are of a dull white, feebly translucent, of little lustre, of the sort I call dry; they yield by the blow-pipe a transparent glass, but with bubbles, of which may be formed balls of 0,81, and of consequence fusible at 70 degrees of Wedgwood. On the file of sappare the bubbles dissipate, and there remains a

transparent milky glass, which subsides without penetrating or dissolving. These crystals of felspar appear here and there of a tarnished green, caused by a slight mixture of steatite which covers them.

The quartz which forms a little less than the fourth of the mass, is gray bordering on violet; uneven in breaking, brilliant in places, not scaly but conchoid. Its fusibility is pretty near the same as that of other granitic quartz.

The hornblende, which forms too small a portion to be of much account, is black bordering on green; it shews some tendency to a scaly and brilliant form, but is oftenest twinkling and almost earthy. It fuses into a black bright glass, cavernous in its interior, and which on the thread of sappare passes to a bottle brownish green, changes colour afterwards, and dissolves with some effervescence which proves a mixture of magnetical earth.

The earthy steatite likewise forms a very small part of those granites.

All these granites have their natural divisions covered with a green or black crust. This is an earth resembling the chlorite, of a blackish green, shining a little at its exterior surface, but of a clearer and more earthy green in the fractures, brittle, the streak grayish green, turning brown under the blow-pipe, then giving a button = 0, 3, or fusible at the 189th degree of Wedgwood. This button has a metallic aspect, a little unequal, and of a little tarnished or iron melted colour; and not only this button but all the parts that the power of the flame has made brown, are very strongly attractable by the loadstone. A small fragment tried on the file of sappare, infiltrates immediately like ink into the pores, then turns to a tarnished brown, and at length entirely loses its colour, but without appearance of dissolution.

The green cement which covers other parts of this granite in their spontaneous divisions is less obscure, shining enough, translucent, soft and a little greasy to the touch, brittle and easily streaked into gray, changing by the blow-pipe into a translucent glass, which becomes transparent on the file of sappare, and dissolves it, but without ebullition. This cement appears to be of the nature of steatite; I was not able to procure any pieces large enough to measure its fusibility.

The latter part of the ascent between these little rocks and the summit was, as might be supposed, the most difficult for the respiration; but at length I gained the long wished for point. As during the two hours this painful ascension cost me, I always had under my eyes almost every thing to be seen from the summit, my arrival on it was not attended with that surprise one might imagine. The greatest pleasure I felt was that of seeing my great uneasiness at an end; for the length of this struggle, the recollection of the still poignant sensations the difficulties this victory had cost me, caused me a great deal of irritation. The moment I had got to the highest top of the snow with which this summit is crowned, I trod upon it with a sort of anger rather than a felt sentiment of pleasure. Besides my object was not solely the getting to the top; I wanted there to make observations and experiments which would make this undertaking valuable; and I was very much afraid I could make but a very small part of what I proposed; for I had already found even on the platform where we slept, that all experiments attended with care, caused fatigue in this rarified air, and that because without thought you hold your breath; and as it is necessary to supply the rarity of the air by the frequency of respiration, this suspension caused a sensible uneasiness, and I have been under the necessity of resting and taking breath after having observed an instrument of any sort, as one should do after having got up a steep hill. Still the sight of the mountains gave me a sensible satisfaction, of which a more particular account will be seen in the following chapter.

But before the contemplation of those distant objects I should say a word of the form of this summit, and finish the description of the rocks nearest to it.



The top of Mont Blanc is not a plain but a sort of lengthened ridge, directed from east to west, pretty near horizontal in its highest part, and lowering at the two extremities in angles of from twenty-eight to thirty degrees. This ridge is so uneven towards its summit, that two persons cannot walk a breast; but it widens and rounds in descending to the eastern side, and takes towards the west the form of a projecting roof, directed to the north. All this summit is entirely covered with snow; not a portion of rock to be seen till you go seventy or eighty toises lower down.

Of the two fronts of the ridge, that to the north is of the most rapid descent, and becomes afterwards still more so, and terminates by joining frightful precipices. To the south on the contrary this slant is gentle, and lower down forms a cradle, rising itself in a contrary way to the south, where it forms above the Allee Blanche a pretty high point, under which is a projecting roof of snow, and under this roof are the rocks which I saw from the heights of Cramont, and took for the summit because they concealed the real summit covered with snow. This projection to the south is the cause that when the summit of Mont Blanc is viewed in profile from the eastern or western side, for example, from St. Bernard or Lyons, there is seen beneath it a sort of hook turned upwards towards the south which conceals it.

Whilst I was employed in making these observations, Jaques Balmat offered to look for some bits of those rocks which I have just mentioned, and of which the turned-up point above the Allee Blanche is formed. I eagerly embraced his proposal. As he had been well rested and felt himself hearty, he set out very eagerly in a run, but he soon found his breath fail, and to recover it was obliged to extend himself at full length on the snow, however he recovered, and with a steady pace resumed his intention and brought me three stones of the following sort.

1. Some granites perfectly like those before described.

2. Some sienites or granitelles, that is to say, rocks composed of layers of black hornblende and white felspar, also laminar, but both in such small quantities that I may as well give these rocks the name of trapp, after the definition that I have before given.

3. A primitive petrosilex or palaiopetre of a gray pearl hue, translucent at the thickness of two-thirds of a line, of a scaly fracture in great and small scales, hard enough to produce sparks of fire, but yet yielding into gray strakes by a strong point of steel. With the blow-pipe may be formed globules of 0.45; which indicates the fusibility of the gross matter at 126 or 130 of Wedgwood. This is a gray half transparent glass, with bubbles, which on the file of sappare gains in transparency and subsides, but without penetrating or dissolving, and even without freeing itself entirely from its bubbles.

This palaiopetre encloses veins from one to three lines in breadth, which cross each other under different angles, and small nests of leek-green hornblende, confusedly crystallized, or in lamina seldom straight, or in moderate sized fibres.

The highest accessible rocks to the north and under the summit, are those which are strewn with glass bubbles, and of which I have for the first time made mention in the second volume of these travels, but which merit a more exact description.

1. Granitelle (syenite of Werner) composed for the most part of white felspar, almost opaque, of a laminar fracture, but not very distinct, and of hornblende of a greenish black, laminar and brilliant crystals, often by themselves, although often by undetermined forms, of the size of from one to two lines. The fusibility of this felspar is the same as that I have described; and that of this hornblende is of 90 degrees of Wedgwood, answering to a ball of the diameter of 0.6.

2. The same granitelle, but in which hornblende predominates, having but very little felspar. This stone in some places takes a schistose texture.

It is understood that between these two numbers may be found intermediate varieties.

3. Schistus of a greenish gray, tender, composed of cornéenne, or according to Werner of schistose hornblende, in some places straight, in others waving, something brilliant on their greatest faces; and of white felspar in very small blades intermixed with the cornéenne.

This schistus is often found adhering to Nos. 1 and 2. It is fusible into globules of a clear bottle green glass colour, mixed with white spots of the diameter of 0.7, which indicates the 81st degree. It is principally on this schistus that the glassy bubbles are seen; some are of a pretty clear green, and others of a dark bottle green. But in it is also found pure black hornblende, and there the bubbles are black. They are also found though more rarely in the white felspar, and there they are whiter and a little more translucent than the stone from which they have been lifted up, by the caloric detached by the thunder.

#### GEOLOGICAL OBSERVATIONS.

The first thing that struck me in the view of the whole of the high summits under my eyes, from the top of the highest among them, is the sort of disorder which reigns in their disposal.

When from our plains, or even from the tops of the summits adjacent to Mont Blanc, for example, from Brevent or Cramont, one considers the chain of which Mont Blanc forms a part, it appears that all these colosses are ranged in a line; and from this appearance is called a chain. But when you take a bird's eye view of them, the illusive appearance vanishes entirely. In fact, the mountains, particularly those to the north of Mont Blanc, in Savoy and in Swisserland, appear sufficiently joined to form a sort of chain. But the primitive ones do not shew themselves under that appearance; they seem distributed in great masses or in groups of a varied and fanciful form detached from each other, or at least appear to be only joined by chance without any regularity.

Thus to the east the Aiguilles of Chamouni, of Courtes, of Tacul, the tops of which mixed with rocks and snow, and separated by glaciers, offer the most magnificent spectacle, form a triangular group almost detached from Mont Blanc, and only united by its base.

In like manner to the south-west, the Mont Zuc, the Rogne, and the other primitive mountains on the north of the top of the Allee Blanche, form also a sort of triangular group, separated from Mont Blanc by the valley of the glacier of Miage; and which is likewise united only to Mont Blanc by the base of the mountains which close this glacier to the north.

And lastly, Mont Blanc itself forms an almost insulated mass, the different parts of which are not in the same line, and do not seem to have any agreement in situation with the two other groups.

In taking a still further view, I was confirmed in the same observation; the primitive mountains of Italy and Swisserland which I was near enough to view, only presented to my sight groups or masses separated without order or regular form. I did not see the appearance of chains except in those whose distance was too great for the sight to take in.

This observation excludes all idea of a regular formation, or at least it must be traced back to an epoch anterior to that which has given them their present form.

Yet notwithstanding this irregularity in the forms and distributions of the great masses, I observed some resemblances, as positive as important in the structure of their part. All that I could distinctly see, appeared to me to be composed of great vertical

leaves, and the generality of these in a like direction, pretty nearly from north-east to south-west.

I had above all a great pleasure in observing this structure in the Aiguille du Midi. In chapter XVIII, of the second volume is seen with what trouble and danger I attempted to make the tour of the base of this Aiguille, to study its form; and with what regret I found my eager curiosity opposed by inaccessible walls of granite which surround its base. Here I saw it under my feet, and described at my ease all its parts.

The second day of the journey, on arriving at the border of the platform on which I passed the night, I saw to the north-east a little below me some broken pinnacles; I asked Pierre Balmat what they were; and when he informed me what I presently discovered myself, that it was the summit of the Aiguille du Midi, I felt a satisfaction difficult to describe.

In continuing to ascend I did not lose sight of it, and I am certain that like the Aiguilles of Blaitiers it is entirely composed of magnificent plates of granite, perpendicular to the horizon and in a direction from north-east to south-west. Three of these plates separated from each other form the summit, and similar ones gradually lessening as they rise, form the south front at the side of the Col du Geant.

I believe then it was an illusion when in observing from bottom to top, it appeared to me to be composed of plates applied round an axis like the leaves of an artichoke; or at least if there are some leaves disposed in this manner, they are only the lowest ones; for in diving as I may say into its interior, I saw all its leaves perfectly parallel to each other.

I have given the details of this summit as an example; all those which I could see distinctly appeared to me pretty near in the same form and direction. If there were some exceptions they were local and of little extent.

This great phenomenon explains itself, as I hope to shew in the theory, by the refoulement or eruption which has raised those beds originally horizontal.

But another question which I ardently desired to resolve, is to know if these great plates preserve the same nature from their bases, which I had long known, to their summits, which I had not yet seen so near. I was fully satisfied; I found that the summit of these peaks, as well those which we laid hold of, and of which a description has been given in the foregoing chapter, as those which we found near enough to examine distinctly the substances of which they are formed, are without doubt like their bases, of granite, granitelle, of veined granite, and other stones of the same class.

This circumstance is so important for the theory, that although I might have observed it on mountains less high, and that it appeared most probable for the others, it gave me extreme satisfaction to make it general by a direct observation.

In effect this proves the remarkable property of mountains in vertical beds, which is that their nature is the same from their base to their summit, be the height of their summits what it may. On the contrary, in those whose beds are horizontal, or at least nearly so, the nature of the same vertical part of the mountain is seen to change in proportion to its height. The Buet, for example, rests on a primitive base, whilst its summit is secondary. The Furela del Bosco has its bottom of hard veined granite with the grain large; and in proportion as one gets higher these granites are seen to degenerate into foliated rocks, of a quite different nature. The same observation is verified as we shall see, on Mont Rose and Mont Cervin.

This difference holds good with the difference of the cause which has given to these different sorts of mountains the situation and form they now have.

In those which have vertical trenches, each trench is one and the same bed, in the proper sense of this word, and not the production of any accidental fissures, as some naturalists have pretended.

These beds were originally horizontal, and have only been raised by a revolution of our globe: it is then very natural that each of them may have preserved to its utmost height the same nature it had from its first formation.

On the contrary, the mountains divided into horizontal trenches have only been raised by an accumulation of different beds or layers, composed of crystallizations, or deposits the nature of which varied according to the diversity of matter contained in the waters where they have been formed.

From this theory it follows, that the central rocks of a mass all composed of vertical beds, such as Mont Blanc, ought to have been originally buried in ground of a very great depth. In effect, if it is supposed either by a rising up, as I think, or by the rupture of the crust of the old earth, as M. De Luc believes, that these beds, horizontal in the beginning, are become vertical; more, if it is supposed that the bottom of a valley, that of Chamouni for instance, be the ancient surface of the coat, it will follow from hence that the horizontal distance of the valley of Chamouni to a part which answers to the summit of Mont Blanc, should be pretty near the measure of the thickness of the crust which has been ruffled up or broken, and that in consequence the summit of Mont Blanc, whose actual height is about a league above the surface of our globe, had been originally buried two leagues below the surface.

It should not be then in the subterraneous depths of the mines of Poland or Northumberland, but on the summits of mountains, in vertical beds, that it is necessary to study the nature of the primitive world, at least as far as we could attain.

This idea has given, in my mind, a great interest to the specimens that I have taken from the highest rocks of Mont Blanc, and has engaged me to describe them with great care; I always regard them with new pleasure; I study them, I interrogate them; and methinks that if they could answer my questions, they would unveil to me all the mysteries of the formation and revolutions of our globe.

I was still more confirmed in those ideas when, in considering the rocks nearest to the summit, I recollected that the greatest number of them contained no mica, and that the others contained only scales of it, so scarce and small, that by none that I broke off could I determine their reality. For it is a fact, that the matter torn asunder by the subterraneous fires at the bottom of the earth to a great depth, very rarely contains mica. M. de Dolomieu met only one micaceous rock in the matter vomited by Mount Etna, and I have not seen any in the volcanoes of Auvergne or Brissac; yet I have seen some in those of Vesuvius, as has M. Nose in the lavas of the Lower Rhine; but it is because the subterraneous fires do not always take at the same depth the substances they throw out: it is sufficient for my observation, that the mica is much scarcer in the bowels of the earth than at the surface.

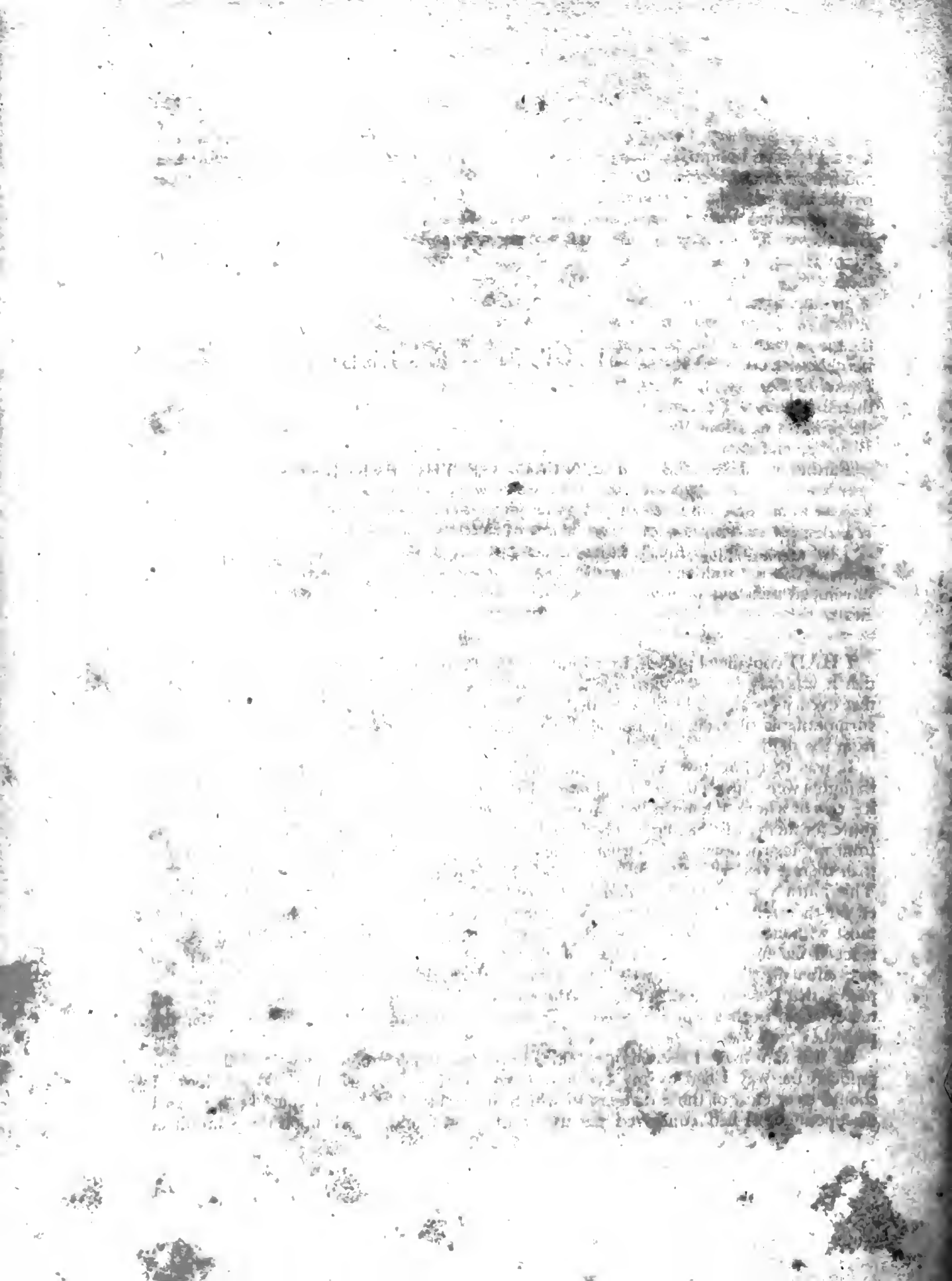
It would have been natural to think that the highest summits of the Alps should be found near their centre, or at least towards the middle of the breadth of the mass of primitive mountains; yet it is not so. From the summit of Mont Blanc is seen that to the south; on the side of Italy, there are many more high summits than to the north, on the Savoy side; so that this high summit is found near the northern border of the whole of the primitive mountains. So also is the view finer and more interesting on the side of Italy, for the secondary mountains to the north, terminated by the blue and monotonous line of the Jura, present neither variety nor grandeur; and our plains even

our lake, seen obliquely through the vapours of the horizon, present only feeble tints and few distinct objects. On the contrary, on the southern side, the horizon concealed by the high summits, varied in their groups and forms, mixed with rocks and snows, and intersected with green vallies, presents a whole equally singular and magnificent. But above all, as I have already said, the aiguilles and the glaciers of all the environs of Mont Blanc, formed in my mind, all at once the most ravishing and instructive spectacle.

In fine, from this fine observatory I seized at one glance, or at least without changing situation, the whole of the grand phenomenon that I had before seen in detail, that of the raised beds of the mountains at the side of Mont Blanc, and the high summits of its neighbourhood. Such, towards the north, were the mountains of Reposoir, those of Passy, of Scrvoz, the Buet; those to the south, the Col-Ferret, Great St. Bernard, and then the chain of Cramont, the summit of which is not seen, as I have already said, from the summit of Mont Blanc, but of which the after-part is seen to border the Allce-Blanche, and then to join itself to the Tarentaise mountains.

Farther on, at the other side of these sharp-pointed chains against Mont Blanc, are seen some whose edges are turned the other way, according to the law I have made known in the first volume, and all these phenomena perfectly agree with the system of refoulement or eruption, of which in other places there are so many proofs.

I have thus happily finished these observations. I began with them under the apprehension that the sudden coming of a cloud, so frequent in those high places, might have enveloped me, and deprived me of the power of accomplishing what I had most at heart.



JOURNEY  
TO THE  
SUMMIT OF MONT PERDU,  
THE  
HIGHEST MOUNTAIN OF THE PYRENEES.

BY L. RAMOND,

Member of the National Institute; and read in that Society the 19 Floreal, an. 11.

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I HAD convinced myself, by various attempts to reach the summit of Mont Perdu, that it was only by its eastern side that it could be accomplished; and I was persuaded that even its peak might be ascended by the way of the defile of Fanlo, unless any insurmountable obstacle lay concealed from me, in the space which separates the peak from the defile.

It was therefore towards this doubtful intervening space that all my attention and thoughts were directed, and I had more than once or twice urged my guides to explore it; two of whom at length, last summer, determined to gratify me, and I marked their route for them; but having reached the foot of the mountain, they thought proper to go from my instructions, and to trust to the guidance of a Spanish shepherd, less acquainted than themselves with Mont Perdu; and they had nearly paid very dear for so doing. This journey was indeed perilous, being obliged to pass a night (so ill had they contrived for themselves) beneath the glacier of the peak, without shelter, without fire, and almost without food. The second day, however, they conquered the last difficulties, and reached the summit, but so worn out, that they had scarcely ability to explore it; and so confusedly did the man who came to me with the tidings of their success describe the places, that I was more than once, in the course of his narrative, apprehensive they had totally failed in their object: one circumstance was evident enough, which was, that the path they took was not the proper one.

Be this as it may, I instantly determined upon my departure, resolving to follow scrupulously the way I had by my eye traced out to myself, by which I did not doubt I should steer clear of those dangers to which my guides had been exposed; nor was I disappointed: I had conceived the true route, and found myself upon the summit of

Mont Perdu, less exhausted by the labour of the journey than I was by exploring its base. I took my departure from Barege the 9th of August 1802, and having gained the valley of Gidre and Estaube, I took my station on the height of Port Penide, the exact elevation of which it was very desirable to ascertain, and by the observation of the barometer I found it to be one thousand two hundred and ninety-one toises; but the Port du Penide is by no means the highest or most difficult passage of this portion of the Pyrenees.

This calculation afforded me the opportunity of ascertaining with precision the extent of the lesser chain of permanent snows, which terminated at the absolute elevation of one thousand two hundred and fifty toises.

I had a good spirit-level, which furnished me also with a very interesting result: I proved by it that the defile of Pimeni, from which I was separated by the valley of Estaube, was precisely of the same elevation with the Port du Penide, and likewise with the defile of Fanlo, divided from me by the valley of Beouse. This conformity of elevation between three corresponding and alike disposed points, is a discovery by no means immaterial to a geological history of Mont Penide.

But in vain was our ascent to the defile of Fanlo: it was indispensable we should retrograde; we were to descend considerably ere we could re-ascend. We directed ourselves obliquely towards the enormous walls which bear up the lake of Mont Perdu and its terrace, which brought us to the point from whence the torrent precipitates itself, in a frightful cataract, to the bottom of the valley of Beouse.

Here we found ourselves upon a small well turfed, but very inclining platform; and here too we met with a flock of sheep under the guidance of a shepherd, a species of savage, unable to understand us even in his native language. Mont Perdu was suspended over his head, yet was he as little acquainted with it as if it had constituted a part of the Andes. He had, however, a knowledge of the defile of Fanlo, here designed under the name of Niscle, and he engaged to conduct us to it the next day. We, in consequence, passed the night with him in the open air, amidst the vapour of the cataracts, and the angry portents of a threatening tempest on every side. I took the height of this station, and found the mean between two observations to be one thousand and three toises.

Our first labour in the morning was to cross the torrent which discharges itself from the lake; its depth, its rapidity, and particularly the coldness of the water, rendered this effort of some difficulty. The water caused a rise of two degrees only in the thermometer above the freezing point.

From this place until we reached the summit of the defile of Niscle, we experienced no other difficulty than what was occasioned by the extreme inclining of the slopes. I ascertained the height of the defile to be exactly upon a level with that of the Penide, as it is also with the border of the terrace near the lake of Mont Perdu; the lake itself is somewhat higher. I found, on trial, its absolute elevation to be something more than thirteen hundred toises. Here then we have four excavations of equal form and height, viz. the valley of the lake, the defile of Niscle, and those of Pimene and Penide; which I consider as the remains of an ancient valley, hollowed by the currents, after the destruction of the beds of Mont Perdu, and possibly before their emersion; a valley which afterwards may have been transversely cut by the great rents which now actually form the vallies of Beouse, d'Estaube, and Gavarni. Hitherto I had proceeded upon assured grounds; I have already described what is singular upon this secondary soil, composed of irregular beds thrown up by the accidents of nature, the receptacles alternately of



marbles, breccia, limestone: some compact, and mingled with flint; others gross, and more or less mixed with clay and sand, and all sprinkled with zoophytes and testaceous fragments. I now found myself upon the continuations which constitute the summits of Mont Perdu, the soil of which, it was evident to me, had never changed either its position or nature. I had never before been in a situation so convenient, correctly to notice its structure. The side of the mountain which presented itself to me, that commands the defile to the east, arose to a perfect peak, so that the view I had of it was completely transversal, and perfectly characteristic of the position of the beds which formed the ridges of the mountain I was about to climb.

The whole of these beds, allowance being made for their windings, incline generally so much to the north, that the greatest part of them hardly vary from a vertical situation, and have a direction very visibly parallel with the general direction of the chain; a circumstance not otherwise to be explained or accounted for than from some violent convulsion of nature; and it is not to be doubted that this irruption has taken place under the very waters, which have removed these beds, for their upper trenches are covered with thick layers of shelly free-stone, inclining rather to the northern horizon, and which differs in nothing besides from the free-stone found in the beds.

What I had the opportunity of seeing upon the mountain of Nisicle, I was about once more to explore on the summit of Mont Perdu, but in portions, and in detail, surrounded by the snows and ice, and embosomed midst the disorder and ruins of nature, where it is hardly possible to discern the order and structure of these irregular interwoven shelves.

The first stages to the ascent of Mont Perdu present themselves to us to the west of the defile of Nisicle, and they present themselves with an abruptness and grandeur which announce the avenues to its summit. Four or five terraces piled one upon another form as many flights of steps, covered in part either with snow or fragments, which tend not a little to facilitate the access to these otherwise inaccessible walls. The first of these fragments are blocks of more than ordinary size, and apparently belong to the chain of the parasite bed of free-stone which copes the mountain of Nisicle. It must be noticed, I apply the name of free-stone to those gravelly caeles, of which sand constitutes the most apparent part. Testaceous fragments are found in those free-stones; and with them fragments of a calcareous schistus, strongly polluted with clay, and spread over with a small extended polypus, moderately compressed, sometimes ramified, its surface pierced with simple pores, but remarkable for a small projecting belt which surrounds them.

I very shortly passed beyond these blocks, and continued my route, ascending obliquely from the north-east to the south-west, that is to say, in a direction which cut nearly in a right angle the general direction of the ridges, and soon reached the ruins which belong to the continuation of the beds of which even the mass or body of the mountain of Nisicle is formed. Here I recognized the compact stone of Marbore, black or gray within, but soon whitening when exposed to the air, and spreading itself in a spontaneous manner in small irregularly angled fragments. It is most generally fetid, but in no region did I experience it so much so as in this; the very treading it was sufficient to infect the air with an insuperable smell and a nausea, bearing no possible relation to that caused by percussion in the common hepatic and bituminous stones.

It took us near an hour to cross these fragments, or rather these wrecks, and we were much overpowered in this part of our journey by the efforts required as well to climb the excessive slanting declivities, as to struggle incessantly against the loose earth, tending invariably to the precipice. At length we found ourselves upon the upper terrace,

and on a range of rocks, which at the first forms a narrow ridge, but widens by degrees, and becoming safer, brings us to a sort of valley where the ices begin which encircle the peak.

In the bare and uncovered part of this extended ridge I noticed some large pieces of a compact calcareous blackish stone, crowded with great lumps of siliceous of the same colour; they slightly inclined from the vertical to the south, and follow the same direction with the ridge and chain. It is a repetition of beds of the same nature I have noticed in the Port de Penide, Pimene, and elsewhere. Here, as there, they appear to be of the number of those whose direction is most evident. They were distinguishable by me on the mountain of Niscle, yet in my view, where this intrenchment widens itself from the base to the summit of its westerly side. The kidneys of siliceous are of larger volume there than at Ports de Penide, and are at the same time exceedingly irregular; though I found one figured like an hexadrical oblique prism, which singular specimen I have deposited in Mr. Haüy's collection; had I met with it in the very heart of the rock, I should have been tempted to examine the direct work of crystallization, but it was of the number of those fragments spread over the surface of this ground; and as all the kidneys with which these stones abound, are shattered in every sense by straight planes, the natural effect of retiring waters I am warranted in the conjecture, that this prism is a detached portion of a more considerable kidney, in which the fissures had accidentally met under the angles, which quartz particles have an incessant tendency to form.

At Port Penide there are many shells contained in this stone; here I did not perceive any, but it is probable some may be found; besides, I have met with layers of a calcareous stone in these beds, very argillaceous, and much mixed with sand, which contained so large a quantity of nummularia, as gave it an appearance of having been almost entirely composed of them. These beds soon slip under the ices, and become no longer visible. We now approached the borders of these glaciers, which have here their origin, and consequently but of very gentle declivity. Nevertheless, we found the crossing of them disagreeable enough; sometimes we found the surface hard and slippery, at others we sunk up to the knees in the recent snows, fallen upon the summits in the month of June. Beneath this snow too, in our treadings, we were sensible of rents, in which we ran the risk every instant, of being lost. The exposed clefts also intercepted our passage, and we had nearly been altogether stopped, at two hundred metres\* below the summit, by one of them, which extended transversely from the origin of the glacier, to the steep of the valley of Beousse. It was but three days before, that my guides had commodiously passed this cleft, by a bridge of snow, which was now dissolved; and which it was now our business to effectuate by leaping, which we succeeded in, and thereby conquered the last obstacle. I measured the depth of the cleft, and found it forty feet; and as the place where we crossed, corresponded with the convexity of the mountain; it must evidently have been the place where the ice was of the least thickness.

From thence I beheld the summit which had hitherto been constantly concealed from me, by the position of the declivities over which I had passed. It presented itself in the form of an obtuse cone, clothed in spotless, resplendent snow; the sun shone with uncommon pureness and brilliancy; but its disk was shorn of its rays, and the sky appeared of a deep blue, and so strongly shaded with green, that even the guides were struck with the strangeness of its aspect. The first tint has been observed on all the high mountains; but there

\* A metre is rather more than a yard.

is no example of the second, and I am myself totally ignorant, to what this singular optical illusion may be attributed.

At a quarter past eleven, I reached the summit, and, at length, had the gratification of contemplating, at my feet, the whole of the Pyrenees, and instantly set to work with my instruments. The wind blew very boisterous from the W. S. W.; which threw difficulty in the way of my operation. I marked the state of both the barometer and the thermometer at noon. M. Dangos made a correspondent observation at Tarbes, with the instruments he took with him to Mount Etna; which have been carefully compared with mine. My barometer placed upon the crest of the cap of snow, after due correction, stood at 18i. 11.14l.; at Tarbes it was found at the same time, to stand at 27i. 1.47l. The difference of logarithms then give one thousand five hundred and fifty toises, for the vertical height of the measured column. On the other hand, the thermometer at Tarbes stood at  $20^{\circ} 5'$ ; by Reamur's scale, and at the summit of the peak, at  $5^{\circ} 5'$  by the same scale; which leaves to be added, agreeably to Mr. Trembley's formula, 12.11 toises, and determines the height of the column to be 1562.11 toises: Now Vidal's trigonometrical operations fix the elevation of Mont Perdu at one thousand five hundred and ninety-nine toises beyond that of Tarbes; which makes a difference of at least 37 toises, or  $\frac{1}{43\frac{1}{2}}$  of the measured column. Mr. Laplace's formula augments this difference, more than double; and so does Mr. Deluc's, but Schuckburgh's correction of the latter brings the result very exact to the formula of the former.

It is my intention to examine more carefully this observation, when I give an account of the whole of my barometrical observations; at present I shall content myself with observing that the wind was exceedingly tempestuous, and blew from the southern region; and the sky around me very portentous of storm; and that all my observations, made under similar circumstances, have ever been short of the heights of the places I would measure. I shall further observe that the correction of temperature, which has already been so often hazarded, must not here be confided in. Local circumstances, infinitely varied, most certainly variously influenced every part of the same column of air it was permitted me to examine. In effect, if the thermometer, placed by the side of the barometer, on the lap of snow, and at four feet above the surface, announced  $5^{\circ} 5'$  of heat, the same thermometer brought down to the surface of the snow fell to  $2^{\circ}$ , by reason of the absorbent nature of the heat, which occasioned a rapid evaporation of the surface. At the same time another thermometer, placed likewise in the shade, at four feet from the surface, but upon the southern face of the peak, which the snows had left, indicated  $+10^{\circ}$ , and this same thermometer, placed on a level with the surface, and exposed to the sun, rose to  $+18.25$ . Finally, I must remark, and that too as a very singular and fortunate circumstance, that Mont Perdu, and the Defile of the Giant (Col du Geant) where Saussure made such a series of valuable observations, we found to be precisely of the same height, since the trigonometrical observations give to each one thousand seven hundred and sixty-three toises, of actual elevation; for the mercury retained its situation at the same point in both these elevated spots; and besides the barometrical calculation of heights furnished results to Mr. Saussure so far below his geometrical proofs, that this illustrious naturalist has judged it proper to relinquish them altogether, notwithstanding they were grounded upon eighty-five observations, made within the course of fifteen days.

The peak is covered with snow from the great glacier to the summit, but the thickness of the snow gradually diminishes, and becomes very inconsiderable towards the top,

by reason that its trenched form does not admit of an accumulation of them ; here indeed they did not appear to me more than three metres in depth ; their consistence is both thin and light, and it is but slightly they incorporate themselves with the extremity of the ice ; while at the same time the thaws here are of two short a duration to impregnate them with water ; and the small quantity which gathers during the fine days of summer runs quickly off by two outlets ; but on the northern declivity these snows take, by degrees, an extraordinary consistence, and quickly transform themselves into a vast glacier, which descends to the border of the lake, from a vertical height of eight hundred metres.

Contrary to this, on the south of the peak the soil was distinguishable, a circumstance to be attributed less to the force or action of the heat, than to the extreme precipitancy of its steep. The snows cannot here support themselves, but are continually falling from the summit of the mountain, on a descent situated six or seven hundred metres beneath, and these form an ice considerable enough to resist the direct and reverberated heat to which this situation exposes it.

The uncovered part of the summit presented to my view no entire rock, no regular bed ; it appeared only a mass of ruins, all of the same species of stone viz. a compact, calcareous, black, and fetid stone, which insinuates, or inter-twines itself into the beds of sand-stone and shell lime-stone. I examined it here with an attention, proportioned to the importance its situation gave it. It is of a fine grain ; a species of marble, composed almost entirely of carbonated lime, without any mixture of argil, yet you may discover, by the aid of a microscope, in the residue left by the nitrous acid, after the dissolution of the calcareous part, a quantity of very fine quartzose sand. This stone, particularly the interior of it, is decidedly black ; but its blackness quickly goes off, when exposed either to the fire or air, though it will resist acids. I had fancied I discovered in it the fetid principle : it totally left it during its dissolving, without the carbonic gas contracting the smell in its evaporation. Mr. Vauquelin was eager to afford me his assistance, more closely to examine the properties of this stone. He discovered in it, as I did, not only a nauseous but a cadaverous smell, unfolded by trituration ; he found no argil in it, but some siliceous particles, evidently belonging to the sand ; which, as I have already mentioned, is found in its composition. The black residue is a composition of sand, carbon and iron ; the two latter substances have the appearance of being intimately combined with the carbonate of lime. The carbon constituted not more than a 35th part of the portion of the stone he made his experiment upon : with respect to the fetid principle, he concludes it to be produced by a substance of the nature of gas, which evaporates in the pulverisation and dissolution of the stone. Perhaps it exists in the carbonic acid, but it marks its properties. Further, the analogy of this smell with that is distinguishable in certain black marbles, in which he has afterwards discovered a bitumen incontestably of animal nature, inclines him to believe that it has here no other origin.

This last conjecture is assuredly well supported by the marvellous destruction of marine animals, which took place at the first formation of these mountains. Neither is this cadaverous fidity peculiar to the beds of marble there met with ; it is every where attendant on the carbonate of lime, and is discoverable by breaking the free-stone itself, of which the carbonate principle is the most inconsiderable part ; as sand is discovered even in marbles, where we have the least reason to expect its presence. All the masses are a mixed assemblage of materials, of a correspondent nature ; sand, fetid carbonated lime, clay, shells, associated in all possible proportions, the sport of particular accidents, modi-

fyng throughout the influence of general causes ; such are the elements of all these beds, and veins, which, with so much seeming caprice, replace and succeed each other with so much irregularity. If, in the various fragments that I have collected on the summit, I have not observed organized fragments, their presence is not less attested by the fetidity resulting from the mixture of their softer parts, than in the neighbouring beds by the conservation of their skeletons. It is not improbable, but by a very diligent examination some vestiges may be discovered, as we observe here and there in beds of the same nature on Mont Pinede : but stone of this compact quality ordinarily contains very few organic fragments ; and we find the quantity in all the beds, of which these mountains are composed, is constantly proportioned to the sand or clay contained in them ; but the beds of shells are not distant ; they encircle every where the veins with a compact calx ; I have met with them a little below the summit ; and they shew themselves on every face of the peak. These extendings are perceptible in all the mountains, ranged on the same mineralogical parallel ; and if among all these collateral beds, vertically arranged, the pre-eminence is given to beds of compact calx, which, nevertheless, constitute the smallest portion of their composition, it is because the beds of this order are superior in durability to brittle free-stone and decayed marls.

From the top of Mont Perdu the eye embraces at once the whole system of mountains, in aspect resembling each other, and recognises the same constitution in all that rise above the ordinary heights. The system is an extended series of summits, the beds of which arrange themselves upon one and the same line, in a parallel direction with the chain, dividing the immense horizon in two parts, as different in their levels, as the mountains which command them are distinct in form.

To the north, the primitive mountains, which constitute the axis of the chain, lift up their heads. Their sharp and rugged summits closely encircle and form a belt of more than four myriametes (leagues) of transversal thickness, whose elevation totally intercepts the view of the French plains : so insensibly progressive is their sinking on this side, that this vast belt composes itself of seven or eight gradations of heights, gradually lessening, so that the south peak of Bagneres, whose station is in the last visible range, is only five hundred metres below Mont Perdu.

To the south, the view is quite different ; here they appear to sink on a sudden. A precipice presents itself of from one thousand to one thousand one hundred metres ; the bottom of which constitutes the summit of the highest mountains in Spain ; none of which attain to two thousand five hundred metres of absolute elevation, and quickly degenerates into low round topped hills, beyond which opens the immense perspective of the plains of Arragon.

But what more particularly attracted my attention was this meridional belt of the Pyrenees, so nicely divided into two distinct parts. The neighbouring plains opened to my view, the long ridges, and opening valleys which ordinarily form the calcareous sides on the extremities of great chains. The belt, on the contrary, attached to Mont Perdu, and which is evidently an appendant of it, preserves the grotesque appearance which characterises every appendage of this singular mountain. It is a vast extended platform, or terrace, the surface of which, viewed from this elevation, seems nearly level. Some small protuberances picture so many little and gently rising hills, separating some large, but not deep valleys ; but in the midst of these superficial inequalities, four or five enormous clefts open their ponderous jaws, the walls of which are extremely vertical. They diverge in their openings, from the base of the peak, and extend to the bounda-

rics of the platform; the protuberances and vallies of which they indifferently divide, as they divide themselves from their very foundations. They absorb also the waters, and thick forests lie concealed at their bottoms. These clefts are, in appearance, so recently formed, that one would imagine them the work of yesterday, and have so exactly preserved their sharp and returning angles, their projections, and indentings, the windings of their divisions, and the undulations of their summits, as to induce a belief they only waited a new effort of that power which separated them to re-unite them.

It was desirable more minutely to examine these chasms, but we could not resolve to descend from the summit; this precipice is one of those not to be braved with impunity: hence we decided upon a circuitous rout of twelve or fifteen leagues, to endeavour to find an entrance to them, either in the Val de Broto, or in that of Fanlo; and retook our way by the cataracts of Beousse, to be certain at least of passing the night in a place where it might be possible to make a fire.

It was at one o'clock I began to descend from the summit, after having made a second observation with the barometer, but this was not made at Tarbes. Beside, my instruments had not very sensibly varied. I had continued near two hours upon this summit, and during all this time, no being that had life came within reach of my sight, excepting an eagle flying with such an inconceivable rapidity against the current of the wind, that the space of a minute veiled him from my eyes.

It is with the utmost difficulty, we ourselves could struggle with the impetuosity of this wind, which an eagle could so triumphantly encounter; and the cold too we experienced from it was almost insupportable. No wind diminishes so quickly the sensible heat, as a south wind, when we are exposed to its action in the higher regions of the atmosphere. It derives this property from its dryness and velocity, which entices and forwards the evaporation of bodies susceptible of its influence. The thermometer was not low, yet we were almost frozen, but this was all the inconvenience I felt; we breathed without difficulty in this rarified air, found by many so insufficient for respiration. I have been myself more than once or twice witness to persons of hale vigorous constitutions being obliged to forego proceeding to heights much beneath this, even Saussure, upon the defile of the Giant, where the air was by no means so rarified, experienced an oppression in breathing, by somewhat more than common exertion, but here we felt nothing of the kind. The pulse only indicated an alteration, which was independent of the agitation occasioned by the labour of the journey, rest did not quiet it, all the time we were upon the summit, it was low, dry and extended, and beat at a rate of five to four; the fever evidently proved the uneasiness we should have experienced at a greater height; but in the manner we were affected, it produced an effect very different to what another degree of elevation would have done. So far from occasioning any weakness, it seemed rather to add to my strength, and invigorate my spirits. Vegetation prevailed almost to the very summit of Mont Perdu. I shall content myself with pointing out the most remarkable stations of it.

Upon its southern side, the vegetation or growth of trees ceased at two thousand one hundred and fifty metres, or one thousand one hundred toises; these were a species of Scotch pines; still higher shrubs seemed to thrive with much vigour; the juniper endures at the highest, and leaves the rhododendron in the rear. Among these shrubs I noticed the *cistus roseus*, of Jacquin, growing a little below the defile of Nisele; and to this point we meet with a very vigorous and herbaceous plant, known by the name of *cnicus spinosissimus* of Villars, which has an appearance different from that of *Linnaeus*: I sent some of the seeds of it to Mr. Cels.

At the defile of Niscle, that is to say, at the height of two thousand five hundred and sixteen metres, or one thousand two hundred and ninety-one toises, the surface is covered with verdure; and the *potentilla lupinoides*, of Willdenow, and the *ranunculus montanus*, of the same author, are both found in abundance here. These two plants are constantly Alpine in the Pyrenees; the first particularly so perhaps, if it is really different from the *potentilla valderia*.

At one hundred and fifty or two hundred metres higher, appeared the *ranunculus parnassiaefolius*; this rare species is very common here. I remarked that I met with it but three times in the Upper Pyrenees, and then always in situations of precisely the same elevation. Above this station, and until you reach the upper terrace, all is permanent or movable wrecks of snows; but at the terrace vegetation re-appears: and there are even some grasses, and common saxifrages to be met with.

A check however is once more given to vegetation by the great glacier; yet upon rocks under the shelter of the peak, hard and naked as they are, you discover a species of turf of *saxifraga groenlandica* et *androsacea*, and some tufts of the *artemisia rupestris* of La Marck; these plants are small but vigorous; after all, I have gathered round the peak a *cerastium*, considered by many botanists as the *alpinum* of Linnæus, and the *aretia alpina* with rose flowers, drawn by Jacquin; they were both in their highest bloom, and never did I behold the latter in so much vigour and beauty.

These latter plants grew so near the summit, that one cannot doubt but they would establish themselves there but for the moving fragments, which invincibly, as it were, repulse them; the lichens even will scarcely fasten to these fragments, and I could but distinguish a few of those of the nature of crustaceous lithophages, which every where have a disposition to fasten on stones of this species.

However the most perfect plants which take growth at the greatest height and under the same latitude are those which I have just particularised. The platform and its immense clefts were now what remained for me to explore. I reached Gavarnie on the 20th August, and on the following day passed the port, the less elevated, the easiest and most frequented passage over this part of the Pyrenees, notwithstanding it is found to be, by the measurement of some engineers, one thousand one hundred and ninety-six toises high, and the mean of two barometrical observations, varying but little from each other, fixes it at two thousand three hundred and twenty-three metres, which is not more than seven metres less; hence it is evident this defile as much exceeds St. Gothard in elevation, as the Port de Pinede does St. Bernard; and in fact the great mass of the Upper Pyrenees, exceed in height that of the higher Alps, although the elevations of the peaks which command them, are much less.

I now descended to the Spanish Hospital of Boucharo, in elevation corresponding with that of Gavarnie, viz. one thousand four hundred and forty-four metres or seven hundred and forty-one toises. Here I found the platform which rose upon my left absolutely inaccessible, and consequently found it necessary to range the valley of Broto, to discover if possible an entrance into some of the clefts; in our search we arrived at Torla, a considerable village at about a league and a half distance from Boucharo; here I perceived to the east an opening into a large valley, which penetrated into the platform, and which is known by the name of the Val d'Ordesa, and entirely uninhabited, I made my way to it by fording the Ara, and was presently satisfied I had entered one of the clefts I had contemplated from Mont Perdu. Its aperture is at the summit of Torla, which by my barometrical observations I found to be one thousand and eighty-one

metres, or five hundred and fifty-six toises. I rambled in this cleft for four hours, always under the shade of a thick stately forest, and inclosed between vertical walls of dreadful elevation. The day was drawing towards its close when we reached the extremity of the cleft; the platform was still above our heads, surrounded with those walls so impossible to climb, which determined us to pass the night under the shelter of a rock overspread with tufts of the *gonista lusitanica* a very rare shrub, which we cut to light and feed our fire. We found the height of this station to be nine hundred and twenty-five toises.

At the break of the following day we proceeded to reconnoitre the walls, which after two unsuccessful attempts and not without imminent danger, we scaled with our hands and feet. Having attained the platform, the face of every thing seemed changed around us, and in such a manner that we hardly knew where we were. Mont Perdu, the cylinder, its walls and clefts, were before us, but we were enabled to single them out from amidst the chaos of rocks so piled upon each other; it was necessary then I should traverse the platform to adjust my observations with those I had made on the summit.

After more than once consulting the barometer on different situations of the platform, its mean elevation I found to be two thousand four hundred and thirty metres, or something more than one thousand two hundred toises. This height, compared with those I had taken at the bottom of the valley, gives an advantage over its upper extremity of five hundred and thirty-six metres, and is one thousand two hundred and fifty-seven metres above its mouth, so that the mean depth of the cleft will be eight hundred and ninety-six metres, or four hundred and fifty-nine toises.

Having now ranged in two directions the meridional side of this shell-composed chain, I will in a few words give the result of my observations. With respect to the general disposition of the surface or ground, it is certain that the steeps are much more precipitous on the south than north; the mountains too sink faster, and the valleys are deeper, though at the same time this side of the chain has less transversal breadth than the other, and the surface of this part of Spain is higher than the corresponding surface of France. As to the nature of these mountains, they are all secondary; the last primitive materials I noticed were in the Port of Gavarnie: here at its utmost elevation we find granite, and we afterwards leave to the north limestone, and afterwards large very inclining shelves of *grauwakke*, alternating with flakes of *grauwacken-schieffer*, the latter is very much intermixed with wrecks of aquatic monocotyledones plants, whose forms are frequently spread with a pyritous varnish; it is, we know, in this species of rock that the most ancient remains of organised beings are to be met with, beyond all is composed in some sort, of two elements; gravel more or less coarse, and fetid limestone, more or less polluted with clay, both mixed in all proportions, from the pudding and the freestone, where the union is hardly discernible, to the compact limestone in which the sand is with difficulty recognised; but with this difference, that the beds wherein flint and sand predominate constitute the greatest portion of the mountains, and compact limestone is seldom found there but in small, irregular, and shelving beds; finally marine bodies are chiefly discovered in beds composed of sand of a moderate fineness, and in mean proportion, few are met with in freestone of gross quality, and fewer yet in marbles, and among the number of fossils, the species in which they most prevail is that of the *lenticulares numismales*, and here they are so abundant as to strike minds the most accustomed to the contemplation of the destruction of nature. I have met with them of three dimensions, and they appear to constitute as many distinct species; the diameter of the smallest rarely exceeds two millimetres, and is frequently much less; the first is



found upon the summit of Mont Perdu, and appears to have suffered from transportation, and its exterior forms are greatly defaced; the second is found along the Val de Broto even to the deepest part of the Val d'Ordesa, it takes its residence in the inferior or lower beds, and discovers itself evidently enough by the tubercles on its surface, and internal spires: its diameter attains to about half an inch; the third is about an inch and a half in diameter, and is found in the lowest beds, below Torla, towards the plain.

Further respecting the disposition of all their materials, it is too wonderful in the history of secondary mountains to be passed over, particularly the range of Marboré and Mont Perdu, the beds of which are arranged in such a manner as very frequently to take a vertical situation, and the most elevated summits of this mineralogical parallel arc formed of beds thus disposed; but we scarcely find ourselves in the Val de Broto, when the beds become horizontal, without a possibility of discovering their relative positions, or where the change begins. The horizontal beds are very precipitous, like those which are vertical, and like them are vertically divided by fissures crossing from one side to the other. We might in more than one place be easily deceived, and take these trenches for beds, if we were not particular in noticing the order of the upper position of their materials. It is this disposition to divide itself vertically, however constructed its beds, which in a very eminent degree characterises the chain of Mont Perdu and all its dependances; and it arises from the spontaneous division of its beds into small solids, the form of which tends more or less to a rectangular parallelepiped, and there is even in the sand which incorporates itself in these beds, an apparent tendency to a similar division, which has been remarked frequently in the freestones of other parts of Europe. But what in other places would be considered a phenomenon of no magnitude, and comprehended by a very cursory view, takes here a character for grandeur so prodigious, that even the acknowledged proceedings of nature appear at first incompetent to the explanation of such uncommon forms. Further in no part were these forms so imposing as in those great clefts I had just explored. Their surface is a succession of steps perfectly horizontal, and formed by beds of freestone, with which we observed intermixed the red freestone, considered by geologists as the most ancient of the globe. Here the torrents are so regular in their fall, that the whole passage they make to themselves seems to be the work of man. The positions too of these immense fissures, disposed into stories of prodigious elevation, and on every side of us lost to our sight, their perpendicular materials, colour, and joinings, so much recal to our minds structures raised by the hand of man, that we imagine ourselves contemplating the ruins of some immense edifice.

The pudding stone and freestone constitute the largest portion of these walls; but the compact limestone separates them here and there in large strata; upon the higher landings these are particularly observed in small beds, not difficult to be distinguished, and always horizontal in their position.

The first beds I noticed upon the platform were yet horizontal, and are composed of a pudding stone, in which the flints and sand form in the calcareous sand very irregular undulating veins.

But at the approach of the peak the position of the beds are entirely changed. At the base of Mont Perdu I found the shell-composed beds varying themselves to the south, and dipping to the north on an angle of  $45^{\circ}$  an inclination the very opposite to that of similar beds which constitute the northern base of the same peak.—It is therefore certain that the beds of this mountain are, as it were, an open fan, the vertical rays of which

constitute its summit; a very singular disposition, and an inversion of that which a rise or burst\* could have produced. It is further certain, that the beds arranged towards the peaks are precisely the shortest, the most irregular, and intertwined; and that there is a coherency and regularity in those beds very proportional to their approach to a perfect horizontal position.

We cannot doubt that the latter are in their natural and original position, and that they owe their regularity to the soil upon which they have been deposited.

Besides the waters by which they were collected being turbulent, have by turns thrown up calcareous slime, sands, and heavy flints, and mixed their various materials with an effort, the signs of which cannot be mistaken.

I have already in another place attempted to establish the fact, that the course of these waters was rapidly impelled in a direction from the south-west to the north-east, and this is strongly here evinced by the position of the different masses and the situation of the steps. The force then of these currents, upon the southern face of the primitive chain, would naturally lodge the matter they accumulated very irregularly upon its sides, not less on account of the inclination and ruggedness of the surface which received it, as by reason of the agitation, whirlpools, and swelling of the waves, by which it was impelled along.

The irregular beds which these tumultuary impulsions occasioned, being at first unstably lodged upon very oblique planes, have removed from them, as soon as they had received a considerable addition to their bulk and weight; and it is natural to imagine that the most inclined of these beds must have fallen upon the regular deposits beneath, and that several of them have maintained an hold upon the lower trenches. A movement of this nature is more easily imagined than an eruption, the causes of which must be looked for in some vague hypothesis, and whose natural effect would be rather to lift up the beds in shifts, upon each other, than spread them out like a fan.

In the mean time one of the greatest difficulties yet remains unaccounted for; it is not easy to comprehend how such masses, evidently as it were, turned upside down, have taken their stations several hundred metres above the summits of the mountains, from whence we might believe them to have been thrown down. Has it then arisen from the sinkings that have lowered, as there are many circumstances to induce a belief, the northern mountains? or have their summits been subjected to a more rapid waste, as other facts authorise us to imagine? Let us however confess, there is nothing clearly to be depended upon, excepting that some extraordinary convulsion of nature has subjected the higher beds of Mont Perdu to a change of position.

Another circumstance is also clear, and that is, that this convulsion has originated beneath the waters, as is evident from those upper disposed shelves, on the summit of the overturned beds; which upper deposits may have occupied many vacuities, enlarged many ridges, and strongly cemented the crumbling masses with the compressed ones.

The first vallies, the vestiges of which are sufficiently distinguishable, have been formed upon these mountains by the retiring of the waters, and these waters, having once found their natural level, have left these masses to disiccation, and their natural weight; the general or partial sinkings too of these masses, have occasioned the great southern clefts; and probably the deep vallies to the north and west, which divide by diverging, having always Mont Perdu for their centre.

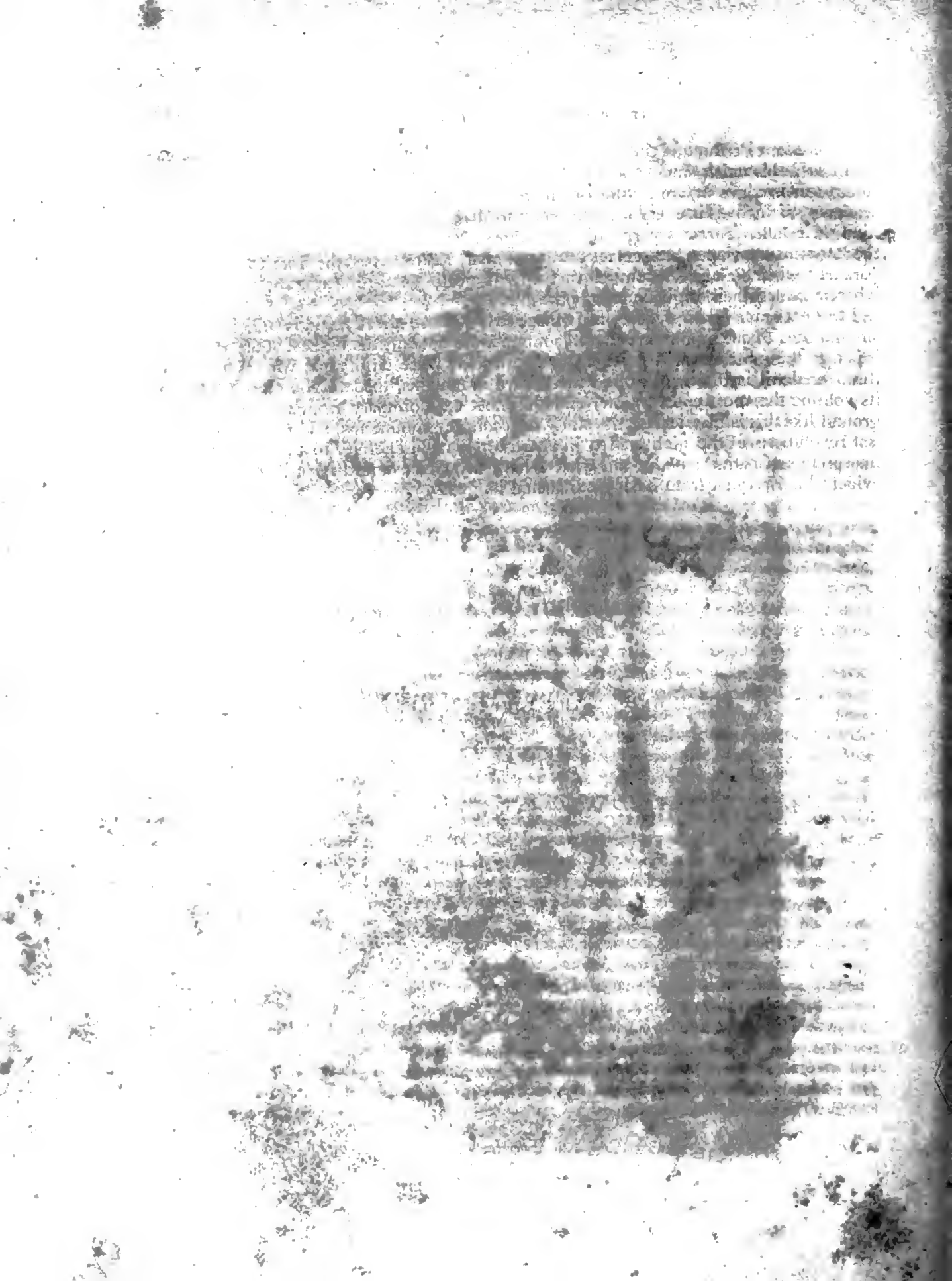
Doubtless these clefts have at first been no other than narrow fissures, and by degrees, since enlarged by the fall of their walls; the varied position of the beds to the

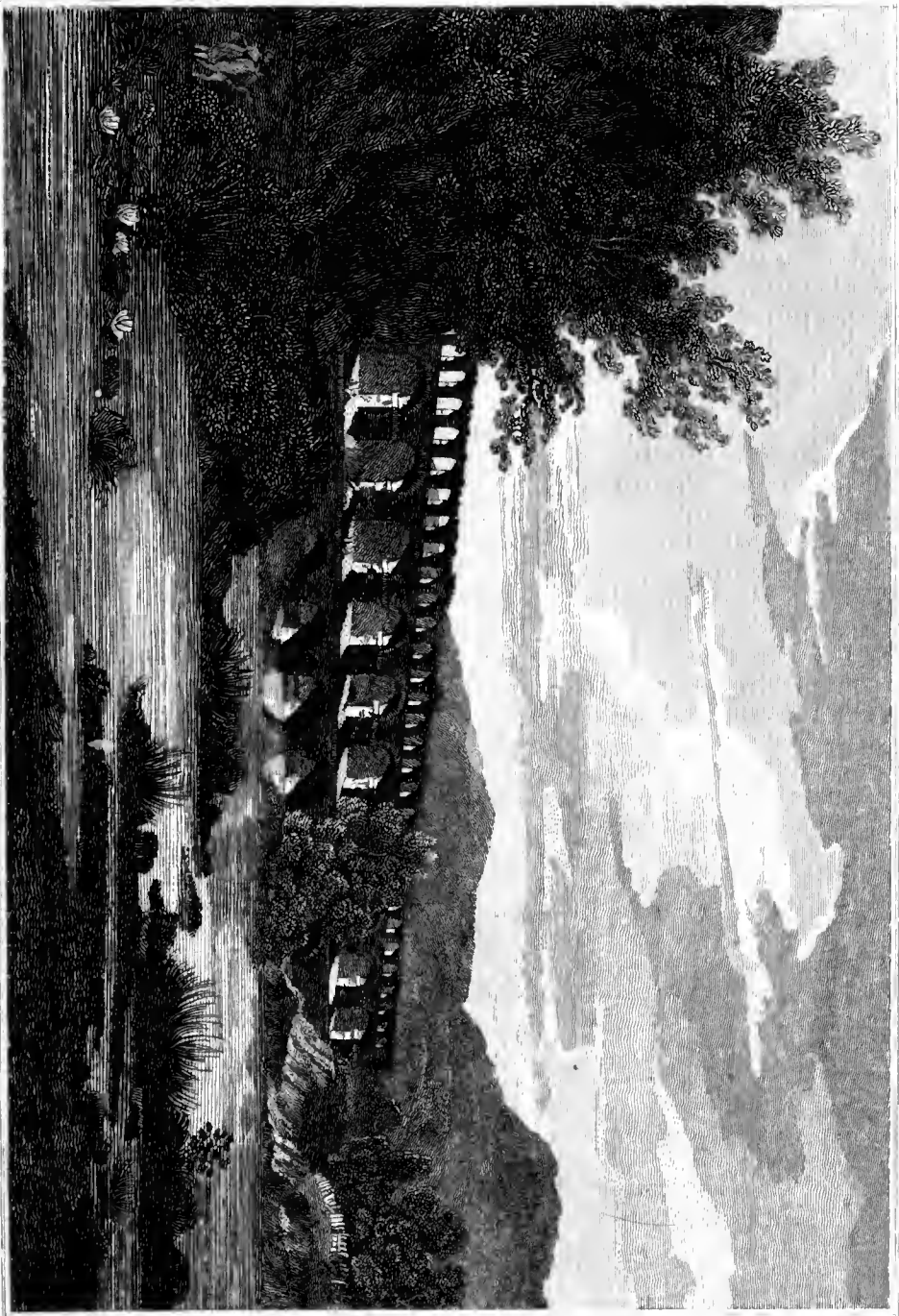
\* Soulevement.

north of Mont Perdu, and the diversity of the matter seated upon them, has determined irregularly this enlargement; and the vallies have expanded themselves from their bottoms to their edges in a multitude of different angles: to the south on the contrary, the tendency of the beds in every way vertically to divide themselves, never fails to leave behind their fallen surfaces perpendicular craggs; and the destruction acting always in the same manner, upon substances always similar, has increased the fissures by sections parallel to their first line, insomuch that their projecting and returning angles have every where retained their original correspondenee.

I will not extend these reflections farther; what I have already said is sufficient for the singularities of one mountain; but this mountain is not only the highest of the Pyrenees, it is also the most elevated point of our hemisphere whereon organic wrecks have been discovered; it is, in a word, of all the known mountains, the last labours of the sea, in its volume the most considerable, and the most extraordinary from its structure. A ground like this is classical for the study of secondary mountains, and the history of the last revolutions of the globe. It will afford a reiterated exercise to the sagacity of the interpreters of nature; and, from what I have myself advanced regarding it, it will be evident I am very far from having exhausted its geology.

END OF THE FOURTH VOLUME.



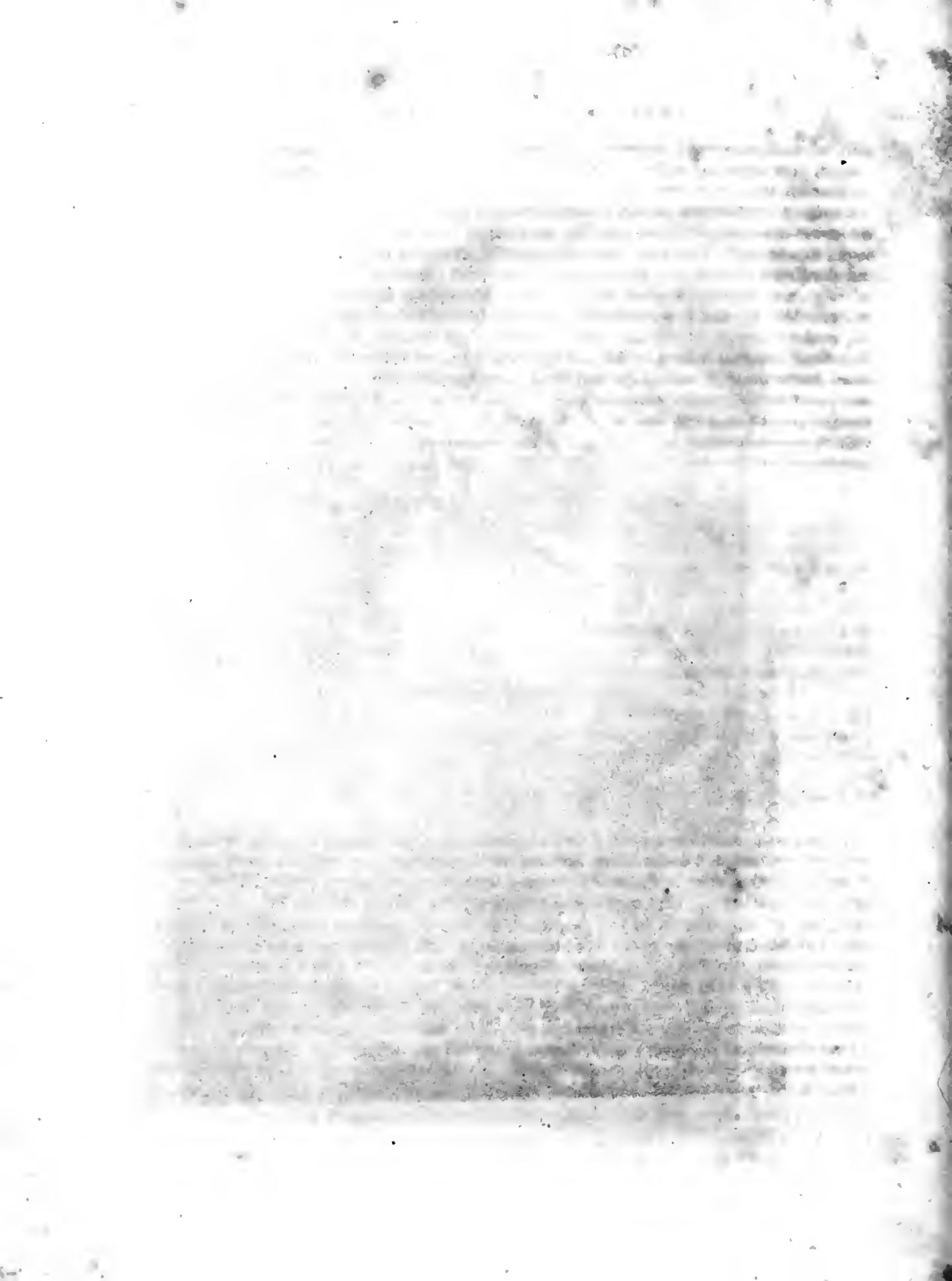


*Pont du Gard  
sur le Rhone, Languedoc.*

PHILO-LEXIAN  
SOCIETY.



*The Burning Mountain  
one of the Seven Mountains of Dromedary.*







Engraved by W. H. Sturt.

Grottoes of Sapris  
one of the seven Wonders of Dauphiny





R.D.E.

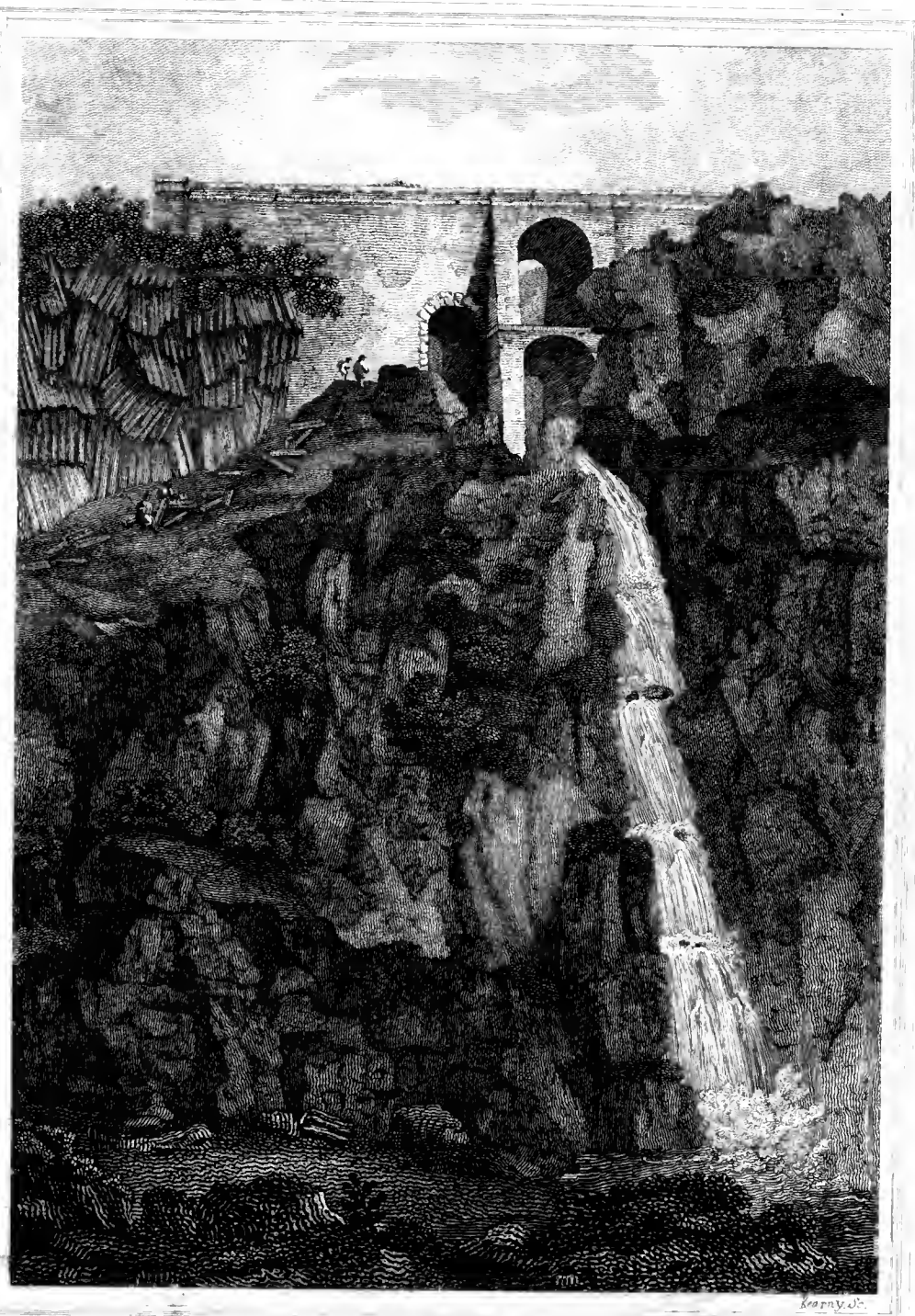
*Entrance to the Grand Chartreuse  
Dauphny*



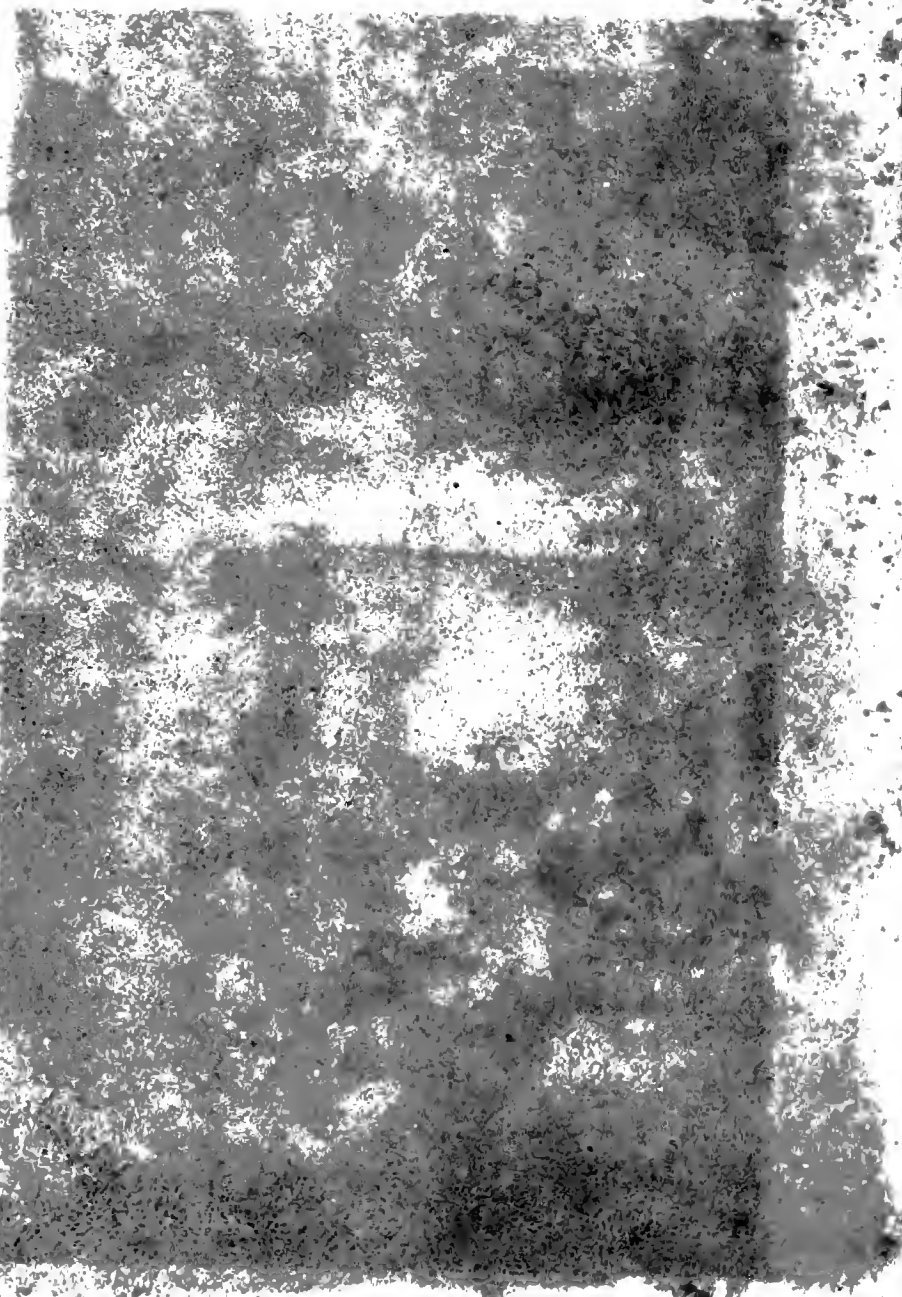


*View of the Grand Chertreuse  
Compline*

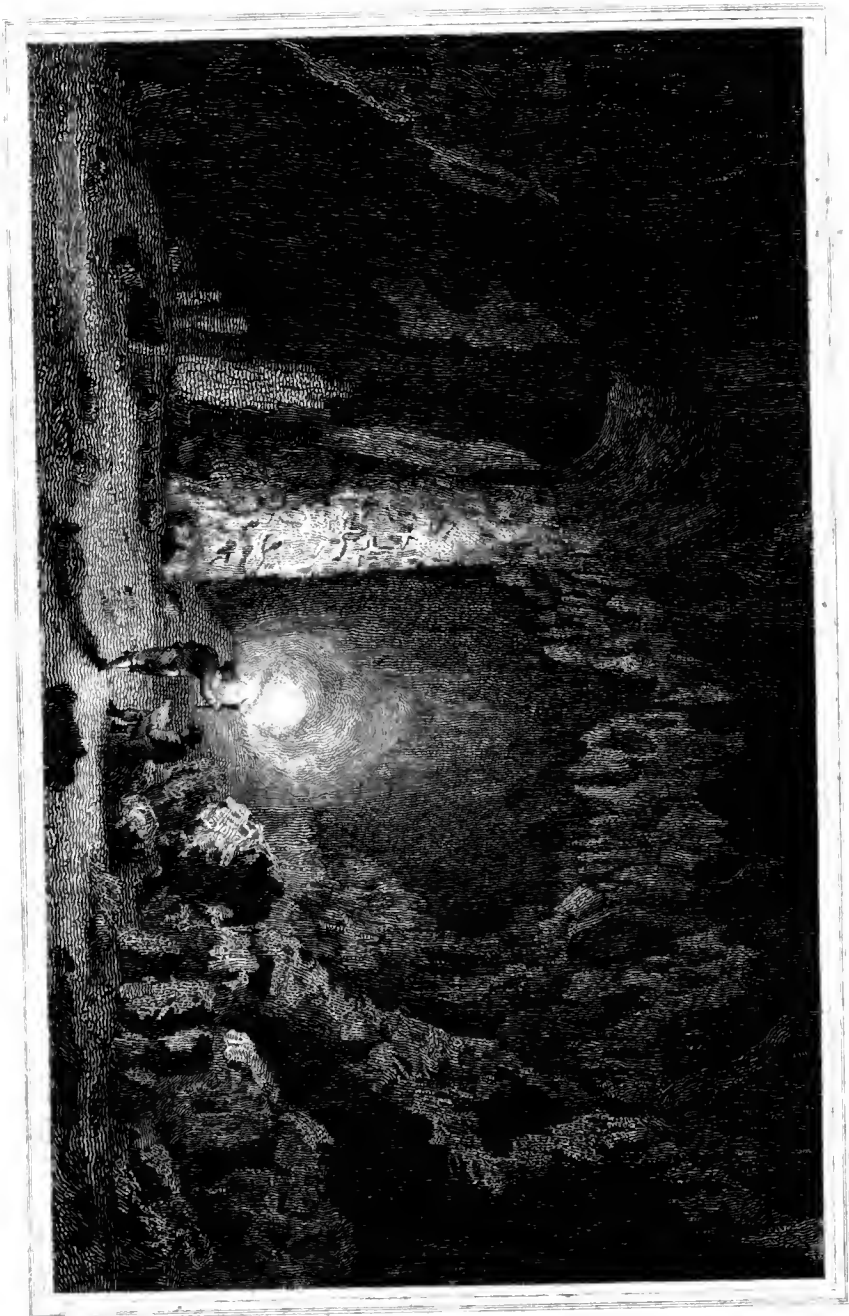




*Bridge of Guando d'Empor.*

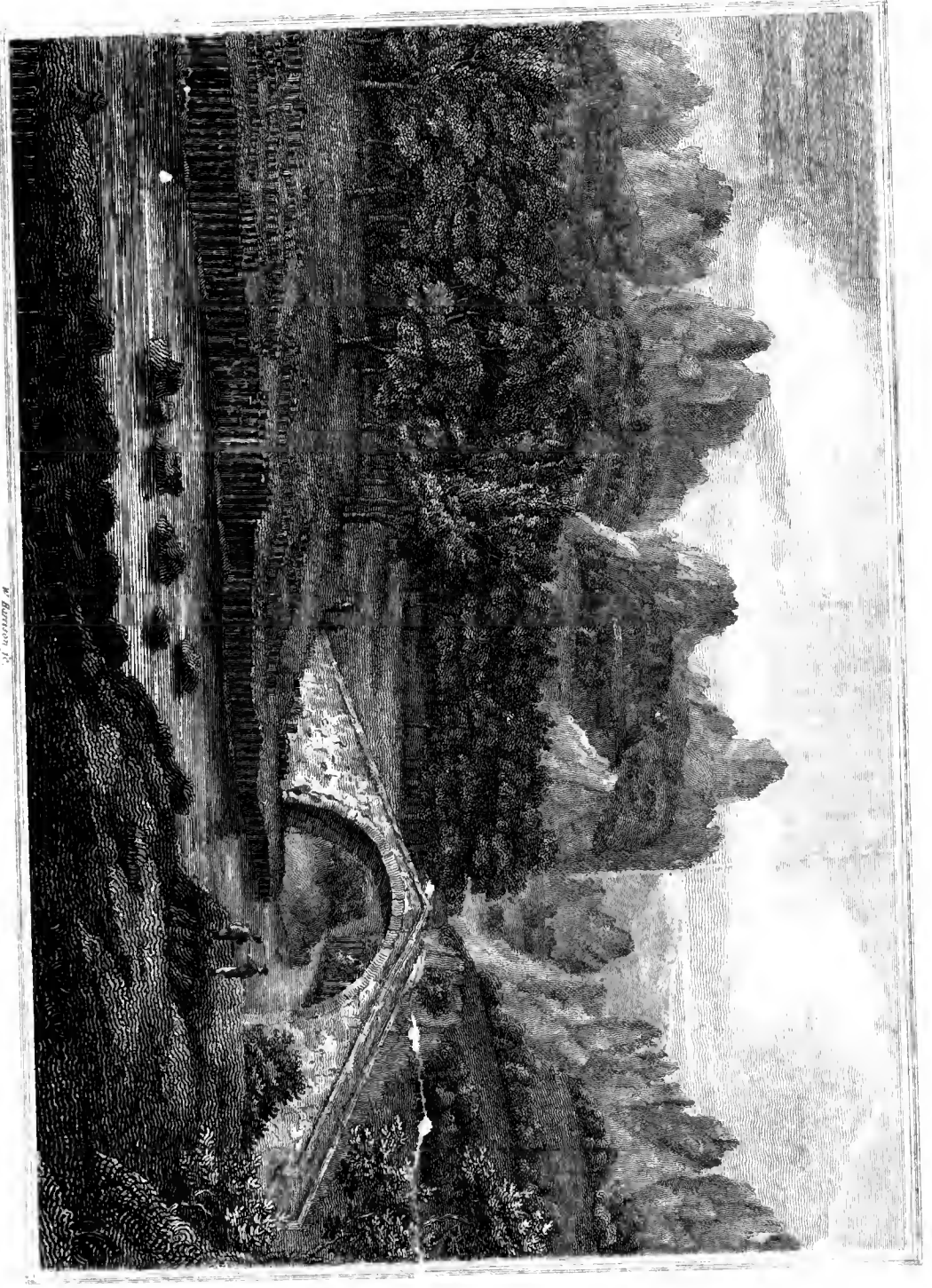






*Castle of Spilberk,  
from Prague from Braunmühl,  
Frank's Cont.*

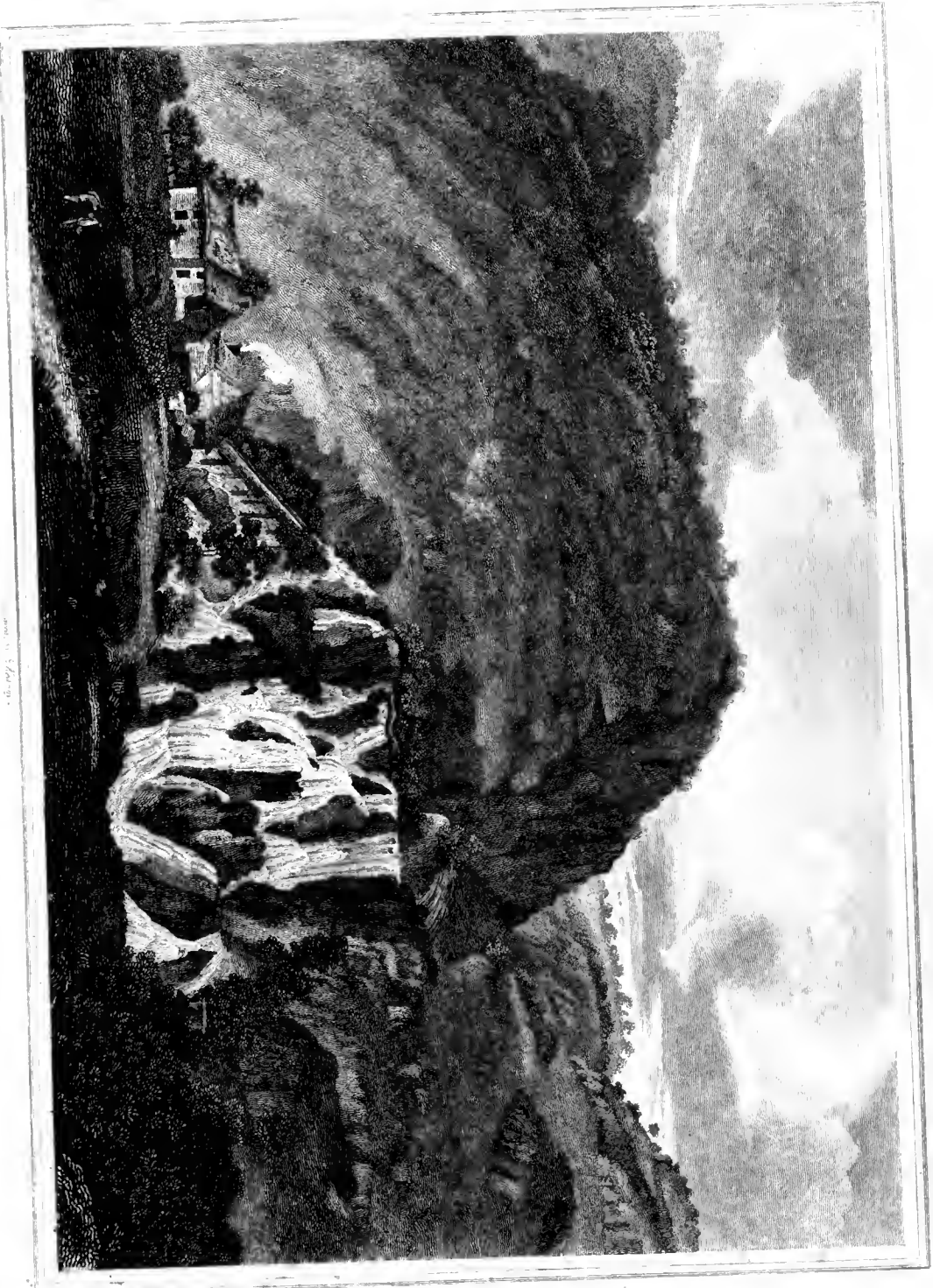




W. Harrison del.

*Quarries (away) and (S) Bridge of (S) Ardara  
near (S) Lake (S) Victoria.*

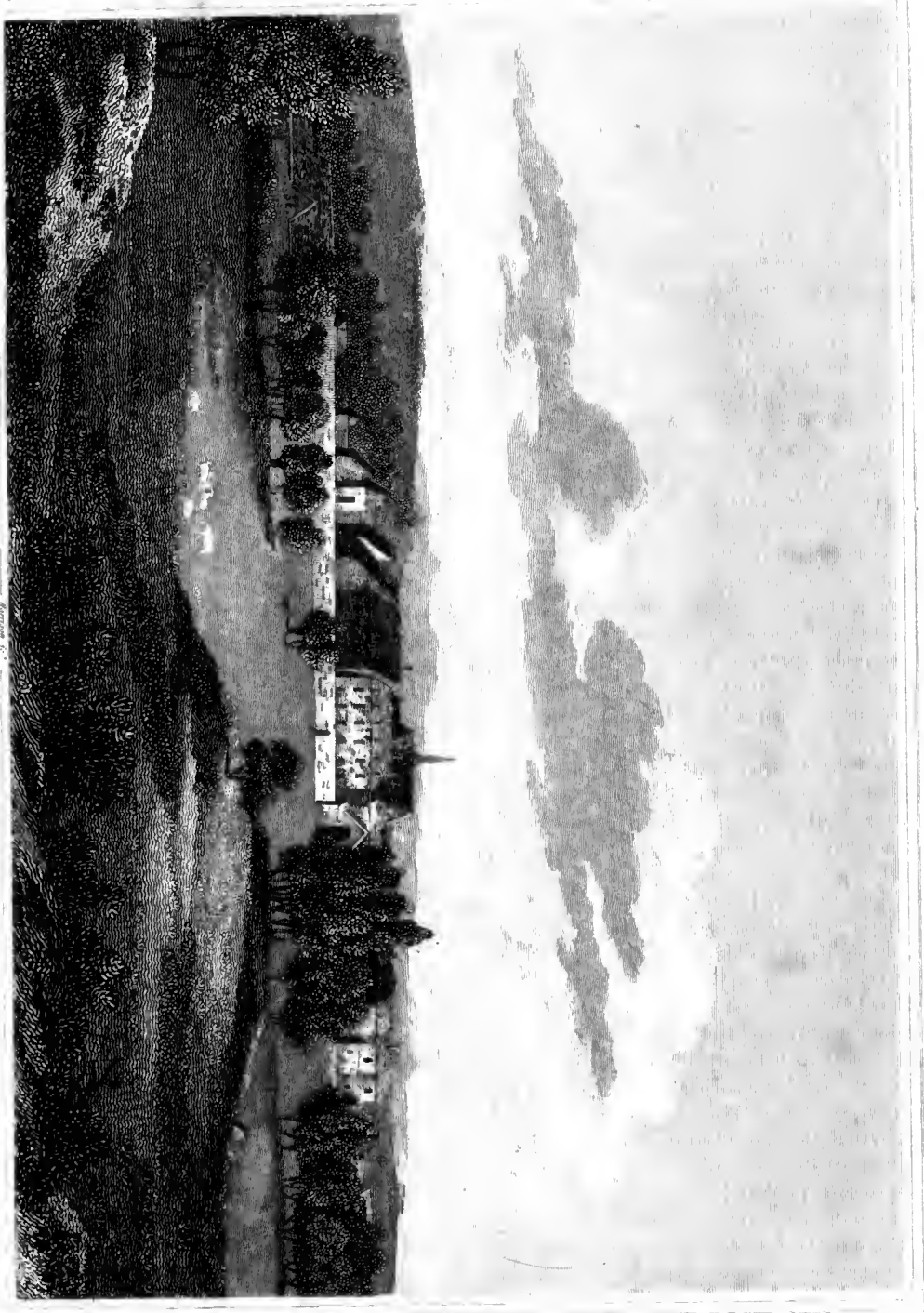




W. Schlegel

*Wanderer near (Hutten)  
Sapfenberg.*





*The Church.*

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