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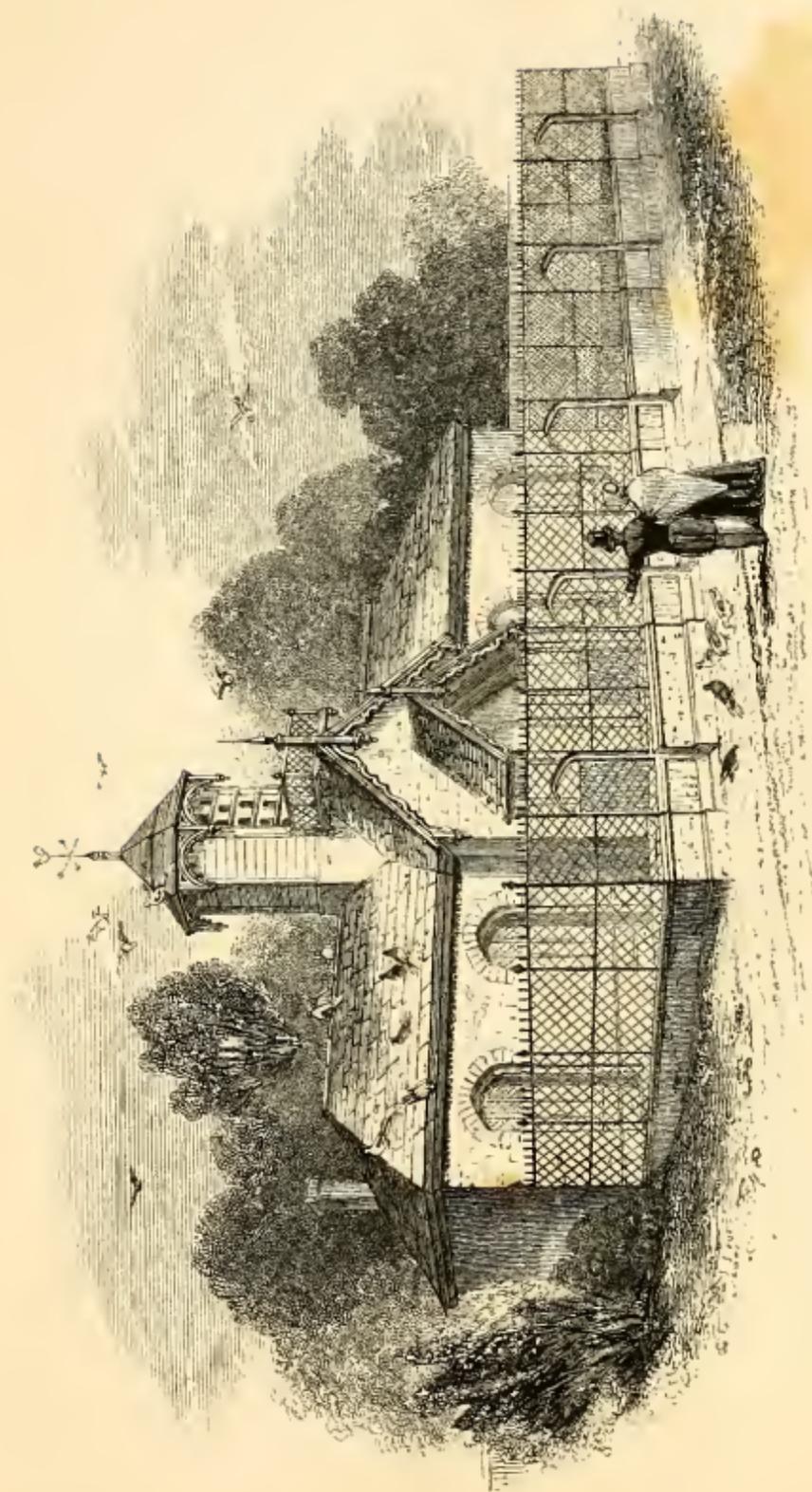












THE QUEEN'S POULTRY-YARD, WINDSOR.

FARMING FOR LADIES.



LONDON:  
JOHN MURRAY, ALBEMARLE STREET.

1844.



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# FARMING FOR LADIES;

Or, a Guide to

THE POULTRY-YARD,  
THE DAIRY AND PIGGERY.

BY THE

AUTHOR OF 'BRITISH HUSBANDRY.'

L O N D O N :

JOHN MURRAY, ALBEMARLE STREET.

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1844.

*LATELY PUBLISHED,*

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*Sixth Edition, with Woodcuts, Fcap. 8vo., 6s.,*

**GARDENING for LADIES.** With Practical Directions and a Calendar of Operations for every Month in the Year. By MRS. LOUDON.

Also, by the same Author,

**BOTANY for LADIES;** or, a Popular Introduction to the Natural System and Classification of Plants. With 150 Woodcuts, Fcap. 8vo., 8s.

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## INTRODUCTION.

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THIS little treatise is neither intended for the mere cottager nor for persons of large fortune, but for those ladies in the middle ranks of life who study healthful domestic economy either for the pleasure or the profit which it affords; though, in saying this, we may justly add—that a cottage housewife might gather useful hints from its contents, and that a duchess would lose nothing by its perusal. We, indeed, take pride in stating that her Majesty—with that taste for domestic pleasures which forms a distinguished feature in feminine amiability—has caused a poultry-yard and dairy to be erected for the amusement of herself and the royal children.

Occupation is the most solid basis of real happiness, and the enjoyments of life—even if accompanied with all the means of luxury—are insipid without it. In married life, the husband, if he be not a man of independence, has importunate cares to occupy him in his trade or profession; but the domestic duties are exclusively confined to the wife, and if she counts among the number an attention to a little rural economy, she will find it not only add largely to the comforts of her family, but derive from it also a source of pleasure to herself, of which no “town-lady” can form an idea.

“Our business in life is to be happy,” and the true way of making it so is to be contented with a moderate income; but, in acquiring this, it is not perhaps so much the art of *gaining it*, as that of judiciously *spending it*, that we have to learn, and it is only in well regulated families, conducted

by a careful housewife, that it is to be known. She it is on whom rest the enjoyments of home. It is on her management that domestic comfort depends; it is by her cares that she draws around her family circle those social pleasures which endear it to the heart of every inmate of good feeling; and the man who does not duly appreciate her efforts for that purpose, assuredly does not merit the smiles with which she cheers him on his return from the anxieties of the day.

In contemplating a matrimonial engagement, the parties dream of little else than love: the gentleman is all gallantry, the lady all smiles and good humour, and they fly off on the wings of delight to spend the honey-moon; but ere it arrives to the full, they find that love, to be sustained, must be nourished by accompaniments of the solid kind, and if these can be increased without

creating additional cost, every one must admit the advantage that would be thus gained.

In London, the common prices of poultry are generally so high, that people of narrow income, if living in town, can seldom afford to put any on their table. Fortunately, however, the taste is now growing general among persons who are occupied in trades and professions, of getting a box, or villa, for their families in the outlets; and if to their gardens be added a paddock for the feeding of a cow, with sheds for the accommodation of a pig and poultry, in the manner of a little farmery, or even for only a few cocks and hens, it is inconceivable how much it would add to the luxuries of the table without at all increasing the expense.

But, in order to be supplied with the delicacies of fresh eggs from your poultry-yard, along with pure cream and butter from your

dairy, without intrusting the care of providing them wholly to domestics, the mistress must rise early, to superintend the feeding of her chickens, the milking of her cow, and the churning in her dairy.

The following suggestions—compiled during a long life by one who has visited various parts of the world—are founded not only upon the experience of years, but on the just and simple principle,—“That we pay to nature the compliment of suffering her to dictate to us; and then, so far as possible, of attending to her wise and simple laws.” But previously, a few plain observations on the best means of attaining that object may, perhaps, not be found unacceptable.

Active habits are the great means of health; and, among these, early rising is one of the greatest. To a man of business it is indispensable; and to the mistress of a fa-

mily it is equally important. Independently of the health and consequent longevity which it almost invariably ensures, the contrary system, of indulgence in bed, destroys that elastic vigour which should brace the nerves to all the purposes of our being.

Indolent habits are, it is true, not to be easily surmounted; but, if a determination be made to conquer them, it may be done without much exertion, by gradually rising every day a short time earlier than usual: then, when that has become habitual, increasing the time; and, above all, making it a rule, although it may cost an effort, to spring out of bed the moment of awaking in the morning.

Now, let us calculate the increase of profitable life, if two hours a day be thus added to our existence. People very generally devote nine or ten hours of the four and

twenty to their bed; leaving fourteen to occupations of business or pleasure. But, supposing them to be reduced to seven or eight, these two hours saved in each day—being fourteen in every seven—are just an entire day of *additional occupation* in the week; which, if summed up for a term of threescore years, will amount to more than *eight years and a half of valuable time added to our life!*

We are all, more or less, the creatures of habit; but few persons are aware of its value, nor how soon a sense of duty will conduce to form that which may render attention to the duties of life a pleasure instead of a toil. When the plan, which is here suggested, shall have been adopted during a few consecutive weeks,—so as to form a habit,—that which our readers may at first start from as an uncalled for and disagreeable innovation, will then, without

reluctance, allow it to fall in with the regular routine of their housekeeping avocations.

The most illustrious lady in the land—**THE QUEEN**—sets this example. Those residents of Windsor who are in the habit of taking an early morning walk, to enjoy “the cool, the fragrant, and the silent hour,” in the splendid demesne, proudly crowned by its ancient castle, must have often seen two persons in plain attire, tripping lightly across that pleasant meadow called “Datchet Mead,” in order to visit a farm at the extremity of the Home-park. These persons are Her Majesty and Prince Albert, pursuing their way to the dairy and poultry-yard, and in their progress sporting with their infants, who are either mounted upon their piebald ponies or driving their well-trained goats in a phaeton. It is impossible to witness the unaffected enjoyment of the royal couple

in this domestic excursion, unalloyed as it is by any restraint of official etiquette, without feelings of extreme pleasure ; as a bright pattern to people of the highest rank, and, if copied, would reflect credit upon those of an humbler station.

Let those ladies whom we thus address reflect upon this, even if they be in independent circumstances, and that they look only to personal enjoyment ; but, if they are mothers, they will surely feel the necessity of impressing on their youthful charge the real value of time ; showing to them by the force of their own example, that no portion of it should be uselessly wasted.

In making this observation, however, it is not meant to insist on the arduous employment of either mind or body. Recreation should be afforded to both, and in this, perhaps, the cultivation of the garden stands foremost ; but the cares of the poultry-yard

and the rabbit-hutch should not be neglected. The joyous chorus of delight opened by the various fowls, which—

“Come trooping at the housewife’s well-known call,” cannot fail to inspire a certain degree of pleasure, while they may be made an ample source of interesting remark, as well as of amusing employment.

Besides being an amusement, they also call forth in the minds of children a sense of reflection in watching the progress of the young things to maturity; as well as a tenderness to the animals committed to their care, for the attention necessarily bestowed on them. This engenders a kindly feeling towards the whole creation: it springs up insensibly in their youthful bosoms; grows with their growth, to the manifest improvement of their disposition; and thus increases all the heart-felt joys of a beloved family.

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# FARMING FOR LADIES.

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## CHAPTER I.

Country-houses and offices—Poultry-yards and hen-houses—Those of the Earl of Chesterfield, Lord Penrhyn, and Earl Spencer—The Queen's—Mode of arrangement on a moderate scale—Shelter and smoke—Roofing with tiles and thatch—Description of a Clergyman's fowl-houses—Those of a farmer and of a cottager—Proposed mode of erection—Fumigation—Pilferage.

COUNTRY-HOUSES differ so materially in extent and construction, that no rule can be laid down for the arrangement of the outdoor offices, though, generally speaking, the nearer they are placed to the dwellings of persons of moderate fortune, the better; nor can they be entirely separated without precluding those means of inspection over the servants of which no prudent mistress of a family would ever choose to be deprived.

This, indeed, applies solely to those intended to be erected. With regard, however, to those already built, some contain every convenience that can be required for a nu-

merous family, while others are wanting in many points of importance; but, whatever may be their deficiencies, we can truly say that, provided there be a yard, and a stable or out-house of any kind attached to it, there is not one, however small, in which poultry may not be reared with advantage. The common fowl is distinctively a domestic bird, easily confined, and even if allowed to go abroad, never straying far from its home. If the yard in which the animals are placed be separated from a garden merely by a tall staked hedge, thus forming part, as it were, of the pleasure-ground, this will be found all that is necessary for their security during the day; while the presence of the chirping broods will impart cheerfulness to the scene, and give an air of domestic comfort and respectability to the snug box of any person of unostentatious habits, or even to the *Ferme orné* of the more opulent.

In arranging your poultry-yard, you should consider not only its size and convenience, but also the number and species of fowls which you intend to keep; and this must, of course, depend upon the number and style of

life of your family, as well as the amount of money which you mean to expend. In this latter consideration, you need not, however, be governed by any fear that these delicacies will add to the common expenses of a frugal table ; for it is a fact, which will plainly appear upon attentively perusing the statements contained in this treatise—*that they can be obtained at as little, if not less, cost than butcher's meat.*

The *hen-house* should never be much larger than sufficient to accommodate the number of fowls to be lodged in it ; for, if larger, they huddle together in a corner, and it has been observed that hens produce eggs more abundantly in a small, close cote, than in a more spacious building. Both warmth and cleanliness should however be particularly attended to, and it should be rendered in every way comfortable to the birds that inhabit it ; for if that be not done, they will try to lay away from home instead of in their nest, and if they cannot succeed, they will assuredly produce fewer eggs than if their tastes were better indulged ; but if they have a clean, quiet, warm place to retire to, they will lay regularly, and repay both the trouble and the expense.

Warmth is truly an essential point, as any one will admit who has witnessed the swarms of poultry which are reared in the smoky cabins of the Irish peasantry. What chemists say about the “necessity of cool air, and the prejudice which smoke occasions to *human health*,” may be all very true, but, in fact, *fowls* never thrive so well as in warmth and smoke—the one being congenial to their nature, the other a preventive against vermin; and we well recollect having, when a boy, been resident in an old manor-house, in Kent, in the huge kitchen-chimney of which several hens roosted upon the rafters and projections of the walls, though exposed to the heat and smoke of a wood fire, and many of them layed eggs during the whole winter. It is indeed no bad plan, in very cold weather, to put in the fowl-house, at night, an iron pan with hot embers, covered by damp straw or a log of green wood, for the purpose of creating smoke as well as warmth. We are far from objecting to fresh air; but those who recommend poultry-houses to be “lofty buildings, thoroughly ventilated,” are mere theorists, who know nothing practically about the matter.

Do not, therefore, follow such advice, however plausible it may appear ; but, if any room or shed which you may have to spare for the purpose, should be more spacious than wanted for the fowls which you maintain, then, partition off a portion of it just suited to their kind and number.

Having said thus much, we shall now briefly describe some of those superior poultry-yards from which plans and improvements may be drawn according to the taste and intentions of those who mean to erect them, more with a view to the amusement arising from rearing the animals than to economy in family expenditure.

Among the many poultry-courts fitted up on a large scale at the mansions of people of fortune, as well as for the convenience of great dealers, those of the Earl of Chesterfield, at Bretby Park, in Derbyshire, and of Lord Penrhyn, at Winnington, in Cheshire, rank above all others in size and accommodation. The latter, indeed, presents an elegant colonnade, extending to nearly 150 feet in length, bounded at each extremity by a neat pavilion, and containing within the interior all the appropriate roosting, feeding,

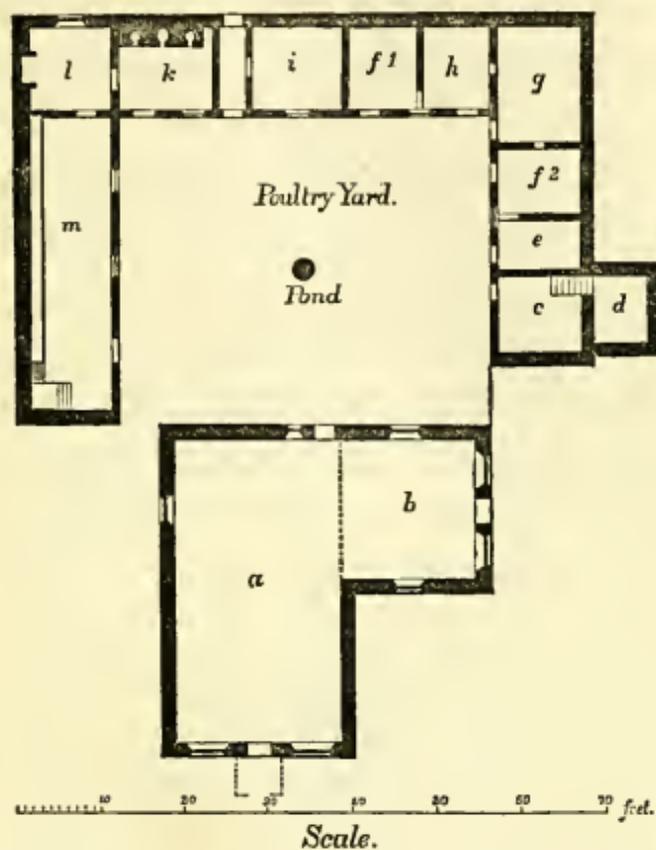
and fattening-houses, furnished with flues to preserve an equal temperature: the whole fronting a large paddock in which the fowls have the constant liberty of roaming between the intervals of their meals. But it may be truly said, that—

“ ’Tis use alone that justifies expense,  
For splendour borrows all her rays from sense ;”

and perhaps the best arranged for the comfort of the fowls, without needless outlay, is that of Earl Spencer, at Althorp, of which the following is a view of the cottage occupied by the attendants—



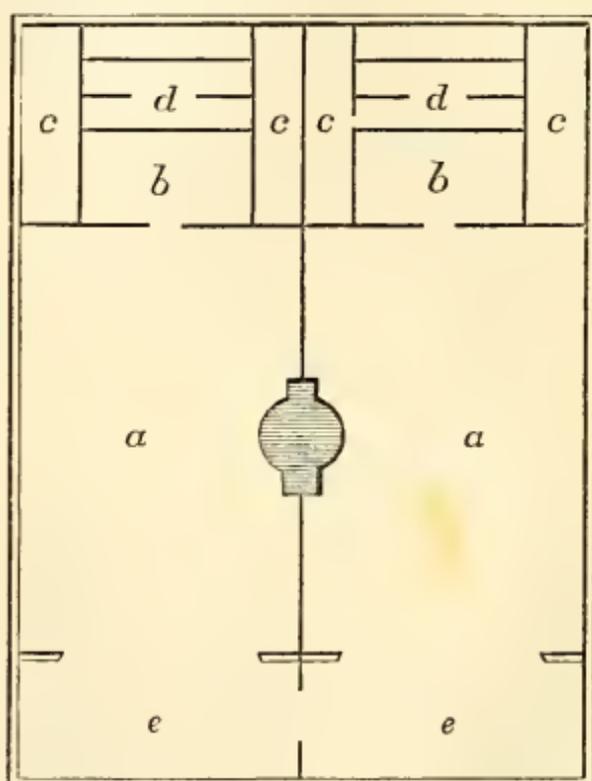
and the annexed is a plan of the buildings—



- |                                     |  |
|-------------------------------------|--|
| <i>a.</i> Cottage.                  | <i>h.</i> Goose-house.                           |
| <i>b.</i> Dairy.                    | <i>i.</i> Coal-house.                            |
| <i>c.</i> Pantry.                   | <i>k.</i> Scullery.                              |
| <i>d.</i> Cellar.                   | <i>l.</i> Picking-house.                         |
| <i>e.</i> Duck-house.               | <i>m.</i> Feeding-house, with a flue underneath. |
| <i>f, 1 &amp; 2.</i> Turkey-houses. |  |
| <i>g.</i> Hens'-roost.              |  |

In the "Transactions of the Highland Society," there is the description of a poultry-yard, divided into separate wards, the ground

plan of two of which we subjoin, each fitted up in a very complete manner for the lodging of twenty-four hens, with yards attached of about 15 feet long by 10 feet wide, and sheds at either end; one of which, if placed across—as in this plan—would be sufficient.



- a. a.* Courts, with pond in the centre.  
*b. b.* Hen-houses and doors of entrance.  
*c. c. c. c.* Nests.  
*d. d.* Perches for roosting.  
*e. e.* Shed for shelter, and to contain lime and cinders,  
as a dry bath-house.

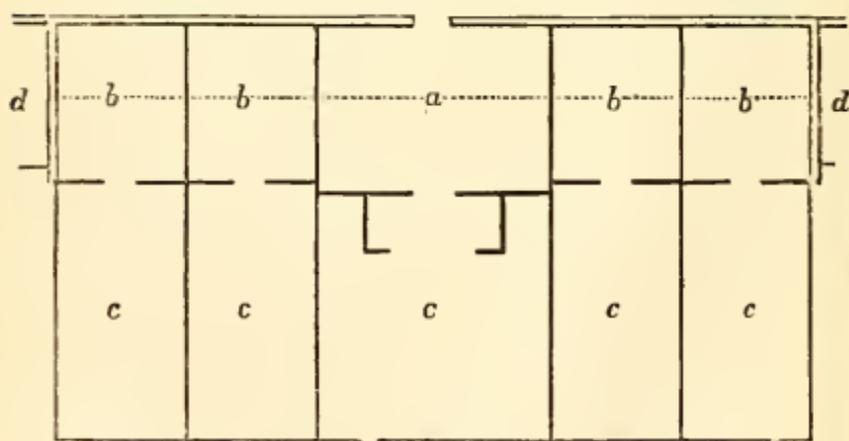
Her Majesty's poultry-yard, at Windsor, is situated in a small pleasure-garden just opposite Frogmore, and being rather for the amusement of rearing fancy fowls and pigeons in the manner of an aviary, than for breeding them for the table, is only, at present, upon a moderate scale. The hen-house is erected at the back of a high wall, and—as may be seen in the frontispiece—is merely a simple, though fancifully-decorated cottage, displaying considerable taste in the architect. Over the roof is a well-stocked hexagonal erection for pigeons of various race, which are so familiar as to perch upon the person of her Majesty, who feeds them from her hand; in the centre of the building is a small room of entrance, on each side of which are the several compartments for the poultry, with a yard divided into separate courts by wire fences, and no birds can have more snug retreats for depositing and sitting upon their eggs—the nests being tastefully formed of moss, giving them the appearance of bowers; the whole warmed by a heated flue running underneath, and communicating with each cote by gratings.

Here may be seen a curious collection of white Java Bantams, odd little birds, covered with a sort of hairy feather, but laying, it is said, the richest kind of egg; which, however, are not a little difficult to be got, for it seems that no sooner is one layed, than the whole tribe, even the hen herself, begin pecking at it until eaten up: yet in this, we imagine, there must be some mistake, or it would be impossible to rear a brood from the parent hen. There are also some of Sir John Sebright's celebrated bantams, with their golden speckled feathers, and other small breeds of a rare description. By way of contrast, there is an enormously large breed of Cochin China fowls, the cock, although very young, weighing upwards of ten pounds, and the hens very prolific of eggs of superior flavour; which, although white when layed, become soon afterwards speckled.

There are likewise various other sorts of fancy breeds—both fowls and pigeons, of a curious description—all under the care of a man especially qualified for such a charge, as perhaps there are few better acquainted with the habits of the feathered tribes. He

has evidently passed much of his time in the recesses of the woods and forests, trapping birds for sale, and examining their modes of life. He tames nightingales in an incredibly short period, and induces them to resume their song soon after they have been caged. He moreover teaches magpies, jays, and jackdaws to talk; breeds fancy canaries, and doctors all the sick parrots of the neighbourhood. He is, in fact, a sort of "man of the woods:" a general favourite, partly arising from a good-humoured, though rather cunning, expression of his countenance, as well as from his readiness to oblige, and it is not surprising that, under such management, the aviary, though still in its infancy, should bid fair to become a pattern of perfection; though we frankly confess, that we should much rather see it under the control of one of that sex, the kindness of whose nature so befits her for the care and tenderness of such helpless creatures. The shrubberies in the garden afford shade enough from the sun, but the fowls should also have shelter from the rain, by a verandah extending along the front from each side of the porch.

The annexed is a ground plan of the house and courts, which are however meant to be enlarged, and we understand it to be the intention of her Majesty to establish a large poultry-yard, for the supply of the royal table, in the breeding and fattening of all sorts of fowls—in the care of which her Majesty takes especial interest; nor can there be a doubt that the introduction of foreign breeds will thus—under the example of her gracious patronage—in the course of time, cause much improvement in the stock of our native species.



- a. a.* The front porch with back entrance.  
*b. b. b. b.* Compartments.  
*c. c. c. c. c.* Courts.  
*d. d.* As intended aviaries.

“The poultry-house,”—according to the late Arthur Young, who so long filled the situation of secretary to the Board of Agriculture,—“should contain an apartment for the general stock to rest in ; another for sitting ; a third for fattening ; and a fourth for food ; with even a fifth for the plucking and keeping of the feathers.” All this, however, can only be necessary where a large consumption of poultry is contemplated ; in which case they should be placed under the care of some old woman, kept purposely to attend them, and having her cottage on the spot. But in those families of easy, though moderate fortune, to which our observations are chiefly addressed, and where fowls are only kept for the supply of the table, such expense is unnecessary, nor is any peculiar care requisite beyond that of attention to their warmth and protection from wet. Notwithstanding which, we freely admit that when the different species of poultry—whether common fowls, turkeys, ducks, or geese—can be each accommodated with a separate dwelling, it would be so far desirable ; but this, in small establishments, can very rarely be accom-

plished. We, indeed, know of many families in which they are all reared together; and Mr. Wakefield, of Liverpool—whose account of management has been published—bred and fattened immense numbers of all kinds promiscuously in the same yard.

The whole arrangement for the support of a moderate stock is very simple. The yard should, if possible, have an open exposure to the south, and be perfectly dry, as nothing is more injurious, to all other than aquatic birds, than stagnant water or moisture of any sort; and poultry suffer more from a wet winter, even if mild, than from one that is intensely cold, provided it be clear and dry. If the ground is wet, the foundation should therefore be thoroughly drained, and the surface hardened to render it sound, with a thick stratum of well-rammed bricklayers' rubbish, or broken limestone mixed with small sandy gravel, over which pounded oyster-shells and egg-shells, or bones coarsely powdered, should be spread; but never paved with either flags or pantiles, as that would prevent the fowls from scratching the ground, and picking up those calcareous matters, such as shells,

pebbles, and bones, which—as will be hereafter explained—are necessary to their health and the formation of their eggs. It should likewise be sloped, to carry off the rain; and it should contain an open covered shed for occasional shelter to the fowls, which, extraordinary as it may appear, seldom seek their night abode during the day, except for the purpose of laying. The shed is also requisite for the keeping of dry sand, small cinders, lime and ashes, either in little heaps or pits, for the use of the common fowls in scouring their feathers from the lice to which they are subject: a process in which they not only delight by rolling themselves in the heaps—as in a sort of dry bath—but which is essential to their health in freeing them from those noxious vermin. If the shed covers the litter removed from the horse-stable, it will also be desirable, as the warmth which their couching in it imparts to them, is not only agreeable but healthful; and they likewise thus pick up many grains of corn which would be otherwise lost.

In thus alluding to the advantages of a dung-hill, it should, however, be observed, that fowls

require a considerable portion of food in addition to the grain which they may thus pick up. Ducks and geese find their way to the ditches and ponds, which abound with every description of garbage wherewith to fill their stomachs; whereas the common fowls are usually confined to a poultry-yard, containing nothing but the bare earth. They must therefore be supplied with everything, and it is unnecessary to explain—that if stinted in food, they will suffer in their growth, and be deficient in the size, quality, and number of their eggs.

Clean and pure water too is indispensable; for if foul, it generates disease, and at length renders the poultry leprous. It is seldom that a pond is found in the small space of a poultry-yard; nor is it desirable that there should be one, for if the ducks have access to a field with water in it, a pump with proper troughs is better.

If the fowls be allowed to range over the stable-yard and farmery—if there be one—or if they have the use of any adjoining paddock, a very small enclosure will be sufficient. The latter is, indeed, a point of more importance

than generally imagined ; and if you have an opportunity of viewing them in a field, or upon a common, you may perceive that they not only employ themselves in searching for earth-worms and all sorts of insects, but also consume considerable quantities of grass. Now, no animal is governed in its choice of food by any other motive than that natural instinct which teaches what is good for them, and nature, it must be supposed, points out grass as a food which is beneficial to their health ; indeed, if only occasionally let out, they may be seen running to feed upon it, even when they have grain before them. It is therefore our decided opinion, that *store-fowls*—that is to say, fowls which are not intended to be immediately fattened—should never be debarred from the free use of it before their being shut up for fattening.

Many people object to their being allowed the use of a field, as the grass, if wet, is injurious ; but the old birds will remain upon it no longer when hurtful, and chickens may be prevented from going upon it when in that state. Others, on the contrary, recommend considerable plots of wild clover, with

a mixture of burnet, spurry, or star-grass, to be sown within the enclosure of the yard; but, although the use of these grasses would certainly be salubrious to the poultry, it must yet be evident that it would require, in most cases, a much larger space than can be conveniently afforded for the purpose, besides partially depriving the yard of that shelter which renders it attractive to the fowls.

So far as it can be properly attended to in the management of all sorts of poultry, nature should be followed as closely as possible, and if they be not lodged conformably to their habits, they will not be satisfied. Thus, if different kinds be crowded together without any regard to their modes of life—such as having nests on the floor for the web-footed duck tribes, with proper sized roosting perches for the grasp of the clawed-feet common fowls—they cannot repose in quiet; and quietude, together with warmth, is absolutely necessary to the growth and good condition of all tender white-meat poultry. It is, indeed, well known that the chill of cold so benumbs fowls of that description as to render them in some degree torpid; while too intense a heat is thought

to weaken them. In order, therefore, to combine the advantages to be wished for in a hen-house, it should neither be too cold in winter nor too warm in summer; its size should also be proportioned to the number of inhabitants, though rather smaller than too large, and fitted up with such attention to their habits as to make them fond of it. Whatever may be its size, form, or situation, it should therefore be dry and warm; free from exposure to strong currents of air; and with every facility for cleanliness, together with perfect security from the introduction of every kind of vermin.

The sheds usually adopted for that purpose are commonly roofed with tiles, or slates; which, although affording shelter from the weather, are yet, if not ceiled, extremely cold. In that case, therefore, it is an excellent mode to stow as many trusses of straw over the rafters which connect the walls as will fill up to the roof. The cost will be absolutely nothing, as the straw is not thrown away; and, even if the rafters be not sufficient to support the straw, any serving-man can fix a few rough poles from wall to wall, to an-

swer the purpose. The best covering for the hovels of all poultry, or cattle of any description, though now out of fashion, as being thought dangerous, is decidedly *thatch*, laid thickly on, with wide overhanging eaves, to keep off both wind and rain; for it is the warmest in winter as well as the coolest in summer, and thus maintains an equal temperature throughout the whole year. Cold is, however, the great object to be guarded against; for although naturalists who have written on the subject assert that "heat weakens fowls," and have copied each other in putting forward that opinion, yet we know from the experience of a long residence both in Portugal and the West Indies, that poultry thrive in such multitudes in those countries, though exposed without precaution to the ardour of the sun, that they there form the chief portion of animal food.

One great object in every dwelling, whether for human beings or for poultry, is to obtain a circulation of air which is *warm* as well as *fresh*; and this it appears has been gained by a very simple and inexpensive iron stove, furnished with a small flue, which Sir Stewart

Monteath has caused to be erected in his agricultural cottages, and which could be easily added to the chimney of any kitchen having a poultry-shed at the back of it: but those who recommend it to be put up adjoining the hen-house, forget that the fire soon goes out, and the air becomes cold instead of hot; whereas an equal temperature is always the best.

In an amusing publication lately written by an Irish clergyman under an assumed name, he states, in describing his poultry-yard, that, "for the sake of warmth, the hen-house was built against the back wall of the kitchen, the upper gable of it being formed by a cross-wall, which partly enclosed the paddock: it was merely a shed, ten feet long by six wide, covered in with coarse slab-boards, coated with pitch, with a wide eave to throw off the rain clearly, and high enough at the back wall to allow persons to walk along it from end to end without stooping. There was a door in the other gable wall, which was four-inch brick-work, with a little sliding shutter at the top, through which the hens entered by a ladder from below, when they wanted to lay or go to

their roosts ; the uppermost of which was on a level with that little opening.

“There were little sleeping-berths for ducks at the bottom. The floor—of well-tempered lime and clay—was raised about a foot above the level of the yard, to have it perfectly dry and easily cleaned out every day ; and the walls, being very well plastered, were kept free from cobwebs, insects, and dirt of every kind, by pretty constant whitewashing.

“To have plenty of thorough air—so needful in warm weather—there was a glazed window on hinges in the far-side gable, opposite the door, but well secured with an iron grating. There were roosting-sticks, one above the other, but at different distances from the wall, so that the fowls did not stand exactly over each other.

“Some of the nests were square wooden boxes, put into holes picked out of the back-wall, and near the ground, for the hatching hens to have the benefit of the warmth of the kitchen-fire at their backs in the early spring sitting, when such additional warmth agrees with them. The other nests were of basket-work, hooked to the walls in convenient places,

to be reached by the hens from a ladder, and with ledges for them to stand on, which prevented them from suddenly springing into their nests, and perhaps breaking the eggs that might have lain there from the day before. The basket-nest you can easily take down and wash ; and this will be a great comfort to the hens, by preventing vermin from collecting. For the same reason, the beds should be frequently changed ; but the boarded nests are to be preferred for hatching, as they are close and warm.

“ The length of the back-wall of the kitchen and office-wall was so great that there were other lodging-houses too, with coops, one for fattening fowls, which should be always kept apart from the others, and another for sick ones, and a very high one for turkeys, not closely enclosed, but with lattice-work in front, to give them plenty of air, which they delight in. There were also three little covered yards, a few feet square, latticed in front, and with partitions of lath (lattice-wise also) for the newly-hatched chickens, with sleeping-rooms inside them. As to the very few geese which were kept, they were either lodged on the floor

of the turkey-house, or in little rude pens in one of the remote corners of the yard, which allowed room for little enclosures, by moveable hurdles, whenever any variety of broods required this accommodation ; and the houses being open by day, the turkeys and fowls could take shelter from rain, or the rays of a hot sun, as they pleased."

Although we do not admit that boarded nests are to be preferred for hatching, we yet agree in what the reverend gentleman further says—"that a country carpenter, and a clever contriving woman, can make out every convenience she wants, with very little expense : " as well as that, " something of the above plan will answer for any family where expense and show are not desired." We are, indeed, acquainted with a family of that description who keep a considerable number of fowls and ducks, with a few turkeys sufficient for the supply of a tolerably good table, all of which are comfortably lodged in a spare stall of the stable, from which it is merely divided by laths, with a small door ; the nests being placed in and under the manger, and the perches fixed lengthwise from the side walls.

The horses thus keep it warm ; it is sure to be kept clean, opened and shut early ; and it affords better security than mere sheds from nightly thieves.

We have also heard of a farmer who keeps a large number of young cocks and pullets during the winter in a cellar partly underground, though in the upper part having apertures sufficient to admit light and air. It is under an outhouse, and not more than six feet high ; the perches for roosting being fixed in a sloping manner from the roof to within eighteen inches of the ground-floor, and the nests placed at the sides underneath. The fowls are never let out, yet are in perfect health, and being thus kept warmer than in any house, the pullets lay eggs during the coldest weather, and the cockrells become fat enough for the table without further trouble. Were a hen-house erected with such a cellar underneath, containing divisions for the laying hens and fattening fowls, it would have the benefits of summer air and winter warmth ; or, as it were, all the advantage of a town and country residence ; the only objection being the increased inconvenience of cleaning the floor,

the dirt of which cannot be scraped out at the door.

Cottages may, indeed, be constantly seen surrounded with poultry, though containing neither yard nor outhouse, but lodged inside the cot, without any other outlet than the road, and the author from whom we have quoted mentions one, owned by an old woman, who thus kept a cock and half a dozen hens so safe and warm that she had eggs in the depth of winter. "Having little or no family, she wanted no sleeping-loft in her kitchen, which was as high as the rafters and thatch; she contrived, therefore, to lay inside from the front to the back wall, at the fire-place, as much flooring as was sufficient for her fowls, which perched upon the couples over head. She had a ladder and a hatchway for going up to clean the boards or take away the eggs from the nests; and the fowls themselves went up and down from the outside through a small sliding shutter in the gable, on a level with the floor of the loft, by a ladder which was removed at night."

We allude to this, rather to show what may be done upon a very small and primitive scale,

than to recommend its being copied ; but any small outhouse may be snugly fitted up for the reception of poultry, or even built between the angles of two walls, or as a lean-to at the back of a kitchen, cow-house, or stable, without any outlay worth mentioning. Being, in all such matters, very attentive to snugness of accommodation, the spot which we should prefer for the hen-house, would be adjoining the stable or cow-house ; or, still better, between both, with an open space in the upper part, but only lathed off to prevent communication, and having a lattice, to open and shut, at both back and front : for the stable and cow-shed, being always warm during a winter's night, imparts a comfortable atmosphere to the fowl-house. The entrance to this shed may be at the back of the stable, to deprive the fowls of the power, if admitted, of scratching into and soiling the beds, and pecking the mangers when the horses are absent ; but, if thus shut out, they should be near enough to the kitchen for the cook to have an eye upon them.

Even if erected without any such convenience of situation, a fowl-house from 12 to 18 feet

long by 8 or 9 feet wide will accommodate a large number, and may still be constructed at trifling cost, if made of rough timber and warmly thatched. The walls need not be more than 7 to 8 feet high from the ground, as the slant of the roof will render it sufficiently lofty in the centre for air and roosting. One half of the length, in the centre, should be appropriated as a roosting-house, and the remaining ends, divided off by slight boarding, may be used—the one, with straw upon the floor for the breeding of web-footed fowls or turkeys, with nests placed over them, on brackets, for the laying and hatching-hens of the common poultry; the other, both occasionally for a fattening-house, or for the bringing up of a brood of chickens.

The perches, for roosting, should be placed in a slanting direction at different heights, a few feet from the floor, nearly up to the roof, and sufficiently wide apart to prevent the fowls which may roost on the lower perches from being soiled by the droppings of those above them; but, as they should be fixed in grooves, to allow of their being occasionally taken down and cleaned, their number and

height from the ground may be either increased or diminished according to the number of fowls, which are of course continually varying, both when reared and killed. The perches, too, should neither be quite round nor square, but rather like the branch of a tree; indeed saplings, with the bark on, to suit the large and small birds, are the best. A pole should also be put in a slanting direction from the floor to the perches, with slips of deal nailed on it, in the manner of a ladder, at distances of three inches, to act as steps. In order, moreover, to facilitate the ascent of the chickens when they have left their coops and begin to roost, a small perch or two should likewise be fixed at only a few inches from the floor; but, as they like to roost high, they will soon join the full-grown fowls.

The floor should be sufficiently raised above the ground to keep it as dry as possible, and it should be paved with slate or indurated asphalt; either of which is better than brick. It may, indeed, be remarked that all boarded floors are improper for poultry-houses; for, although they may be thought warmer, they yet imbibe a large quantity of water on each time of their being washed, which renders

them cold and damp. They also retain a stronger scent of impurity than either tiles or slates ; besides being more subject to crevices which admit of those lice with which fowls are so frequently infested. It should also be thickly sanded, or covered with saw-dust, swept out every morning, and thoroughly washed at least once every week, with water mixed up with chamber-lice and quicklime. The walls should likewise be occasionally brushed down and whitewashed with lime.

In order to secure ventilation during the day, there should be one or two small wired lattices, in opposite directions, to secure a draught of air, but with close shutters to guard against the cold of a winter's night. With regard to the burning of tobacco and aromatic herbs, so much recommended—"for the purpose of destroying bad odours in the fowl-house"—if it be kept properly clean, it will not be infected with any bad smell ; though the practice can do no harm, and green sage is much used for that purpose by the French. We should however say, that a wisp of damp straw set alight and allowed to smoulder during the night on the floor of the fowl-house, or even a few sheets of coarse brown paper, would

have equal effect; but if lice, or vermin of any kind, be found either on the walls and perches, or burrowed under the shed, the most effectual way of destroying them is to fumigate the place with sulphur. The mode is—to close the shutters of the lattices, and every crevice from which any portion of smoke may escape; then place a pan of lighted charcoal on the floor, and throw on it a handful of sulphur or a piece of brimstone: immediately quit the room and shut the door. This must not be opened for some hours, nor should any one be allowed to enter the place without having the lattices opened, until the vapour has evaporated. The operation must thus be commenced early in the morning, and finished in time to allow the fowls to go to roost. If carefully performed, so as to exclude the intermission of outward air, the smoke will penetrate into every crevice, and destroy the life of every creature in the building.

The door should be strong, and carefully locked every evening, to prevent the depredations of those vagabonds who nightly frequent the beer-house with the intent of gaining information and pilfering whatever they can lay

their hands on ; and who, if not obstructed by firmly fastened doors and windows, and, still better, by the watchful barking of a cur-dog, will, some night or other, assuredly plunder your hen-roost. Many years ago our own, though too firmly secured to be broken into, was robbed by putting some very small child into a door which was made only large enough to admit of the turkeys. A small opening is generally made in the lower part of the door to allow of the fowls going out at the earliest dawn of morning ; but it will be better to keep this little door shut, both to prevent the entrance of rats and such-like vermin, and not allow the egress of the fowls until some one is stirring, in order thus to guard them under constant protection : a precaution, it may be observed, which no prudent lady who values her poultry should ever neglect ; for there are frequently fellows prowling about under the guise of beggars, who would not hesitate, if unobserved, to wring the neck of a stray pullet.

The Poultry-Yard being thus arranged, let us now look to its inhabitants.

## CHAPTER II.

Poultry—Tame and Wild Birds—Origin and Description of domestic Fowls—Moulting—The Cock—The Hen—Anecdote of a Robin—Age of Fowls—Breeding—Valentine's day—Selection of Cocks and Hens—Number of Mates to one Cock.

IN a general sense the term **POULTRY**—which has been evidently derived from the French *Poule*, or *Poulaille*—includes all those classes, whether geese and ducks, turkeys, guinea-birds, or common fowls, which are usually reared in this country for domestic use. The *gallinaceous species* (the apparent pedantry of which designation ladies will, it is hoped, excuse) comprehends all those distinctively called “fowls,” the various races of which constitute the subject of this and the following chapter.

It has been remarked by Goldsmith, in his *Animated Nature*, “that most of the domestic birds of the poultry kind, which we retain in our yards, are of foreign extraction; and it is remarkable enough, that while the tame

species which we have imported from distant countries have largely increased, those wild birds of the poultry kind which are indigenous to our climate have all diminished." Some, indeed, appear to have been in our region almost utterly destroyed : as, for instance, the Bustard, the Capercaillie, or Capercaillie, known also as the Cock of the Wood ; only a few of the latter being occasionally found in some unfrequented districts of the north, and never seen in the more cultivated and populous parts of the United Kingdom. We are, however, happy to learn that the cock of the wood has been lately brought from Norway for the purpose of being introduced into the demesne of Taymouth Castle ; and as the same object is, we understand, now being carried into effect both by His Royal Highness Prince Albert, by His Grace the Duke of Buckingham, and the Earl of Orkney, we have every reason to hope that, in process of time, this noble bird will again be domesticated in our forests.

*Fowls*, although now so universally reared in every civilized country of the world as to be considered indigenous to each, were yet, no doubt, originally brought from the more

southern parts of India, in many districts of which they are found wild in great abundance, but at what period they were here introduced and domesticated, is now unknown. It is, indeed, singular that no allusion to it has been made in the remotest history of ages, though their reduction to a domestic state for the use of man could not, it may be supposed, have been easily accomplished; for, although not light upon the wing, and, in fact, rather of terrestrial than aërial habits, they are yet so shy and averse to restraint, that, if originally wild, it must have taken a long series of patient attempts to succeed in bringing them to subjection. So light, wholesome, and agreeable is, however, the food which they produce, that we cannot wonder at the perseverance employed for their subjection, the success of which has been so universal that there is scarcely a rural habitation around which may not be found scores of cocks and hens.

The Cock of the Wood is by some physiologists supposed to have been the progenitor of those gallinaceous tribes which are now domesticated throughout Europe; while others—under the authority of Buffon—attribute

their origin to the Jungle Cock, which is a native of the woody regions of the East. Neither of those wild birds appears, however, to have been the source of our tame breeds; for the cock of the wood, though still an inhabitant of the mountainous forests of the North, and formerly found abundantly in many parts of Great Britain and Ireland, is yet double the weight of our largest fowls, and partakes nothing of their habits or their plumage; and the jungle cock, though in form much resembling our tame fowls, has yet never been domesticated in those countries where they breed: which circumstance seems decisively opposed to the supposition of his having been the parent of the domestic race. But the Java Cock—which is indigenious to that island, and there partly domesticated—so closely resembles the European breeds, with which they also intermingle, that it is not improbable he was the main origin of our present stock.

The inquiry, however, is a question, if not of mere curiosity, yet of secondary importance, possessing little interest to the object before us; though it is extraordinary that our efforts to

tame the pheasant, the partridge, and the quail, have proved unavailing, and a belief is by many entertained "that the races of domesticated animals were never wild:" on which point observations have been so pertinently made, that we shall offer no apology for transcribing them.

"In the first place, there is no evidence of a greater number of kinds of domesticated animals now in the world, than have been from the earliest period of history; and, in the next place, there have always existed as many kinds of domesticated animals as have been useful to man in his most civilized state. As the civilization of man increased, so have the variety and quality of domesticated animals increased, but the number of their kinds has not increased. There were horses, asses, camels, dogs, cattle, sheep, and goats, in the days of Abraham as well as now; and these constitute the largest proportion of our domesticated animals.

"Many attempts have been successfully made to tame single individuals of wild races, but such animals, though tamed, are in quite a different state from our domesticated ani-

mals. Some wild animals exhibit a degree of familiarity. The swallow builds her nest in our windows, and the robin enters our dwellings; whilst the blackbird and sparrow are constantly before us. This familiarity, however, does not amount even to tameness, far less to domestication. It appears, indeed, that wild animals are preserved unchanged for the great purposes of Providence throughout the globe, and that Nature has presented to man only such animals as are obviously most suitable to his wants. With these he must be satisfied. What wild creature would he desire to substitute for any one of our animals? Should we desire it, Nature has placed such a barrier in our way, that it is impossible for us to make a single wild creature available to our domestic purposes. We may exercise our ingenuity, judgment, and even caprice, in moulding the habits and qualities of domesticated animals to our tastes, wants, and conveniences. There the field of experiment is open to us—not to an unlimited, but to a great extent; but Nature will not permit us to make a single predatory excursion among her wild animals.”

French naturalists enumerate no less than sixty different species of fowls ; and although English writers on the subject modestly confine their description to little more than one-third of that number, yet as the greater part of these are chiefly bred for the satisfaction of the curious, we shall only particularise a few of those more prominent breeds which are in general use ; leaving to amateurs the amusement of producing new varieties by crosses with some of the foreign kinds. Nor is this to be looked upon as an idle waste of time or money ; for, while it innocently employs the mind, should it be attended with success in bringing forward a superior breed, not only will a private, but also a national advantage be thus obtained ; and we should recollect, that to such experiments all our improvements in the present native stock of animals are due : it is not, therefore, destitute of interest in the view of either domestic economy or public benefit.

Although it may call forth a smile from ladies who are initiated in the management of poultry, to be told the names by which fowls are described, yet it may not be uninteresting

to those who are unacquainted with the details to be informed, that the males and females cease to be termed "chickens" when they severally attain the age of about four months, at which time the male acquires the name of "Cockling," or "Cockrell," and "Stag," which he retains until he reaches nearly a twelve-month, when he finally gains the rank and title of "Cock;" the female being called "a Pullet" until she begins laying, and is ultimately advanced to the maternal dignity of a "Hen." She then produces chickens, and her progeny, when collected together, are designated as "a brood." When the word "laying" is applied to poultry it means the act of the hen in producing an egg; and "hatching," or "incubation," is that of her sitting upon the eggs for the purpose of bringing the embryo chickens to life.

In the course of the year after they have been hatched they all "moult," or cast their feathers, most usually late in the autumn or the early part of winter, but not unfrequently in the former; though it sometimes happens that those fowls which have been early hatched, moult in the same year, or early in the spring

following. During the period—which lasts from one to two, and even three months—they are unfit for the table, nor do the hens lay eggs, for they are then sickly, and out of condition ; but, when they recover, their plumage looks fresh and beautiful, though sometimes so changed in colour that it is difficult to recognise them. In some instances, indeed, the feathers have changed colours in every succeeding moulting. Réaumur mentions a hen of his, of the ruddy colour, mixed with brown, which during four years altered her feathers at every succeeding moult, until she at length became uniformly of a pure white ; while a cock of the same original colour, which had become in successive moults uniformly black and then white, turned again to red and brown when in its sixth year : so that it could not, in this case, have been occasioned by old age, which whitens the human hair.

During the moulting season the fowls should be well fed and kept very warm. It should also be observed that, if in a sickly condition, they sometimes suffer a loss of the feathers, though not occasioned by moult : in which case, as in most others caused by any unhealthy state

of temperature, good diet, change of food, pure air and water, warmth and cleanliness, will generally be found effectual restoratives.

It should likewise be understood, that not only does the hen cease laying at this time, but the cock also loses so much of his vigour as to become inattentive to his mates and useless to the purposes of the poultry-yard. In which case, Moubray states it as his practice, “to withdraw the cock to a separate walk and substitute another, which is known and familiar to the hens :” which would, no doubt, be a good plan, were it not for the difficulty, in small establishments, of finding room for thus separating the birds ; but especially from the circumstance, that the hens are themselves usually moulting at the same season.

The *Cock*—when in his prime—should be firm on his legs, which ought to be strong and well furnished with substantial claws to rake the ground, and sharp spurs for his defence. His thighs should be large and sinewy ; his breast broad, and his body round, compact, and robust. His head should be small, with a sparkling eye, and the crown decorated with a crest, or scalloped “comb,” of the brightest

scarlet, together with fleshy “wattles” of the same colour and consistence, pendent in an oval form from his throat; his beak should be short but strong; and the feathers, or “hackles,” of his neck should fall gracefully down. The comb and wattles are, however, neither flesh nor membrane, but a peculiar substance, partaking of both, and highly valued by epicures when brought to table as a fricasée. His wings should be short and firmly feathered with plumage of the most variegated but brilliant colours of the darkest brown and red; his tail rising in an arch, without a white feather—which has passed into a proverbial mark of cowardice: though we have seen good cocks of all colours. He should stand firmly erect, with an air of haughtiness, his head elevated, and wearing a look of bold defiance. His crow should proclaim the dawn with that shrill tone of joyousness which has acquired for him the name of “chanticleer,” or, as the poet styles him,

—“The crested cock, whose clarion sounds  
The silent hour;”

and every act of his should evince vigour and animation. He is, indeed, generally viewed

as the very prototype of all that we call gallantry : courteously affectionate to his mates, to whom, when surrounded by them, he is vigilantly attentive, generously supplying their wants by every means in his power, before satisfying his own, and daringly courageous as a champion in their defence. He is, however, jealous to excess of their attachment ; demanding submissive obedience from the companions of his love, and ruling them with the sway of a bashaw : in fact—

“ Le coq de ses sœurs est l'époux et le roi,  
Toujours marche à leur tête, et leur donne la loi,  
Il peut pour des années les aimer, les conduire ;  
Il est né pour l'amour, il est né pour l'empire ;”

and he reigns over the poultry-yard as a sultan in his harem.

The *Hen* should partake, as far as possible, of the form and plumage of the cock : short-legged ; round and full in the body, but more roomy behind, for the better production of eggs, with wide-spreading, closely-feathered, downy wings, to afford a warm shelter to her chicks. If long-legged, with claws, or spurs, at the back, she sits awkwardly on her eggs, which she thus sometimes breaks, and if not large, both in the body and the wing, she can

neither cover a proper number of eggs, nor can she impart sufficient warmth to her brood. She should also be good-tempered; for, as bickerings and dissensions do occasionally occur in the best regulated families, a shrewish, termagant hen will now and then peck violently at her lord, instead of passively yielding to his wishes or commands; though he, acting with characteristic spirit, is never known either to return the attack, or make any defence, although strong enough to master a dozen such rebels. Réaumur tells us of two hens which he had shut up with a cock—all three living together for some time in the greatest harmony; when, all on a sudden, the hens both attacked him without any apparent cause, yet with such fury that in the course of five or six days they actually killed him: though being then cooped, in order to tame them, they afterwards received the caresses of another without any reluctance. It has, indeed, sometimes happened that the whole covey of the cock's mates have jointly flown upon him in anger for some offensive neglect of which he had been guilty: in which case—as we must suppose the punishment to

be justly inflicted—the delinquent should be immediately removed and replaced by a bird of more amorous and gallant propensities.

It must however be confessed, that the cock himself not unfrequently takes a dislike to one or more of his hens—particularly if they are advanced in years—and which he treats with great cruelty: the only remedy for which is, for peace sake, to separate them. He also occasionally singles out one of his youngest consorts, to which he pays more marked attention than to any of the others: scratching up food for her separately; enticing her into some corner in which he shakes up blades of straw with the apparent intention of making a nest for her exclusively; perching on the nest in which she lays, and continually loading her with fondness, which she evidently returns with the same partiality: yet as this—extraordinary as it may appear to our fair readers—never occasions jealousy among the others, there is no occasion for depriving him of his favourite.

Notwithstanding what we have already said of the petulance of the hen, she is, generally speaking, all gentleness and timidity. The

affection for her brood, when become a mother, and her courage in protecting them, seems to change her very nature ; for instead of being ravenous of food, and of singular cowardice, she searches for and abstains from everything which her chickens can eat, and, far from being the timid bird of her former habits, she boldly attacks any creature that attempts to injure them. We have seen her fly at a cat which had pounced from a wall upon one of her nurslings, and drive him away by fluttering and pecking at him, though sorely wounded in the encounter ; and many are those who have witnessed the affecting solicitude with which she shrouds her little progeny under her wing when she sees a hawk hovering in the air : fearless for herself, and only careful of their safety. An instance of which affection in the feathered tribe is thus recorded in the Natural History of Selborne:—

“ A gentleman in the neighbourhood had directed one of his waggons to be packed with hampers and boxes, intending to send it to Worthing, where he was going himself. For some time his departure was deferred, and he therefore ordered that the waggon should be

placed under a shed in the yard, packed as it was, till it should be convenient for him to send it off.

“While it was in the shed, a pair of robins built their nest among some straw in the waggon, and had hatched their young just before it was sent away. One of the old birds, instead of being frightened away by the motion of the waggon, only left its nest from time to time for the purpose of flying to the nearest hedge for food for its young; and thus alternately affording warmth and nourishment to them, it arrived at Worthing. The affection of this bird having been observed by the carter, he took care in unloading not to disturb the robin’s nest, and the parent with its young ones returned in safety to the place from which they had set out: the distance the waggon went in going and returning not having been less than one hundred miles.”

Well may we hail the divine influence of maternal love! inspired, as it is, by heaven itself, whether in the bosom of beauteous woman, or of any humbler creature, and truly has the poet exclaimed—

“Oh! holy Nature! thou dost never plead in vain.”

With respect to the *age of fowls*, a cock may generally be considered fit for his marital duties, or, it may be said, arrived at his majority, when about six or eight months old, though prudent breeders do not deem him in proper order until he has moulted; and, indeed, an experienced writer on game-cocks advises never to breed from “stags or pullets,” and insists that “no fowls can ever be possessed of every necessary requisite to breed from, until they have moulted *twice*.” Nature, however, dictates the contrary: though much depends upon the climate and state of the weather while he was rearing, and especially upon the manner in which he was fed; but if he has already moulted, he may be introduced to his mates early in the ensuing spring, or about the customary pairing-time of other birds. Valentine’s Day is truly the commencement of the season of love: the sun then begins to shine forth in splendour, and the plumage of the birds acquires a more vivid hue, as if nature taught them to put on their gayest attire to attract and woo their future companions.\* The cock is then

\* When applying this, however, to *Valentine’s Day*, it

in his prime, and usually retains his full vigour until three years of age, after which time he grows indolent, becomes careless of his office, and is at last usually consigned to the cook; though sometimes he is kept with his hens for two, and even three, years longer: not only to avoid the apparent cruelty of dividing the fellow from its mates, but also from the loss of gratification which it occasions by depriving the creatures which are dependent on us of any portion of their enjoyment. Although frankly admitting the propriety of this delay, in the sense in which it is given, it is yet considered by those breeders who look more to profit than pleasure, as a very injudicious practice: and in this they are correct; for, if it be continued without crossing with other breeds, it will lead to coupling males and females of the same family; which mode of "breeding in-and-in"—as breeders of all animals term it—has been invariably found so to deteriorate the race, that in a few generations they lose any superiority which

should be recollected, that in consequence of the alteration in the calendar, it would occur, according to the old style, twelve days later than as now stated in our almanacks.

they may have previously attained. Thus, Sir John Sebright, who has made many interesting experiments on fowls, found that when bred in that manner, "they became long in the legs, small in the body, and bad breeders." The better way is, indeed, to change him every year, and place with the hens a cock, not of a different *breed*, because, if it be of any peculiar sort, that would destroy its purity; but of a different *family*. Thus cocks of the same breed may be placed along with hens of the same species; but, in that case, they should be interchanged with some neighbour: so that the fowls, although of the *same kind*, may not be of the *same family*. The best plan is, however, to fatten off such cocks at once; for they will then be not only more fit for the table, but, if left alive, they will not easily accustom themselves to associate with strange hens when separated from those with which they have been brought up.

In making the *choice of a cock*, Parmentier, the French naturalist, recommends the plan of putting two cocks of equal size, breed, and age, into the yard along with the hens which he is to espouse: the immediate consequence

of which will be a battle between the two aspirants for their favour, and the conqueror should be selected; for, as M. Parmentier justly remarks, "hens, like all females, ever prefer the male who displays the most courage and spirit." This, however, should be done only in company with those hens to which the victor is to be attached; for if there be many more, they will of course be accompanied by a male, who, having already fought his way to the vaunted honour of being "cock of the walk," will suffer no rival within his domain, and these young cocks will submit without a struggle to his already acknowledged superiority. It is, nevertheless, sometimes not easy to decide between the combatants, and until it is ascertained which has the palm of conquest, there will be no peace in the yard. Wherefore, ungenerous as it may be to favour the strong instead of the weak, the most prudent mode of settling the quarrel is to take part with the stoutest cock, by buffeting the other with your glove, while struck by his antagonist, until he yields the battle. The new cock (whether the trial to which we have alluded be made or not) should be admitted

to his brides in the evening about feeding-time, in some separate place with them alone, but not allowed to remain with them when they go to roost, unless they receive him with distinguished cordiality. By pursuing this plan for a day or two, they will become more accustomed to his presence, and he may be permitted to accompany them to the common yard, where the other poultry will then commonly associate with him peaceably; but should they dislike him and ill-treat him, he must be changed for another cock.

Some writers have stated that *the life of a hen* only extends to four years; whereas experience proves, that they will lay for two years longer, and that the older they grow, the better nurses they become. They have, indeed, been known to bring up a brood when more than seven years old, and if allowed to live, Buffon supposes that in a domestic state fowls would reach their twentieth year; but they are rarely suffered to attain the period of life assigned to them by nature. Their best time both for sitting and laying is, however, between the age of two and four years: but they are, like human beings, of different dispo-

sitions—some flighty and careless; and others looking attentively to the charge of their young family, which they bring up with all the care of a matron. The first, are the fittest for the spit; but the latter, should always be kept so long as they are capable of rearing chickens: with this observation—that they should, in that case, be all of nearly the same age; for otherwise, the cock will assuredly mark the difference between the old and the young, and probably neglect or ill treat the former.

After the selection of the cock, comes the *number of hens* which he should be permitted to entertain, and in this there is much difference of opinion: some persons recommending twelve to fifteen; others ten; and many ungallantly limiting him to six or eight, from the notion that “the fewer the mistresses in a family, the greater will be its comfort;” while the French and Italian housewives insist that he should be indulged with a seraglio of five-and-twenty! and in the “Transactions of the Highland Society,” a breeder in the north of Scotland insists that “one cock is sufficient for twenty-four or thirty hens.”

The decision of which may be the better mode, is a question which must depend much on the nature of the climate—for all the galinaceous species thrive better in the warm and dry air of the south, from which they originally came, than in the cold and humid regions of the north; but still more upon the nature and sufficiency of the food. We certainly have frequently seen, both in this country and abroad, from fifteen to twenty hens attended by only one cock, and we freely admit that the fewer cocks are kept in the yard, the better; as they will be the less likely to quarrel. But, judging from our own experience, we should say that a dozen hens are the utmost that should be allowed to one cock, and perhaps a still less number would be more advisable; unless warmly kept in one of our southern counties, and fed with a good quantity of corn. Moubray, indeed, goes so far as, in the winter, to advise “that a cock should only have four wives;” which is perhaps limiting him unnecessarily, but the error, if it be one, is on the right side: and in the breeding of game-fowls for the cock-pit, this is the utmost number allowed.

Breeders of the game-breed, in rearing chickens for the pit, also limit the *weight of the cock* to five pounds at the utmost; but a cock of any good ordinary breed should be larger, and some of improved breeds are sometimes of nearly double that weight. But, supposing several cocks of the same breed to be found equally well formed—then, according to our experience, we should prefer the largest; ever looking carefully to its health, muscularity, and compactness of shape. We, indeed, cordially agree with the remark put forward in the very judicious essay on the breeding of cattle, lately published by Mr. Wright, of Chesterfield, “that breeding from delicate and effeminate males cannot be too highly reprobated. It is from hence arise delicate constitutions, and all their concomitants: peculiarities belonging to a race that can neither bear cold, or wet weather, or bad keeping, or produce any profit even from good keeping.” But it should be borne in mind that this may be carried too far in the females; for hens, if unusually large, are in general indifferent layers, and not very steady sitters.

It is, also, very important to ascertain, so far as possible, whether both the cock and the hens which are to become his mates, are of sound constitution; for if not, they will breed clutches of weakly chickens, which will die off ere they grow to maturity. Their mode of feeding should, therefore, be closely observed: if they eat corn enough to fill their crops and digest it quickly, it is a sign of health; but if they eat but little, and their digestion is slow or incomplete, they will probably be found sickly, and equally unfit for breeding, or their flesh from being eaten. Sheep which have the rot are, indeed, constantly eaten, without people being conscious of the fact, and their flesh, when sufficiently fat, is by many persons thought superior; for in the early stages of the disease, the fat and flesh increase with wonderful rapidity. In like manner, it has been asserted in a treatise published some years ago on the breeding of game-cocks, that, "if two chickens of the same age be killed, letting one be thriving and hardy and the other rather weakly, and dressed exactly alike, when they are brought to table the thriving chicken

will look black and eat hard, the other tender and delicately white." We leave this, however, to the epicurean palate of lovers of good living; one of whom we have seen eat a grouse in such a state of decomposition as to scrape off the breast with a spoon.

Respecting both cocks and hens, remarks have been long current among country-folks, which, although looked upon by many persons as being what they sneeringly call "old women's sayings," yet as we entertain too much respect for the sex to treat anything which they may advance with want of courtesy, and have besides not a little confidence in "old saws and sayings," as being as commonly founded in experience as the axiom, "Count not your chickens until they are hatched," we shall enumerate a few; without, however, pledging ourself to their truth. As for instance,—many people have an idea that eggs are addled by thunder; and that chickens hatched during the full of the moon thrive better than if brought to life during its less advanced period, and therefore put the hen to sit in the first quarter: but looking, as we do, to these as vulgar prejudices, we do not think

them so much entitled to attention as the following :—

The indications of health in fowls are the florid colour of their combs ; bright eyes, free from moisture ; glossy plumage ; and an air of animation.

If old, their legs, feet, and combs, are rough : the spurs become long, and are found on hens as well as cocks ; and both are dull and listless.

The darker is the plumage, the hardier is the bird.

If they have dark legs, covered with rough scales, the flesh will be of less delicate colour than that of those whose legs are white, or pale coloured and smooth.

Cocks of the middle size of each breed—neither too large nor too small—are the most vigorous : provided always, that the body be round and the limbs muscular.

A cock with a small, limber, and whitish-coloured comb, is fit for nothing but the spit ; and if he has a white feather in his tail, he is nothing better than a dung-hill.

Fat, heavy hens, neither produce a large number, nor a good size of eggs.

Hens with large flaccid combs are thought sickly ; but if the hen has a bright comb so large as to hang down upon the head, it is a sign of her being both a good layer, a good sitter, and a good nurse.

A jet-black hen is an earlier sitter, and a later, as well as a better moult, than a white one.

Should a hen crow like a cock, it is a bad sign ; and there is an allusion comparatively spiteful to them, to priests and blue-stocking ladies, which our deference, both to the cloth and the ladies pointed at, will not allow us to repeat.

When fowls roll more than usual upon the ground, or in the sand, and the cock crows in the evening, or at unusual hours, we may generally infer the approach of rain : “ loud also quacks the duck ;” and geese, if the weather threatens to be wet, stay on shore ; but, if fine, go to the water.

## CHAPTER III.

Different sorts of domestic fowls—The Game-breed—Cock-fighting—Pugnacity of the cock—The Dorking fowl—Capons and Poulardes—The Malay, or Chittagong breed, origin and size of—Polish and Spanish breeds—Everlasting layers—The Shack-back—The Crested—Hybrids and fancy-breeds—The Bantam; anecdote of—The Barn-door fowl—The Dunghill cock—Observations.

So great has recently been the rage for improvement in all sorts of live-stock, and more particularly in those species of poultry called “fancy-breeds,” that what with foreign importations from abroad, and crosses among the different kinds at home, there is scarcely a pure distinct race of any sort to be now met with. The few which still bear that character as known in this country, and to which we shall confine our present description, are the *Game*; the *Dorking*; the *Malay*, or *Chittagong*; the *Polish* and the *Spanish*; the *Crested*; the *Bantam*; and the *Common Domestic*, or *Dunghill*.

The **GAME-COCK** is of a slender, graceful

form, with plumage so much more bright and showy than the common breeds, that there appears as much difference between the one and the other as there is between a lady's thorough-bred horse and a cob. When in full plumage, he wears an appearance of extraordinary animation: his small head, adorned with a splendid comb and wattles, his eyes sparkling with fire, and his whole aspect bespeaking the daring courage of his nature.

Even of the game-breed there are, however, many varieties, some of which are more esteemed than others among those feeders who rear them for the cock-pit. Sketchly, who has written a treatise on the subject, describes eight of a superior sort, among which he particularly mentions the black-breasted red. "The feather of which," he says, "when true bred, should be of a clear, vivid, dark-red, without any shade whatever of the black, extending from the back to the extremities. The upper convex side of the wing equally red and black; the whole of the tail-feathers black; the tip of the wing also, with black beak and black legs. The

brood-hen for such a cock should be the dark partridge-coloured, bright hackled above, black beneath, clear brick-breasted, with black beak and legs." No cocks exhibit a longer period of unfaded health, and their reputation stands high in the opinion of sportsmen.

*Cock-fighting* was anciently so much in vogue that it was a common amusement among the Greeks and Romans, and in this country it was formerly so favourite a sport among the nobility, that Henry VIII. erected a spacious building for its enjoyment. Charles II. had also an arena, probably on the same site, in St. James's Park, which he is said to have frequently honoured with his presence, and which still retains the name of the "Royal Cock-pit." The birds were selected with as much attention to pedigree as a race-horse: large sums were betted upon the issue of the battles, and an anecdote has been related of a man who, in the savage fury of his revenge for having lost a wager, deliberately roasted alive the poor bird which had been beaten; but it has been said that his cruelty was avenged by the immediate loss of life, for he was struck dead in a fit occasioned by the

excitement of the passion in which he had indulged. In England it has now fallen much into disuse, from the low-lived gambling with which it was latterly attended ; but in China, Sumatra, and other parts of the East Indies, there is such a mania for it, that men have been known not only to stake the whole of their property, but even to sell their wives and children into slavery in payment for the loss of a battle. Among persons of refinement, the “sport,” as it is usually termed, is viewed as barbarous and cruel : but, although not meaning to uphold it as a pastime for polished society, we must yet observe, that the birds apparently entertain a degree of innate hatred for each other, which they indulge with great ferocity without any extraneous excitement ; and, comparatively speaking, we cannot look upon it as so cruel as hare-hunting, nor so barbarous as the Spanish taste for bull-fighting, in witnessing which ladies of the highest rank, and doubtless endowed with feminine feelings of humanity, seem to have great enjoyment. Nor should it be forgotten, that fowls of every breed require no other inducement to a battle than

their own restless jealousy of disposition; for no sooner does a stranger cock appear among hens which are already provided with a male protector, than the latter instantly attacks the intruder upon his rights of captainship. The rivals face each other with an air of stern defiance: the neck stretched out, the feathers ruffled, and the head bent down in readiness to give a blow; they scratch the ground as if to sharpen their claws, and at length dart upon each other with such desperate fury, that both are soon severely wounded. The strongest of course gains the victory; and if he can throw his antagonist down, or fly upon him, strikes his spurs into the fallen enemy with such force as sometimes to kill him. The victorious hero then stands over the body, clapping his wings, and crowing with the exultation of his triumph; while his vanquished adversary, if still alive, slinks away abashed by his defeat, without ever again contesting the supremacy of his conqueror.

Such, indeed, is the untameable pugnacity of the game-breed, that even chickens are constantly quarrelling and fighting among each other with such fierceness as not unfre-

quently to peck each other's eyes out; and they are so troublesome to the other poultry, that the race is now seldom used except for crossing with fowls of a different breed: neither are they esteemed either as good layers or steady sitters; nor is their carcass very large. Still, however, the delicacy of their flesh is so superior to all others, that they are in high request for the table; and they are sometimes, therefore, bred in separate courts. One gentleman with whom we are acquainted, breeds no other sort, and makes no complaint of their not rearing a fair average number of chickens, though a few of them are blinded, and occasionally one or two killed; but, to an epicurean palate, the flavour of their meat, when dressed, is certainly most excellent. The eggs are all more high flavoured than those of common hens, and by most persons preferred, though some consider them wanting in delicacy.

In order to check the mettlesome disposition of these turbulent cocks, it has been recommended by a French writer, "to put their foot through the middle of a bit of leather in a round shape; when," as it is

said, "they become as quiet as men who are fettered at the feet, hands, and neck;" and old Mascall, an English author, who formerly wrote largely on husbandry, describes the mode of operation to be thus: "Ye shall slitte two pieces of thicke leather, and put them on his legges, and those will hang over his feete, which will slake that heate of jealousie whiche is within him." On this we have had no personal experience, though we think it might not be found a bad plan, and the trial can do no harm. Clipping off the spurs, and afterwards singeing the stumps with hot iron, when the chicks are quite young, will also have a good effect; but perhaps the most effectual of all is to convert those which are bred solely for the table into capons, in the same manner as the Dorkings.

Perhaps the most esteemed breed in common use throughout the southern counties of England is the DORKING: so named from a small town in Surrey, in which they were probably either originally bred, or from which they were brought into notice by their introduction for the supply of the London mar-

kets. Surrey, Sussex, and Berks are the shires in which they are chiefly produced; and both Dorking, Horsham, and Oakingham are the great marts for their weekly sale.

They are distinguished by the singularity of having *five* claws on each foot instead of *four*, which is the usual number grown on all other fowls, and are thought by many to be a bastard breed, which took its origin from some very large fowls with this peculiarity; but, as the fact has been noticed by ancient writers on the subject of both foreign and English poultry, it may be considered an original race. The additional claw is, however, nothing more than an imperfect spur of neither utility nor inconvenience. They have the merit of being very gentle and quiet in their habits; but the main features in their favour are their acknowledged superiority in the important points of being both good layers of fine eggs, and steady sitters when hatching their chickens; as well also, as their growing to a larger size than the common domestic fowl, and thus producing a more substantial dish for the table. The flesh is certainly

not so high flavoured as that of the game kind, but is succulent, white, and very delicate. The breed is, indeed, in such general esteem, that we think no one who is possessed of it will feel inclined to change it for any other.

In contradiction to the advice already given “of choosing cocks and hens of the most variegated and brilliant plumage,” those of the Dorking sort are generally preferred to be white, both as producing better meat, and as being no less distinctive of the purity of the breed than is the supernumerary hind claw. We know, indeed, some breeders who keep cocks of the darkest brown and red, while they yet wish their hens to be of the purest white. It is perhaps matter of no great moment, when the fowls are to be fattened for the table, whether they are grown of one or more colours; but if it be the intention of an amateur to preserve any distinct species, he should endeavour to retain those marks which betoken its character; and it is evident that if the cock is brown and the hen white, the chickens will be of mottled plumage.

In consequence of their size and aptitude

to fatten, many of this breed, both male and female, are deprived of their powers of procreation, both to improve their weight and flavour; for having then nothing to do but eat, drink, and sleep, they grow to a much larger size, and their flesh becomes more delicate, than when left in a state of nature. So much, indeed, is their weight increased, that a gentleman whom we could name, in Surrey, lately made a bet that he would bring a cock which had been thus treated—and which was bred from a cross between a Dorking and a Malay fowl—to the weight of fifteen pounds; and only lost it by a few ounces. They have, however, been grown to still greater weight; and the practice is so old as to be mentioned in some of the ancient Roman authors; but the average of the *pure Dorking*, when thus operated upon, does not exceed six or eight pounds.

When reduced to this condition, the emasculated cock is called a “*Capon* ;” and the hen, being prevented from perfecting the germe of those eggs which are found in her ovary, is termed a “*Poularde*.” Throughout France fowls are constantly caponed by the farmers’

wives; but, in this country, there is so prevalent an idea respecting the surgical skill required in the operation, that the practice is almost confined to the counties of Surrey, Berks, and Sussex. It is however of a very simple nature, and is usually performed for a trifle by some peasant or old woman who is an adept in effecting it; for it should never be attempted by any person who is not well acquainted with the method. The best time of the year is the months of May or June, when the birds are eight or nine weeks old, and before the weather becomes very hot—in order to prevent the wound from becoming inflamed, and coming to a mortification. It may, however, be done with tolerable safety at any age after the cock has been turned out of the yard, or when the hen has done laying, and, in both cases, renders them fat and tender, but the bird should be cooped for a few days in some cool place, and fed upon soft nutritive food, until a cure is completed. It usually takes nearly eight or nine months after the operation to bring them to a proper size; but if hatched early, and well fed, they may be brought into high condition by Christmas.

The operation, though more easily done on the hen, is seldom performed upon her, as she is the most useful bird of the two; though it has been said by some writers, that when hens have been thus operated on, they still continue to lay eggs. This must, we however imagine, be a mistake; for, if effectually performed, it deprives them of that function of their nature, and they can no longer lay. When restored to health, the hens appear unconscious of any effect arising from the operation; but not so the cock: he becomes dull and melancholy, loses the strength and shrillness of his crow,

——“foregoes  
His wonted strut,”

and becomes so hateful to the other fowls that they will rarely allow him to roost with them.

In some instances he is, however, trained to act as a hen in rearing up chickens, and, ridiculous as it may appear, is then described as appearing at their head in the poultry-yard, not as he was before—dull, ashamed, and humbled—but proud, haughty, and triumphant; and such is the influence

of audaciousness, that this borrowed mien so imposes upon the cocks and hens as not to disturb him in the discharge of his duty. He is taught by placing him in a deep covered basket, from which he is removed twice a day to a wicker cage, in which he is fed along with some chickens, to accustom him to their company, until he gradually leads out several broods, and this allows the parent hens to again continue laying.

This may doubtless be found very useful in *bringing up turkeys*, as the quietude of the capon would guard the chicks from those accidents and loss to which they are exposed, from being dragged through the grass, in the careless manner so commonly done by the real parent; but, as to common fowls, we are persuaded that the hen herself is the best nurse, and far preferable to any foster-mother. In France we indeed learn, that capons have been taught to sit upon eggs and hatch them! But although stated as not being even there a very common practice, yet this has been repeated by English writers in such a way as apparently to leave no doubt of its being here customary. We must con-

fess, however, that we have not had any experience of the fact, nor can we hear of any one who has actually witnessed it; and if it be true, as stated in a late essay on the subject, "that the bodily warmth of the capon is only  $65^{\circ}$ , while that of a hen, while hatching, is nearly  $80^{\circ}$ ," we do not think it likely that such an experiment would be successful.

THE MALAY, or CHITTAGONG, are natives of the Isles of Java and Sumatra, from which they have been introduced into this country, where they are now common, and the largest known breed of fowls; standing so high upon their legs as to be frequently able to peck at anything from off a dining-table, and somewhat resembling the Cochin-China breed lately presented to Her Majesty. They arrive, also, to so great a weight that an acquaintance of ours had one presented to him by a friend, who brought it from the former island, which weighed, when killed and stripped of its feathers, no less than 9 lbs.; and a pair of pullets, bred from a cross between the cock and a Dorking hen, weighed together, when trussed for the table, exactly 11 lbs.! But although good layers of fine eggs, they are

bad sitters ; and as the fibre of the flesh is rather coarse and the colour dark, they are not held in much esteem by the poulterer. They are, however, not unfrequently used with other fowls for crossing : which, by the bye, is no bad plan, as the produce will be thereby probably improved in flesh ; while bad sitters and good layers, when coupled together, will thus generally bring forth hens actually good for both purposes. The practice is indeed so common, that fowls are now constantly bred from these crosses, and when partaking largely of the prominent features of the Malay, are very generally called by that name. The plumage of the hen breed is nearly black, streaked with brown and yellow, and the crow of the cock is more harsh than that of other fowls.

Another very large breed, bearing a great resemblance in appearance to the Malays, but producing much finer flesh, is the POLISH, or SPANISH ; which, although one might suppose them as widely different in nature as in country, are yet nearly similar in form and habits. They are thought by many per-

sons to have been originally brought either from Persia, or some other region of the East, and have been described as such by foreign naturalists, though called by the names of the "Paduan" and the "Jago Cock;" but from whatever race they may have descended, they are certainly a very handsome and estimable species; the more valued as producing such numbers of eggs as to be called "*everlasting layers*." Their plumage is nearly all of shining black, with a few tail-feathers of different colours; their head surmounted by a tufted crest, and the comb so large, particularly in the hen, as sometimes to hang over on one side.

It is, indeed, not improbable that the far-famed "*Shack-back*,"—introduced some years ago by the late Duke of Leeds, which obtained such high repute as to be considered superior in every quality to any other sort of fowl in England, and by many persons looked upon as a good substitute for the turkey,—was bred from a cross with either the Polish or the Spanish, and some other kind which is not known. It is yet not a little extraordinary that, notwithstanding their

former estimation, they are now so much out of fashion as to be scarcely ever heard of.

The **CRESTED BREED**—so called in consequence of their being distinguished by having on the head a densely tufted crown of feathers of different colours, along with the comb, which is usually smaller than in other breeds, and some totally deprived of it—are thought to have been also bred from intercrosses between Polanders and Spanish, or Paduan; but, as they are common in Egypt, they have probably derived their descent more directly from the East, and are more esteemed in proportion as their colour is more rare, or as the tuft of the crest contrasts with the rest of the plumage.

Of all these varieties, those preferred by amateurs are the white ones with black combs, and the black with white combs. The breed fats easier than most others, and the flesh is generally considered more delicate; but however pleasing to the eye and palate, they are not a profitable stock, for they produce such few eggs as hardly to pay for their keep, and the hens are not generally bred from.

Of **HYBRIDS**, or fowls bred from crosses which have been tried between our common domestic breeds and other birds of nearly similar species, the only experiment of the kind which has in any way succeeded is that between the hen and the pheasant; which are so naturally alike in their habits, that besides being equally heavy on the wing, they both feed upon grain and insects, roost upon trees, lay the same number of eggs for hatching, and build their nests upon the ground. Although common hens have been impregnated by cock pheasants which have stealthily sought them, yet the broods thus generated still retain much of their wild nature. Their flesh, however, has so much of the game-flavour of the pheasant, coupled with the juiciness of the fowl, as to be greatly prized by connoisseurs in good eating; and therefore attempts are often made to propagate the breed by those who are careless of trouble and expense.

The **BANTAM** is a dwarf breed of such a diminutive size as seldom to weigh much more than a pound. They have been, indeed, bred by the fanciers of so small a size as not to

be much larger than a lark; while a breed brought from Holland, though very short upon the leg, is yet so round and fat in the body as not to weigh much less than a game-hen. They are of very graceful figure, and both male and female feathered to their very claws with showy plumage, though some few fanciers prefer to have them with legs devoid of feathers. They are, indeed, so generally known as hardly to need description; but the essay which we have mentioned in alluding to the crested fowl states, "that the full-bred Bantam-cock should have a rose comb, a well-feathered tail, full hackles, and a proud, lively carriage. The nankeen-coloured and the black are the greatest favourites; but if of the latter, the bird should have no feathers of any other sort in his plumage. The nankeen bird should have his feathers edged with black, his wings barred with purple, his tail-feathers black, his hackles slightly studded with purple, his breast black, with white edges to the feathers, and the hens should match in plumage with the cock;" and in this we so far agree, though in general the plumage will be found varied with different colours.

The cock is indeed a gallant little fellow, of such high courage that he will not shrink from measuring his prowess with one of another race though double his own size ; and we have more than once seen him drive a dung-hill bully from the court. He is also capable of such attachment to his mate, that we remember a Bantam cock and hen which were kept for some years as favourites, without any others, in the stable-yard of our father, and when at length the hen died, the cock, seeing her lifeless, but naturally unconscious of its being a final separation, hovered round her, calling to her, and pecking at her gently, as if to awake her. Though corn was offered to him, he refused to eat, or to roost at night, but moped round the yard, vainly searching for his old companion, when, not finding her, he flew away, and was never after heard of.

The breed, though so small, is in great estimation for the superior delicacy of its flesh, which is so high flavoured as to have been dressed and passed off as partridge. The hens also lay a profusion of eggs, of such excellent quality, that, notwithstanding their diminutiveness, their effect in pastry is thought by many

cooks to equal those of the Dorking. The hen is likewise not only a steady sitter when hatching, but so capital a nurse that she commonly brings up a greater proportion of her brood than any other hen whatever; arising, perhaps, not so much from her superior care and tenderness, as from the shortness of her legs, which prevents her from tiring the chicks by leading them over too great an extent of ground. The hens of this breed are, therefore, often put to hatch the eggs of pheasants, and make admirable foster-mothers.

There are many varieties of dwarf-breeds: one of purely white plumage, and so small as to be not larger than a middling-sized pigeon; and another, called the "Turkish-cock," which has been considered as the origin of our Bantam; though on comparing the description given of it two centuries ago by Aldrovandi, the Italian naturalist, who at the same time described the Bantam, it would be seen that the idea is founded upon an erroneous supposition. We, therefore, look upon the Bantam as a distinctive breed of this

country ; but whether correct in the opinion or not, is very immaterial.

It is somewhat amusing to see, among accounts of different breeds of poultry, a distinct description of the BARN-DOOR FOWL, as if it were a peculiar species ; whereas the fact is, that all fowls brought up in a farm-yard where corn is thrashed, or having constant access to it, are called “barn-door fowls,” in consequence of their continually picking up grain and insects, from which their flesh is generally thought to acquire a superior quality. The term, however, might be aptly applied to the well-known DUNG-HILL COCK, which is so familiar to common observation that any description may appear almost superfluous, even if it could be given with any degree of accuracy ; for, such is the variety of their plumage, that with the exception of the pure white and jet-black, scarcely any two are perfectly alike, and although formerly the most ancient of our domesticated breeds, and then forming an exclusive race, they have since been so crossed with other species as to be now considered mongrels. Viewing them, how-

ever, as an acknowledged breed, we shall say, that the hardiest are of a middle size, with short, white, silvery legs, and the cock should be chosen of the darkest mottled plumage, as nearly as possible like that of the game-breed, and without any mixture of white. The feebleness of constitution which the white is supposed to denote in the cock is not, however, a just objection to the hen; for chickens with white feathers are generally considered more delicate in point of flesh than those of darker plumage, and we should not hesitate to breed from a hen of good form, let her colour be what it might; for there are good and bad sitters of all colours, which can be only known by experience.

Whether the breed is pure or mongrel, indeed, matters not, for they are more hardy than other fowls and less dainty in their food, which they industriously search for in the farm-yard, the dung-heap, and the field; they are also more easily supported, thousands of them being fed and fattened in Ireland without any other given food than potatoes. They produce more eggs than most other

breeds, are excellent mothers, and their flesh is as firm and well flavoured as need be; besides which they may be found, at moderate cost, in every village of the kingdom, without seeking for superior breeds in distant markets, at considerable trouble and increased expense; which breeds too, if not highly kept, will assuredly degenerate.

A treatise lately published on the subject in the United States, indeed sensibly recommends, as the better practice, in order to make a poultry yard profitable—"to select no particular breed; to commence with pullets and cocks of the first year of all breeds; and every year exchange a nestful or two of eggs with such of your neighbours as have good fowls: by steadily pursuing which practice, you will yearly infuse new blood into your stock, and avoid the inconvenience of breeding in-and-in." We, therefore, recommend them to the attention of every housewife who looks more to economy in the maintenance and abundance of produce, than to the beauty or the fancied delicacy on the table of her feathered-stock.

## CHAPTER IV.

Fecundity of the hen—Breeding—Second broods—Ovary—Desire of laying—Nests—Eggs—Hatching—Good and bad sitters—Fecundation of the egg—Fœtus of the chick, and its progress to life—Incautious modes of acting.

THE great value of the HEN is her fecundity ; for she lays more eggs than any known bird except the Guinea-fowl ; and eggs forming a main portion of the profit arising from a poultry-yard, it should be stocked with those species which yield not only the greatest number, but also rear their chickens with the greatest care, and produce fowls of the greatest size and delicacy. These advantages are blended in the common dung-hill hen and the Dorking, and either one or the other, if not both, should be chosen ; but if only one is to be selected, and the Dorking can be had without difficulty, it should be preferred ; or, at all events, a cock of that species should be got to improve the common breed. Hens of this latter kind may, it is

true, lay smaller eggs than some of the fancy species, but they give a greater number ; and although their chickens may be smaller, yet if an account be kept of the corn which they and an equal number of any other sort of fowls consume, together with the weight and value of the eggs and chickens, it will probably be found in a twelvemonth's experience, that they are a more profitable stock than those which rank higher in general estimation.

We hope we shall not be accused of too often adverting to "old sayings," if we recall to our readers that "the eye of the master fattens the horse ;" and that in bringing that axiom to the attention of ladies, ere we enter upon the subject of breeding and management, we remind them that servants, however trustworthy, are not always to be depended on for the strict performance of a duty which involves a certain degree of personal interest in the poultry entrusted to their care, and which none but the mistress can feel. We, therefore, earnestly entreat her not only to superintend the concerns of the yard with vigilance, but, in '*giving orders,*' to see

‘*that they are executed.*’ A moment’s inspection will satisfy herself whether cleanliness and ventilation have been properly attended to; but another essential point in which servants are very apt to be negligent, is *regularity in the time of feeding*. All domestic animals expect their food at the hour to which they have been accustomed; they know, as well as the clock, the moment it approaches; if disappointed, they become restless and fretful, and this eventually occasions them to fall off in condition. A main point in both mistress and maid, is also that of *good temper*, without which all will go wrong; for if the fowls be quarrelsome and unruly, it will be useless to beat or scold at them, though with a little kind usage, accompanied by a few grains of corn, they may be coaxed into quietude, and become fond of their attendant.

Hens lay nearly all the year round, except during the moulting season, and in the depth of winter; but their mode of laying is not regular, for they sometimes lay a couple of eggs in three days, though more frequently every second day, and some lay more than

others. No exact calculation can, therefore, be made of the number ; but, generally speaking, at least ten to twelve, or fourteen dozen of eggs a year may be counted upon ; besides, if the hens be very prolific, their each bringing up a brood, and sometimes even two broods of chickens. The time of their beginning to lay depends much on the state of the weather, and seldom commences in this country before the latter end of February, though in the warmer regions of the south of Europe it is earlier, and in the torrid temperature of the East and West Indies there is no distinction of season : nature providently teaching that were hens to hatch chickens in the winter of this northern climate, its cold would cause the brood to perish.

After the hen has layed from a dozen to twenty, or perhaps thirty eggs, good sitters show an inclination to commence hatching, and while sitting on their eggs for that purpose, their laying ceases ; but they recommence during the summer when the chickens have been reared ; and, if allowed, would then hatch another brood. This, however, should never be permitted later than the end

of August, and is even then a hazardous experiment; for the chickens must be reared entirely under shelter, and thus become so tender that there is little chance of its ultimate success. If you do not want them as an early delicacy, you will, therefore, save much plague and loss of chickens by not adopting the plan. It is, however, not uncommonly done by country breeders who want to have pullets ready for the table in the spring, or Christmas, and who bring them up during the winter by the fire-side in their cottages; though we admit that some private families adopt it without taking that trouble, and we have known so many as eleven reared out of fourteen which were hatched on the 3rd day of September.

In allusion to these *second broods*, we must not omit the mention of a fact which has been called to our attention by an article in the Quarterly Journal of Agriculture, regarding their being hatched during the heat of summer; the writer of which states that, "having unaccountably suffered numerous failures, he, after close observation, verified the truth of the old saying,

‘ Between the sickle and the scythe,  
What you rear will seldom thrive.’

He then adds, “ We had noticed that chickens which were hatched in the month of July were almost all attacked, about the time of their first moulting, with a fatal disorder, the symptoms of which were unvarying. They appeared to collapse, and moved about with difficulty, as if their joints were stiffened, or rather as if the skin had become tight and tender; their feathers became rough, and stood out; their wings drooped and dragged on the ground; they refused sustenance; and becoming more and more weak and torpid, they, in a day or two, died off in great numbers. Every rational means was resorted to in order to arrest, or even account for the disorder; until it was at length discovered that they were in a state of high fever, and that the extreme redness of the skin was caused by the irritation of that minute pest the ‘harvest-bug.’ Some, very few, were recovered by anointing them all over with oil and vinegar” (which, it should be known, is the best remedy for the annoyance which country people so frequently ex-

perience from the same cause); “but the recipe is too rough for little delicate creatures, already enduring the pain attendant on the season of moulting. It became obvious, that the period during which harvest-bugs are most numerous and tormenting, must be inimical to the rearing of chickens; and that if the hens were not allowed to sit in June (so as thus to hatch in July), or rather, if the chicks were either strong enough to cope with the evil, or were not hatched until the season for the pest had passed by, that the destruction might be prevented; and so it has proved.” We certainly have experienced the annoyance of this tormenting insect—which is so small as to be scarcely perceptible—in more ways than one, though not to the extent or in the manner herein stated; but the circumstance is entitled to consideration, and if the chicks should be attacked, perhaps the early application of sweet oil alone, without the addition of vinegar, might be found effectual; though, if delicately applied, and there be no laceration of the skin, the vinegar will be found the better portion of the remedy.

The hen has within her body a womb—learnedly termed by anatomists “the ovary,” or *ovarium*, from *ova*, the Latin for an egg—in which, preparatory to her laying, are contained clusters of little pellets of various sizes, from that of a pin’s head to a pea; according, it must be presumed, to the several stages of their growth after being generated. These pellets constitute the germ, or bud, of the future egg, which is gradually formed, and, when nearly old enough to be layed, falls into a kind of pipe, or funnel, called the “Oviduct,” where it is perfected within a few hours, and from which it is finally expelled in its perfect state.

When the impulse of nature urges the hen *to lay*, she evinces her desire by searching into corners, scraping up straws, as if intending to build a nest, and uttering a faint, peculiar kind of cry, or chirp, something like the well-known sound of “clucking,” with which she calls her chickens. When this is observed, a nest of straw should be made in one of the boxes, and a hard-boiled egg (in order to prevent its being broken) should be laid in the nest, as an inducement

to her to make use of it. In order to leave her without interruption, she should also be shut up in the hen-house immediately after her being fed in the morning, and then usually lays her egg in the nest prepared for her. In all probability she suffers little or nothing in the act of laying, for she never utters a complaint; but when it is over she utters screams of joy until let out. Her exultation at the event, indeed, exceeds all bounds; she rushes forth with a clamorous tone of triumph, and is joined by her companions in the yard, all crowing and cackling in a chorus of delight. The egg should then be taken out, and if intended for hatching, should be put aside in a cool place, unexposed to the sun, with the date marked upon it; as eggs more than a month old should never be used for that purpose.

Within about a month's time, after the commencement of laying, "good sitters," as we have already stated, will generally feel an instinctive inclination to commence the tedious *process of hatching*; which lasts, within a few hours more or less, full one-and-twenty days. Her comb and wattles, which

were brilliantly red on her beginning to lay, now become of a pale, sickly colour; she is restless and uneasy, flutters about, and intimates her desire in much the same way as that of the intention to lay. This is in some shown in a more marked manner than in others—by screaming when the cock comes near with an intention to indulge his amorous inclinations. While “bad sitters” sometimes lay scores of eggs without manifesting it, and even when they do, not unfrequently leave the eggs before the object of incubation has been completed: a fault which is more common among pullets and young hens than in those which are older, and is the strongest reason for preferring the latter, as well as retaining them so long as they may be of use; for all matrons will acknowledge, “that young mothers are worse managers than those to whom age has afforded experience.”

When eggs are more in demand than chickens, efforts are, however, sometimes made to check this instinct, and prevent the hen from sitting, by plunging her body frequently into cold water, to allay the feverish heat which her desire to hatch occasions in the

blood, or using other expedients which it is unnecessary to detail, as they are not always efficacious, and some not very humane. The attempt, it may be well supposed, is seldom made; but, when intended, the most effectual is to coop her for a few days in a cool place, with plenty of water and a short allowance of food. In mentioning this, we are, however, far from recommending the practice; for when the hen entertains a desire to sit, or becomes what is called "broody," she is no longer in perfect health, as may be perceived by the flaccidity of her comb; and the eggs afterwards layed by her will not then be so good as the former. Nor, it may be observed, should eggs layed by a hen after she has become broody, be preserved for hatching; for it is not likely that the chickens will be so good as those produced from eggs layed by the hen when she is in full health.

The *propensity to hatch* is best ascertained by placing the hen which has displayed such an apparent wish, upon a few eggs; upon which, if she remains contentedly, a nest should be carefully made in the same box or basket in which she has already layed her eggs, and

placed in the same spot in which it was deposited ; the propriety of attending to which arises from the partiality which she entertains for a nest to which she has been accustomed, and the dislike which she sometimes has to others, without any motive that can be conjectured. Nature, however, teaches her better than we can what is best for her comfort, and when she shows a predilection for anything not decidedly injurious, her taste should always be indulged. The process, although tedious, cannot be otherwise than agreeable to the hen ; for, as Buffon correctly observes, “ Nature ever combines pleasure with whatever relates to the multiplication of the species.”

Most breeders have the nests made in wooden boxes, about twelve to eighteen inches square, and six to eight inches deep, according to the size of the fowl, as being, in their opinion, warmer than baskets : either will, however, answer all the purposes if kept clean, and clear from vermin ; and perhaps a small flat sieve, like that used by gardeners, is as good as any. We have frequently seen these baskets in Germany, thickly lined with

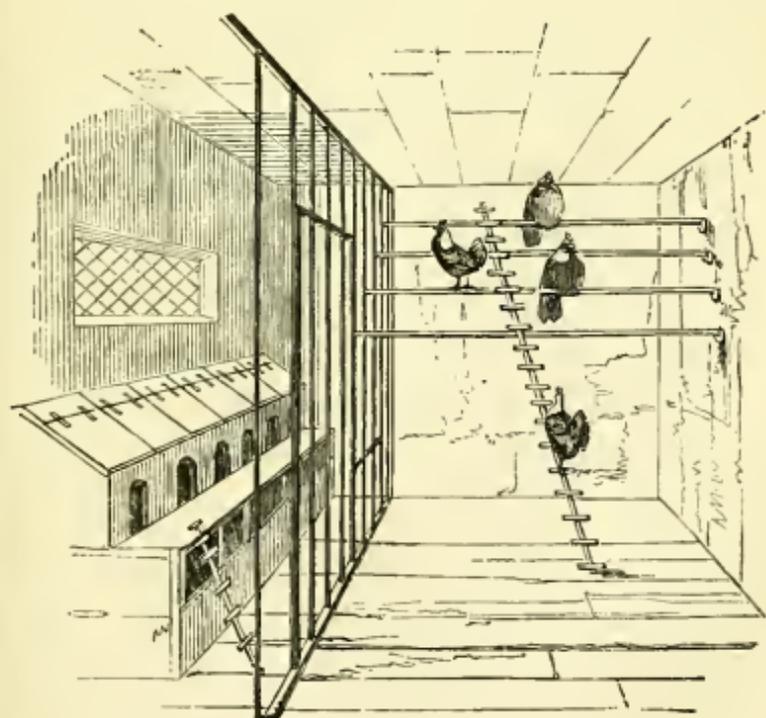
double baize, with rounded bottoms; but, although thus better fitted to the form of the hen, it has the inconvenience of packing the eggs so close together as to impede her in turning them; and though very warm, they are yet, if not closely looked into, very apt to nourish lice, to the great annoyance of the fowl which may be lodged in it.

On this, we confess that we much prefer a round earthen pan, with shelving sides, sufficiently large to make a warm nest of the size of the hen's body, with depth enough to ensure a soft bottom of whatever materials the nest may be made, on which the eggs are to be laid. It may be thought cold: but it is not so; as the heat of the hen's body imparts and retains a warmth sufficient to render her comfortable, and it has the great advantage of being easily kept entirely free from insects. It is, also, not amiss to have one end of the pan, box, or basket, a little scooped out—so as to allow the hen, when she occasionally leaves her nest, to return to it with such ease as not to incur the risk of breaking her eggs by hopping upon them from any height, however small—an accident

which sometimes occurs, notwithstanding her usual carefulness: nor should the nest be attached to any part of the hen-house, as it should be carefully cleaned out and aired after each operation of hatching.

When in a state of nature the hen builds her nest upon the ground, and it might, for many reasons, be better if the same plan could be conveniently continued; but if placed a little above it, she is secured from the larger vermin and the intrusion of other fowls, while space is then left underneath for those which roost upon the earth. It should, therefore, be placed upon a shelf, with a little ladder of inclined steps, to allow of the hen easily ascending to it. Perhaps the best plan is that of placing a row of nests—divided merely by laths from the roosting-house—on a shelf two feet and a half broad, with partitions at a foot and a half distance, and having a separate entrance to each nest, to afford the hens the advantage of that secrecy and quietude of which they are so fond while in the act of hatching; but although the partitions may be fixed, and about fifteen inches square, the nests should be loose. The shelf

should be covered with a top, or roof, of separate sloping lids, to prevent the other fowls from roosting on it; and large enough to admit the nests: the partitions high enough at the sides to avoid all communication with those other hens which may also be hatching. A double row of nests may, if necessary, be formed one over the other, and there will be room enough under the shelf for nests to accommodate those fowls which roost upon the ground; as in the following sketch—



Hay is sometimes used as a stuffing for the

nest, and most persons would imagine it to be better than straw, in consequence of its greater softness, warmth, and fragrance; but, in point of fact, its softness is soon counteracted by the pressure of the hen, the warmth of whose body is sufficient for the purposes of hatching, besides its soon imparting to the hay a mawkish odour which destroys its fragrance, and being also accused of generating lice. We, therefore, recommend straw—as being sufficiently warm, more elastic, and finally freer from any unpleasant smell, or the nuisance already mentioned; and that of wheat or barley as preferable to the oat; but it should be cut rather short, for if left of the natural length, and a stem of it be caught by a claw of the hen, she will unconsciously drag it out of the nest when she on any occasion leaves it, and may thus discompose the arrangement of her eggs, or perhaps break them. Fern, if it can be got, is still better than straw. Some writers recommend feathers to be strewn over the straw; but as they must, in that case, be laid under the eggs, no increase of warmth would be thus created.

With respect to the arrangement of nests, it must however be remarked, that in whatever mode you place them, or whatever care may be taken to prevent hens from interfering with each other, this cannot be always guarded against. It is, indeed, extraordinary, that if a hen slyly builds her nest in a hedge, although it will be known by every fowl which is accustomed to go near the spot, yet not one is ever found to trespass upon it: thus showing that Nature, when left to herself, regulates the actions of animals better than when they are governed by man; and that, when a hen "steals a nest," as it is called, she should not be removed from it.

As the hen cannot distinguish her own eggs from those of others, she will sit upon any that may be offered to her; and it is not unusual to make her sit upon the eggs of different sorts of fowls. In choosing those on which she is intended to sit, care should be taken to use those which have been the most recently layed, and if there be any difference of size, the largest should be chosen; but always as nearly equal as possible. Care should also be taken to ascertain whether

each egg has been duly impregnated by the cock—as otherwise, it would not produce a chicken; and this precaution is more particularly necessary in using eggs which are purchased for the purposes of hatching, as you cannot be certain of the time when they were layed, or of any of the circumstances attending them.

With a little practice, it may be easily known by holding the egg between you and the light, and observing whether the yolk contains in the upper part of its larger end a small, whitish, filmy substance, which forms the germe of the future chick, and without which the egg should be rejected. The yolk also has in the same end a small cavity, not much larger than a pea, immediately under the shell, and filled with air, for the use, no doubt, of the chick when brought to life, as it expands in the process of hatching; and on applying the eye in the same manner to the egg, this “air-bag” will be found a tolerably good test of its freshness: a small circle being considered a proof of its being newly layed, and a large one of its being stale. Another proof of its staleness is the appearance of the yolk

and white ; which if not quite distinctly separate, and clear of any cloudiness in colour, the egg is not fit for use. We have heard it said, “that on putting the tongue to an unboiled egg, its freshness may be ascertained by its internal warmth :” on which we may remark, that such a test will be useless to any other than a very sensitive palate, and that we have tried it upon an egg of only two days old without being able to discern any degree of heat which could lead to such a conclusion. The surest way is, however, to use none but eggs layed by your own hens ; of the freshness of which you can be sure, and of their fecundation there can be little doubt if the hens are coupled with a healthy young cock, which has not been allowed to have too many mates.

It has been long thought—though very little reliance can be placed on its correctness—that eggs of the more rounded form produce *hens*, while those which are long and pointed at the smaller end yield *cocks*. Parmentier, however, considers the appearance of the air-bag as a more certain sign—for if it be exactly in the centre, a cock will be hatched, or, if a little on one side, a hen ; and this being the

opinion of a scientific naturalist, may be supposed founded on experience : but whether accurate or not, is of very little importance, as the greater part of all chickens, whether male or female, are killed before they arrive at maturity, and the cock being polygamous, fewer males are produced than females.

When the eggs have been duly chosen, *the number to be placed under the hen* should be regulated, both according to the size of the eggs and that of the hen, in regard to her breadth of body and wings ; so as to be sure of her being large enough to closely cover them, and to afford sufficient warmth and shelter to her chicks when hatched. Indeed, if more than the proper number be used, the hen will probably try to throw an egg or two out of the nest, and if not successful, will not sit easily.

A good sized hen, two years of age, will generally cover from thirteen to fifteen eggs, and pullets of the same breed—as not having come to their full growth—from nine to eleven. Not according to the common notion of there being “luck under an odd number,” but from the observation that a hen, if

left to herself in the arrangement of her nest, seldom makes use of even numbers ; always placing one egg in the centre and the rest in a compact circle around it. There can be little doubt that the eggs will be hatched, perhaps equally well, if equal numbers be put under the hen, but it offers no advantage, and whatever may be the number employed, they should be deposited in the same manner as in the nest. Care should also be taken not to employ too many ; for if the eggs be not completely covered, some will be imperfectly hatched, and thus not produce chickens.

The more prudent way is, therefore, to use a couple less than you think the hen capable of covering : then place her gently upon the nest, and leave her to repose without further interference ; for, if left to herself, she will sit patiently, during the whole period of incubation, only occasionally going into the yard for a few moments to feed. Some hens will, indeed, sit for days together without removing from their nest ; in which case most persons deem it necessary to put corn and water by the hen's side, and allow her to feed while sitting. It is, however, much better to lift her if necessary, once

a-day from the nest, and feed her in the yard, after the other fowls have been fed, as the air will purify both her and the nest, not only without causing any danger to the hatching of the eggs, but in reality benefiting the operation.

An absurd recommendation has been put forward in some essays on the subject of hatching, stating—"that it is advantageous to put several hens to hatch at the same time, so that if any accident happen to a sitter, it may be remedied by giving up to another those eggs which are then being hatched:" though, as it is always the custom to put as many eggs under each hen as she can cover, it must be evident that she could not hatch any additional number; and, even should she make the attempt, it would probably occasion every egg in both batches to be addled.\*

The hen frequently changes the position of the eggs, in order to expose different sides to the heat of her body; and inexperienced people—who often imagine themselves better qua-

\* The term "addled" is applied to eggs upon which the hen having sat without completing the object of hatching, only some portion of the chick has been formed.

lified than Nature to direct the creature's operations—officially adopt the advice of old Leonard Mascall, who says, “if the henne be negligente to turne her egges, and doe not sitte close or warme on them, it were goode sometymes, when she is gone abroade, gentlie to turne them :” but she will herself turn them when instinct tells her it is time to do so. The least reflection will, indeed, show the folly of interfering with her ; for all wild birds hatch their young without any other care than their own, and the domestic hen, though bred in the poultry-yard, will, if not prevented, stray away to some bush where she builds her nest and hatches her brood, which she brings back generally in better health than if attended by a keeper. A striking instance of which is mentioned, in an essay which we have quoted, as having occurred to the author—“a white hen, belonging to whom, having stolen a nest, laid sixteen eggs, and brought forth the whole number of chickens, every one of which she reared.” Do not, therefore, meddle with her, nor allow any one to disturb her : but, while she is feeding, a look may be taken into her nest, just to see that all her eggs are un-

broken ; for casualties of that kind will sometimes happen, and, in such case, the broken egg should be removed, along with any part of the straw which may have been soiled. The feathers of the hen should also be examined, and sponged if necessary.

Such is the most prudent mode of proceeding with regard to *good sitters* ; but there are many hens, or rather pullets, of such capricious disposition, that after having manifested every indication of a wish to hatch, and after having sat steadily for some days, yet all at once desert their nest without any apparent motive, and leave their eggs to become addled, and unfit for use. Efforts should then be immediately made to coax her back to her duty, by replacing her upon her nest and feeding her while there with some nice food. One method which is stated to have been pursued by a very experienced breeder in order to effect this purpose, was—“ to give the hen about half a wine-glass of good common gin, after which swing her round and round until she becomes dizzy, when she will appear sleepy, or as if almost dead ; then having an iron pot ready, that has been set on

the fire with some straw in it, until rather hot, put the eggs upon the straw, and cover the pot, but so as to leave a space for air, though so very small that the least light possible may be permitted to enter; and in a day or two the hen and the nest may be moved to any convenient place, as she will then sit as closely as if nature had directed her.”\* This has been called “a barbarous practice;” but there is, in fact, nothing really cruel in it, though ale, we imagine, would make her sufficiently drowsy, without swinging, and she might then be replaced in her nest without being put into the pot. Either that, or something like the means used by Madame Portebois—as stated at the close of our account of artificial hatching—should be adopted; for no time is to be lost, and it will seldom happen that you will find another hen ready to sit and complete the operation. If, therefore, you should not be successful in prevailing upon her, you must lose the eggs; but even if by these means you get them hatched, you should not trust her to bring up another brood.

The *fecundation of the egg*—or the prin-

\* ‘Parkinson’s Treatise on Live Stock,’ vol. ii. p. 353.

ciple of life imparted to it by the act of the male—lies dormant until roused into action by the hatching of the hen; the gradual progress of which terminates in the development of the chicken, and may be thus succinctly stated from Haller, who has given a very particular account of the different changes in the embryo during every twelve hours.

The formation of the *fœtus* of the chick commences in the albumen, or white portion of the substance of the egg, not many hours after the hen has begun to sit: the yolk being that of its nutriment, and enveloped in a separate membrane, distinct from the future chick which it is to nourish. On the second day, traces are perceptible of the head and spine; the day following, a faint pulsation may be observed in the situation of the heart, which, towards the end of the fourth day, is more completely, though not yet perfectly formed; and, in the course of the sixth, it is so far developed as to contain blood and partial motion. From this time forward, the different parts of the body are successively brought, day by day, into those forms which are to be severally characterized in their organization,

and are to constitute the future chick ; until, at the close of the eighteenth, its first cry may generally be heard. Up to this time, the yolk, —which, as we have already stated, is enclosed within a separate pellicle—appears an inert substance in the formation of the animal ; but now it becomes the prominent means of nourishment, by its whole contents passing gradually into the abdomen through the umbilical chord, or navel, with which it has communication ; and thus it increases the body so much in size as to require more room for its existence. Until this moment the little creature lies dormant ; but it then awakes from its torpor, and feeling sufficient vital energy to emerge from confinement, it taps for hours with its beak against the shell of the egg, which it at length breaks and rises into life and liberty a full-formed, feathered chicken.

Dr. Truman indeed states—in his late instructive treatise on food, and its influence on health and disease—that “ the development of the yolk and white presents some of the most remarkable phenomena manifested by the animal creation. Though both semi-fluid substances, apparently very simple in their

nature, they are gradually metamorphosed into a living being provided with blood-vessels, nerves, muscles, tendons, cartilages, ligaments, membranes, and bones. The yellow yolk, and the transparent colourless albumen, are changed into blood and muscles, which are red ; into the liver, which is brown ; into gall, which is green ; into white and opaque nervous matter ; into the horny beak and claws ; into feathers, offering every variety of hue ; and into the hard and solid bones."

Both mistress and maid, no doubt, count the days to the arrival of the twenty-first, and then look anxiously for the appearance of the chicks, which will be chirping and hammering at the shell with their beaks, the hen all the while intently watching for their deliverance, in which she assists the little prisoners so far as in her power, and throws away the shells when they are liberated. The chicken has on the upper part of its bill a horny appendage, placed there by nature with the evident intent of enabling it to perforate the shell and effect its emancipation, for it falls off within a day or two after the bird is hatched. Some chickens perform the opera-

tion with apparent ease, bursting from their confinement within a few hours ; while others, either from the greater hardness of some shells, or from their own comparative weakness, will unceasingly continue working during a day and night without being able to effect their object. When this happens, inexperienced persons think it necessary to break the shell, in order to assist the chick in coming out ; but if it be unable to extricate itself, it will be found so puny as to be seldom worth preserving : and—as another reason for not hastening its birth—if removed from the shell before the whole of the yolk is absorbed into the abdomen, the chick will assuredly die.

It may perhaps occasion surprise that the hen does not herself break the shell : but nature providently leaves her either unaware of her power to do so, or makes her instinctively cautious of using it ; lest the chick should thus be immaturely brought to life before the whole of the yolk has been consumed. If, however, means are tried, they should be done by very gently cracking the shell with a slight stroke of any hard substance, for the least violence will kill the little thing in its then

weakly state, and the attempt should not be made until the chick's trials have been continued for at least four and twenty hours. Should it happen, as it frequently does, that the feathers of the bird—which are as soft as down when partly hatched—adhere to the shell through the viscidty of the albumen which sticks them to it, the shell must then be removed by gently wetting the membrane with the feathered end of a quill dipped in warm water, to disengage it from the feathers; but the greatest caution and the most tender care are required in the operation, which none but the delicacy of a female hand can properly perform.

The eggs are sometimes dipped in warm water towards the time when the chicks may be expected to come forth; in the idea that the shells will thus be rendered either softer or more brittle, and that thus the hatching will be rendered easier. It is, however, a very foolish and objectionable practice, both as interfering improperly with the hen, and in not having the intended effect on the shell; and, therefore, can do no good, while it may, for many reasons, do much harm. It also fre

requently happens that some of the eggs are to all appearance bad—to be certain of which they are placed in warm water, in the presumption that, if good, the chick will then probably begin to peck; and as instances occasionally occur of their coming to life and thriving, this is often done: but more generally those eggs are addled, and only fit to be thrown away. In like manner, it has been asserted that the eggs should be immersed an hour or two in *cold water*—in order to bring their hatching to an equal period; but it is an ignorant prejudice.

A practice also prevails among some breeders of putting those eggs which are intended for hatching, into a tub of water, in order to see whether they sink or swim, and rejecting those which remain on the surface. But this, however specious, may lead one into error, for those which are so light as to swim on the water may yet have been duly impregnated; whereas those which sink may not have had any communication with a cock, and therefore will not produce a chicken: but the heaviest are the best.

## CHAPTER V.

Management of Chickens—Cribs—Food and water—Crop and Gizzard—Separation of the Hen and Chickens—Roosting—Cost and Value of Chicks and Fowls.

MOST writers on the MANAGEMENT OF CHICKENS recommend the taking of the chicks from the hen immediately after they come to life, and placing them, one by one, in a basket filled with wool, covered over with flannel, and put near the fire, until the whole brood is hatched: than which nothing can be more injudicious; for no care is equal to that of the mother. The instinct with which she is intuitively inspired, animates her with a desire to perform her maternal duties; she shrouds them under the downy plumage of her wings, which she folds around them; dries their clammy feathers in the warmth of her bosom; and, if left to herself, they will become strong and healthy. The less handling, therefore, the better: “leave well alone;” and, above all, do not allow young children to stroke and fondle them.

The chicken requires no food during the day on which it has been hatched; for it is supposed that the yolk which it has taken into its body will sufficiently sustain it until the next day. It is therefore unnecessary to place anything before them; though many people force crumbs of bread and peppercorns down their little throats: not that an occasional peppercorn, particularly in cold weather, if given at a proper time, can do harm; but, at that moment, it only occasions pain, and should be deferred to the next day. The morning after, however, a few split groats with the yolk of a hard-boiled egg, cut very small, may be offered to them; and if they show strength and animation enough, they may then be taken from the nest, and placed along with the hen, either in a wicker basket about three feet square and two high—as at No. 1,—having openings between the rods large enough to allow of the chicks passing through them, with a door to admit the hen, and having a loose cover over it impervious to the rain; or in a wooden crib covered and closed at both sides, but lathed at the ends, in the manner of No. 2.

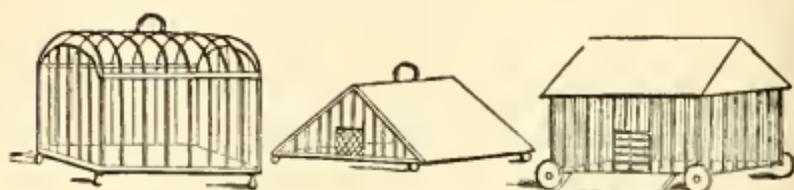
No. 3 represents a coop, roofed with wood

and moveable upon wheels, for the larger sort of poultry, with a flap on one side, for the passing to and fro of the chicks: all slightly floored with board, on which clean straw should be strewn to render them warm.

No. 1.

No. 2.

No. 3.



The basket is the lightest, and the crib the warmest; but whichever may be used should be laid upon the floor of the hen-house, and covered up with the hen and chickens in it before the entrance of the other fowls, nor be uncovered until after their egress: in order to prevent those accidents which they might occasion to the young brood. This precaution is, however, unnecessary, if there be any separate hatching-house or spare shed, as both hen and chicks may there remain uncontrolled, and it is very desirable to allow them that advantage, without restraint. Or, if the weather be cold, and you have a melon-frame not in immediate use, no better plan can be than that of placing the hen and

her brood in it for a few days. The warmth of the bed underneath, and of the glass over head, is just what they want ; a sack over the cover will shade it, if necessary, from the sun if too hot in the day, and from dew at night ; and air can be either admitted or shut out as occasion may require, without allowing the chick to go out, as the frame is always large enough for them to range in while so young.

They may be thus left in the house for a couple of days, and fed at least three times a day, with the same food, to which curds may be added ; but on the morrow, if the weather be warm and dry, the basket should be carried with the hen and chickens after feeding, and after the dew is off in the morning, to some sunny spot in the garden, and there left for a few hours : the cover being so far taken off as to allow the free passage of the chicks, which should not yet be permitted to mix with the poultry, and the hen being confined in the basket, to prevent her from tiring her brood by walking them over the ground. The spot most usually chosen is the lawn, on which the little group form an interesting spectacle before the windows of the breakfast-room ; but

it should not be placed there, unless the grass has been closely mown and is perfectly dry, for damp is more injurious to such tender little beings than cold, and it is better to leave them in some dry part of the kitchen-garden, in which they can do no essential mischief, and where they will pick up insects, which are highly nutritive, and of which they are very fond. They will not stray far from the hen, which will call them to the shelter of her wing in the case of a sudden shower, or on the appearance of a hawk; but an eye should be kept upon the cat, for puss, though not remarkably delicate in her appetite, has a great relish for chicken, and, if not watched, will often pounce stealthily on a brood and carry one of them off.

While in the garden, a handful of barley should be given to the hen, the greater part of which she will break for the chickens, and long before the sun has gone down, the basket and its contents should be returned to the house; soon after which, towards the close of evening, food should be again given and the brood left to repose.

This plan may be pursued for a few days,

according to circumstances as to the state of the brood and weather. Indeed the hen is not unfrequently kept thus confined for a fortnight or more ; but when the chickens become strong enough to move about, she ought to be allowed the liberty of the garden, in which she will industriously scratch up weeds and worms for her chicks, and do more good than harm to its cultivation: or, if thought hurtful by the gardener, she should have the range of a field, until they have acquired strength enough to be taken into the common poultry-yard, where they are fed along with the other fowls. While thus rearing them, it should however be observed, that pure water should always be left with them, and frequently changed, for if left until it becomes foul it will be likely to occasion disease ; but it should be given in a way to prevent them from dabbling their feathers.

*In point of feeding*, curds—which may be made by putting a bit of alum in a little boiling milk—chopped small, are an excellent addition to their food, but the milk should be thoroughly squeezed out, or it may make them scour ; in which case some

toasted bread sopped in ale, or broth, is a good remedy. Barley-meal mixed up with a little milk should be frequently given; but all watery food—even meal, if mixed up with much milk, like gruel—should be avoided; for, if continued, it will subject them to the scour. At six weeks old they may be fed on whole corn, to which boiled potatoes of a floury kind, *given hot*, may be added, along with any scraps from the table, in the same manner as to store-fowls: but, if intended to be fattened immediately, they cannot be too highly kept, and should get nothing but barley-meal and corn, together with a little meat, either raw or dressed, and shred very fine; for it may be observed that animal food is congenial to young chickens, not only on account of its great nutriment, but as requiring little effort of the powers of digestion; and it is inconceivable with what relish they will eat it, either alone or mixed up with meal. On the subject of *fattening* we, however, beg leave to refer our readers to Chapter VII.

The coarse sand which they pick up in the garden will be sufficient to aid their diges-

tion ; but when a little older, and that an egg is boiled for them, the shell should be pounded and left for their use. The stomach of a newly-hatched chicken is so inconceivably small as scarcely to contain more food than the size of a pea ; it however, of course, gradually grows larger, according to the growth of the bird, and increases so rapidly that in a couple of months their crop will hold nearly as much as that of a common-sized pullet, and the power of the stomach is so effectually aided by their gizzard that it will digest the hardest species of corn.

The *crop* is a species of bag into which the food descends after being swallowed, and is capable of very considerable distension. From thence the food passes through the *gizzard*, which grinds it with such force as to reduce the hardest substance to the consistence of powder before its being received into the stomach ; acting, in fact, in much the same manner as teeth in mastication. Such, indeed, is the providence of nature in furnishing every creature with those organs best suited to their habits and means of life, that while granivorous fowls are thus enabled to reduce corn to a

state of pulp, carnivorous birds, whose food is more digestible, are not supplied with that intestine.

There is no general rule for the period of separation between the hen and her chickens, though it usually takes place when the latter are six to eight weeks old. She does not, however, desert them until they are well feathered and strong enough to take care of themselves; but when that time arrives, her solicitude for them ceases, and she feels again inclined to lay. She therefore then begins to roost and leave them; but they commonly follow her example; their connexion is forgotten; and they know each other no longer.

When they want to go to roost, let the perches be covered with coarse woollen cloth, to give them a firm hold; but round, and not more thick than they can gripe with ease, to prevent their either becoming "crooked breasted" or "duck-footed:" the former of which is occasioned by permitting them to roost, while growing, upon anything sharp, and the latter, by letting them roost, when young, upon anything flat. The uppermost perch should, also, not be placed higher than, at the most,

three feet from the ground until the chickens are full three months old ; and, if possible, the chickens should either be separated from the hens, or the perches of the latter should be lowered ; for the hens will roost upon the highest perches, and, as the chickens will endeavour to follow them, their wings or claws may be broken in the attempt.

We are quite aware that in moderate establishments where only a few fowls are kept, there is seldom more than a small court-yard, with, perhaps, only a little shed for a hen-house, without any separate convenience for hatching, which is often carried on in, or under, the manger of a spare stall in the stable ; that, also, being the sole accommodation for the whole of the poultry. We also constantly see broods of cottage fowls by the road side, and we know that they are generally strong and healthy. It may, therefore, be thought that much of the care here recommended is superfluous ; but, although it may be in some degree dispensed with, it is yet the most effectual mode with which we are acquainted to bring up a brood without loss. No one, however, who has not the means of carrying it completely

into effect, should be deterred from keeping as many fowls as can be conveniently managed in a more ordinary way; for, if only common care be shown them, they will be sure to repay the trouble.

Having stated thus much on the breeding and management of chickens, we must further trespass upon the indulgence of our fair readers to the following judicious remarks on feeding, made by an experienced country gentleman, on their value in point of economy, and inserted in Middleton's View of the Agriculture of Middlesex:—

“ A chicken, while its weight varies from half a pound to three pounds, does not require, on the highest estimate, more than one ounce, or, in the latter period of its growth, one ounce and a quarter of daily food; for it will be found that the food every day requisite for the sustenance of such an animal cannot exceed one thirty-sixth part of its own weight. Meal of oats or barley diluted with water, dough of any of the common sorts of meal or flour, pottage of oatmeal, potatoes boiled and bruised, the pith of the boiled cabbage-stem, &c., with a sufficient quantity of water,

of which they may occasionally drink, affords the best food that can be desired for your infant brood of chickens.

“As they grow older, they may be occasionally fed with boiled grains of barley or shelled oats. Within seventy days a chicken will be in a fit condition to be carried to market. During five weeks of this time, it will be able to pick up part of its own food, without trouble or cost to you. I have in fact found that three pounds of meal, flour, or grain, of such a sort as does not cost more than a penny a pound—or to the farmer or cottager each not so much—with water, and with what other fare the little creature can find for itself, will feed and fatten a chicken sufficiently, from the time of its bursting the shell till that of its being at a growth and in a condition suitable for its being carried to market. Another penny is a sufficient allowance for the attention and labour its rearing requires. The prime cost of the egg might be one halfpenny. Thus, even in the vicinity of any great town, a chicken which shall bring 9*d.* or rather 1*s.* in the market, and is, in comparison with other things, worth as much for the use of

your own table, whether you be a rich or a poor man, may be produced and reared at the expense of *fourpence halfpenny!*”

Although we do not wholly agree in many of his observations on management, yet, as they may, by some people, be thought important, we here also insert them:—

“Care should be taken that young chickens may not swallow snails or slugs, as this food has a tendency to make them sickly. While you rear your chickens for the market, do not confine them in coops if you can possibly manage them otherwise. Any animal whose flesh we are to use for food should be in perfect health when it is killed, if we wish that food to be, in its kind, assuredly wholesome; but all animals fattened for killing, in a state of confinement and rest, are actually at least in incipient disease at the time when they are killed as sufficiently fat; and, if such, the flesh can never possess the fine flavour of the carcass of an animal killed in perfect health, nor prove such salutary food. If circumstances shall, however, oblige you to fatten your chickens in coops, be sure to put a little brickdust into the water you set before

them, for this is necessary to assist their digestion. While they run about they can pick up what will serve the same end for themselves. I am inclined to think that a little salt given with their food, or occasionally with their water, would both assist their digestion and make them fatten more quickly.

“I have hitherto spoken only of chickens ; but older fowls are not less profitable. Any hen, even though fed with food for which money proportionate to its first market value must be actually paid, will by her eggs pay annually at least three times the cost of her subsistence. The very dung of these creatures is sufficient almost to pay for their whole food. In your garden you will find it the richest and most exciting of manures for your beds of leeks, onions, &c. About every house in the country there is a certain proportion of farinaceous food which goes daily to waste if there be not domestic fowls to feed upon it ; and would every family throughout these kingdoms keep constantly just as many fowls as it might thus feed without expense, we should never want abundance of poultry at reasonable cheapness.”

## CHAPTER VI.

Feeding of Poultry—Store Fowls—Modes of Feeding—Potatoes—Kitchen Offals—Insects—Verminières—Experiments—Grain, Quantities and Species of—Buckwheat—Indian Corn—Barley and Oats—Boiled Corn—Rice.

THE best general rule for the feeding of all kinds of POULTRY, and indeed of every animal which is intended to be kept in good condition, is to give them plenty of the food suitable to their habits ; for if that be not done, they will, instead of improving, probably fall off in their condition, and it will in the end be found “false economy.”

In their wild state fowls live upon berries, upon the seeds and leaves of plants, and upon insects of various kinds ; but, as these cannot be easily obtained in populous places, we mostly feed them, when domesticated, upon the different sorts of grain usually found in our markets, and there can be no doubt that if fed only upon one species of corn, they would still thrive ; for many people who only keep a few fowls in a stable-yard, never give

them anything but oats, and yet have eggs regularly on their table. The sort of food should, however, be occasionally changed, as they are fond of variety; and there are many different modes of feeding which may be advantageously employed in conjunction with corn, both as regards the fattening quality of the food and its economy.

The feeding of *store fowls*—that is to say, of those kept for the sole purpose of producing eggs and chicks, without then meaning to fatten them—should be twice in the day: as early as convenient in the morning, and at night about an hour or two before sunset; but both should be, as nearly as the seasons will permit, at the same hour, or the fowls will become restless and indisposed to lay. The place of feeding should also be always the same, and sheltered as far as possible from wind and rain, instead of being—as usually done during both summer and winter—in the middle of the open court-yard: although there can be no objection to occasionally scattering there a handful of either corn or anything else that may be given them, provided that both the ground and the weather be dry;

for we repeat, that nothing is more prejudicial to the health of fowls than damp of any kind, and they will suffer extreme cold far better than wet.

Some persons are equally anxious to guard them against the glare of mid-day sun, and this, we admit, may in a few cases be injurious to *very young chickens*; yet, so far as regards *grown fowls*, we venture to assert, that although they may seek the shade for repose when not in search of food, its rays are anything but prejudicial, for the fowl is indigenous to a warm climate: they thrive throughout the south of Europe, and they swarm upon every estate in the West Indies, though unsheltered from the heat of the weather.

If they have the range of a field or two, or of a farm-yard, they may forage for themselves during the day; but, if deprived of these means, some food should be given to them about noon, for their craw will then be empty, and should be replenished. If this be neglected, and that an ample sufficiency of food be not regularly given, they will be found to fall off in condition, if not in health, and

neither lay so many eggs, nor will those eggs be either of the same weight or richness as if they had had an abundance.

We have already seen the extensive use of boiled potatoes as the sole food for the feeding of poultry in Ireland. They are, indeed, largely used in many parts of this country; and we learn that Mr. Wakefield, of Liverpool—who is a great feeder—has actually *fattened* many hundreds in coops on steamed potatoes given three or four times a day. The potatoes are always given warm—that being considered indispensable to success—and we know that in Ireland they are always given in that state by the cottagers. They doubtless form a cheap and substantial food for *store fowls*; but those thus *fatted*—if, indeed, the term can be in that case applied—would certainly be neither equal in flavour to those fed on corn, nor would they fatten so fast: indeed, we know from many persons that those which are generally brought to table in Dublin, although delicately white and tender, are yet very deficient in the flavour and firmness of the flesh; tasting, in fact, more like spring chicken than that of a well-fed fowl.

Fowls like diversity of food, and every sort of meat or vegetable that may be cast from the kitchen, and which would otherwise be thrown away as refuse, will afford some portion of nutriment. If trouble be thought of, they may be given raw ; and, indeed, old radishes, lettuce, and onions chopped small, are best in that state ; but the better mode for other roots, is to chop and warm them up in the washings of the dishes and pot-liquor, or in a little of what the cooks call “kitchen-stuff,” together with waste pieces of bread, or any offal of the table. The pot-liquor arising from *salted* meat or fish should not, however, be given, and there is much doubt whether *pure salt*, in its natural state, is not objectionable. If to this be added some scraps of meat, or a portion of liver, or sheep’s-pluck, either boiled or raw, and minced very small, it will greatly improve the mess, which will be greedily devoured by the fowls, and nothing can be more nutritious, or more economical as a substitute for corn ; when convenient, it should, however, always be given warm. Baker’s raspings, and broken ship-biscuit—if full of weevil all the better—are also excellent, and

so is coarsely pounded oil-cake ; but, if the fowls are meant to be kept in good condition, some hard grain should be given night and morning, and if not thrown in the yard, some pounded brick and mortar, or lime-stone gravel, should be mixed with it.

Some ladies will, no doubt, be shocked at the bare idea of using the washings of plates and dishes, and the offals of the kitchen, for the purpose of feeding fowls which are afterwards to be brought to their own table ; but a thrifty housewife, who lets nothing be wasted, and who knows that “ what won't poison will fatten,” will only smile at such delicacy.

In stating that “ if fowls had the range of a field or a farm-yard, they might forage for themselves,” we should have added, that, besides the grass which they eat, there is nothing of which they are more fond than worms of every description ; and, as nature does nothing in vain, we may be assured that in teaching them a partiality for this species of food, the use of it will be beneficial to their nourishment. You may see them dart with the eye of a hawk upon any winged insect that comes within their reach, or if you watch

them in a paddock you will there find them searching eagerly for the larvæ of insects imperceptible to our view, and if an earth-worm rises to the surface they seize upon it with avidity, fighting with each other for the prey. The quantities of earth-worms alone which are found in our meadows after a shower of rain would, perhaps, appear incredible, if stated according to the calculation of some naturalists ; but, if we consider the vast number of birds which live upon these and other insects, we must be convinced that they swarm in multitudes beyond conception ; and if nature provides such food for the wild tribes of the air, there surely can be no reason why they should not be shared by our domestic poultry. M. Réaumur, indeed, tried the effect of giving earth-worms, without any other kind of food, to a cooped hen during fifteen days, and found that, although she at first ate them rather sparingly, she gradually increased her consumption so much that she grew fat, and was all the time in perfect health. The success of this and similar experiments led to long published details of the means and profit to be derived from collecting

these worms by lamp-light, and storing them up for future use ; but we have never heard of this silly project having been carried into effect, and we think it best to let the hen search for the worms herself.

The dunghill, however, furnishes a more plentiful and a richer repast ; for myriads of worms of all kinds are there generated, and it is well known that maggots found in putrid flesh are more fattening to poultry than any other sort of food : the fowls even preferring them to grain. Hogsheads full of them are constantly sent from the large *Abattoir*, or knackery for the slaughter of horses, at Paris, to the different poultry-dealers in the suburbs, who use them largely in the fattening of their fowls, the flesh of which is remarkable for its delicacy. Indeed, if any one in the summer hangs a piece of raw flesh, or entrails of any kind, upon the branch of a tree standing in the poultry-yard, it is amusing to see how continually the chickens will be on the watch to catch any maggot that may fall. Nor is there anything in this mode of using them that should disgust persons of the most fastidious nicety ; for, although generated from

putrid matter, they are utterly tasteless, and devoid of any scent whatever. We have, indeed, heard that the Chinese—who are known to be great epicures—bring them to market for sale, and sell them at a high price ; not for the feeding of fowls, but for the making of ragoûts !

Where there is no stable, and consequently where a dunghill cannot be had, it has been suggested by Olivier de Serres—the most ancient writer on French husbandry—to form pits, or “*verminières*,” in a corner of the poultry-yard, into which layers of light earth and a cart-load of fresh horse-litter are to be placed, together with the intestines of any animal, and this, if well covered with the warm litter, will, in the course of a few days, furnish a large supply ; or, if that be inconvenient, it may be done in any old tub : and, treating this subject solely with a view to the nutrition of the fowls, without regard to squeamish prejudice, we would advise its adoption.

It is thus evident that in pursuing any of the foregoing modes of feeding, a great saving will be made of corn ; and although this may

not appear deserving of consideration where only a few fowls are kept, yet if numbers sufficient for the abundant supply of a numerous family are to be maintained, it will cost no trifle. The following statement will show pretty nearly the average *quantity* of any grain that a common fowl will require during twelve months, if *fed solely on corn*: the *price* will of course vary according to quality, and the difference of time and place, but any one who is capable of counting up a few shillings can be at no loss in ascertaining the exact amount.

Like all other animals, some, even of the same breed, will eat more than others without gaining any greater proportion of flesh. The larger the fowl, also the more food will it consume; but not in exact proportion to its size. An old hen will unquestionably eat something more than a young pullet; and it has been said, "that a Malay will consume from one-fourth to one-third more than a Dorking or a dunghill cock, and double as much as a bantam;" but we may justly doubt the correctness of a supposition unaccompanied, as in that assertion, by experimental proof; and

we know that a bantam and a game cock will each eat the same quantity of corn; indeed, Mr. Parkinson states that he put a large white Poland cock to some bantam hens, in lieu of a bantam cock which he removed; and that "although the Polish cock at first consumed a little more barley, he soon ate only the very same quantity as the bantam."\* It should, however, be borne in mind,—that *the better the hens are fed, the larger and the finer will be their eggs.*

Moubray says, that, in an experiment made by himself in July, 1806, "a measured peck of good barley kept a stock consisting of a cock and three hens," (which it may be presumed were the common breed,) "together with fifteen full-grown chickens, in a high style of condition during eight clear days, and one feed over; though having no other provision." According to another trial in the winter season, he also states, "that a cock and two hens kept by themselves during seven clear days consumed a quarter of a peck of the best barley, having no other food, and having

\* On Live Stock, vol. ii. p. 352.

as much as they chose to eat; but the same being tried at their liberty, and pecking about, with cabbage-leaves occasionally thrown to them, did not eat so much barley in the week, although allowed all they desired."

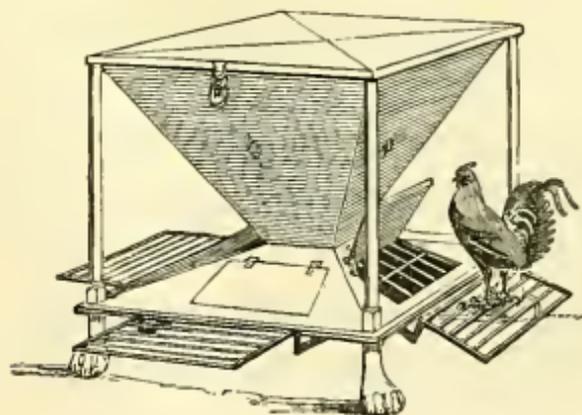
Now, in this there would seem to be some discrepancy; for, supposing the fifteen chickens, which were two, three, and four months old, to be equal to the consumption of ten hens, these, together with the cock and three other hens, may be considered as amounting to fourteen fowls, and, though "kept in high condition," only ate a quart of corn per day; while the cock and two hens appear to have eaten two quarts in a week: or at the proportionate rate of four to three more than the larger stock.

A farmer in North America states, that he has confined in a room and separately fed sixty fowls of eight to nine months old, during the winter, solely on corn, without allowing them to go out to seek any other kind of food, and that the daily consumption was six quarts of grain—Indian corn, oats, and buckwheat; which, calculating the average price

at 4s. per bushel, which is higher than they usually cost in the London market, would be nine-pence per day. They will in this manner, however, be in the highest condition; the cocks growing fat, and the hens laying eggs enough to pay for the corn in the winter, and “re-paying it four-fold in the spring.” The mode in which the fowls were provided, was by putting the grain in separate compartments, holding about half a bushel each, which were kept always supplied. And the farmer adds this important remark—“that if allowed to help themselves to what they want, they eat less than if fed in the usual way; for, in the latter case, each tries to get as much as it can, and thus burdens itself; but finding, in the former case, that they have abundance, they eat less, and that generally in the morning early, and in the evening on going to roost. Of the three kinds of grain, they took in the proportion of twice as much Indian corn as buckwheat or oats.”

There is much truth in this remark, so far as regards fowls in a high state of feeding for being fattened on corn; but it evidently would not do for those stores which are to

take the run of the kitchen, as we rather imagine they would more frequently apply to those stores of grain than to the scraps which we have recommended. There is also another objection, arising from the difficulty of avoiding waste if they are allowed to take the seeds from open boxes: to prevent which, an ingenious machine, as a feeding hopper, has been invented—the description of which we copy from the ‘Prize Essays’ of the Highland Society—that, when once filled, requires no more trouble, as the grain falls down into the receiver below, as the fowls pick it away. It is, indeed, astonishing with what facility they learn to leap upon the perch, and open the cover of the receiver which contains the grain, and which is raised by a spring acted upon by the weight of the lead.



It must, however, be too expensive for any but amateurs, and we recommend, in preference, a long trough with wires across, just wide enough apart to admit the head of a fowl, and containing a drawer for the reception of the corn, in precisely the same manner as a common bird-cage.

The French authors have written more largely, and more scientifically, than any others upon poultry; and no one more practically than M. de Réaumur, who, having usually kept a regular stock of 300 head of all sorts for the supply of his table, had the means of making constant experiments, which he continued for several years, and communicated the details to the public with great accuracy. They have, indeed, been translated into English, and so copied and re-copied by all our writers on the subject, as to be more or less known to every one who has read anything about it: we shall, therefore, content ourselves with making only a few extracts from the information which they contain.

In order to ascertain the average consumption of the common species of fowls, M. Réau-

mur placed several in single coops ; others together ; and some in the yard ; the corn being, in each case, secured in boxes, which, while allowing them to peck as much as they wanted, yet prevented the loss of a grain : so that no doubt could be entertained of the exact amount of nourishment required, when fed solely upon corn without any other kind of food. Different sorts of corn were also distributed in separate compartments, and it is somewhat singular that the quantities consumed of each were nearly the same, though it is evident that they must have been of different weight and quality, and there can be no doubt that, if the fowls were put up to be fattened, the object would be the soonest attained by using that corn which contained the greatest portion of nutritive substance.

The fowls seemed at first to relish wheat the most, as they fell upon it with greater voracity than upon other corn, and one might therefore imagine that they would consume a greater quantity ; but they did not, in fact, at last eat more than about three-fourths of the same amount of barley or oats. The

weight, however, is different; the average of that of wheat being about 60lbs., of barley 50lbs., and of feed-oats 40lbs. per bushel. Of rye—although only somewhat lighter than wheat—but half the quantity was eaten; and of both buckwheat and Indian corn, about four-fifths of wheat.

In following up those experiments upon cocks and hens of a large size, and reducing the calculations into English measure, it was ascertained that each fowl consumed daily—

Of oats or barley . . .	$\frac{1}{4}$ of a pint.
— buckwheat . . .	$\frac{7}{32}$ nds. do.
— wheat . . .	$\frac{6}{32}$ nds. do.
— Indian corn . . .	$\frac{5}{32}$ nds. do.
— rye . . .	$\frac{3}{32}$ nds. do.

And that a pint of these different sorts of grain weighed when taken from the granary, without counting fractional parts, as follows:—

Wheat . . . 15 oz.	Buckwheat . . . 13 oz.
Rye . . . 14 „	Barley . . . 12 „
Indian corn . . . 14 „	Oats . . . 10 „

It is thus clearly proved that although buckwheat is much heavier than either barley or oats, yet hunger will not be satisfied unless

the fowl eats as much of the former as of the latter. Whether this arises from partiality for it engaging the animal to eat more than nature seems to require, M. Réaumur could not ascertain; for although wheat appears to flatter the appetite more than any other grain, yet on putting up three hens and a cock, and giving them an equal quantity of both wheat and rye, more than sufficient for their daily consumption, they nearly finished both together; thus not evincing any real preference, though in other experiments upon wheat and rye separately, they were satisfied with little more than half the weight of wheat. There appeared, indeed, to be as great difference of taste among the fowls as among ourselves; for Indian corn, buckwheat, and barley having been indiscriminately placed for many days before several fowls, some preferred one species, others a different sort, and many did not show any particular preference; the greater part, however, seemed to prefer Indian corn and buckwheat, and to have a less liking for rye than for any other kind of corn.

*Buckwheat*, or *brank*, is said by Moubray to be “an unsubstantial food;” but in the

South of France, where much of it is grown, it is very generally used for the feeding of poultry, and finer fowls can nowhere be seen. Their flavour, which is superior, may be not unjustly ascribed to some peculiar quality in the corn—which is the favourite food of pheasants—but their weight and the mellowness of their flesh can only be attributed to the larger quantity of nutriment contained in the same measure of grain; and if buckwheat, as we have shown, is in a very large proportion greater in oats and barley, it must unquestionably be the better kind of corn both for fattening and in point of economy. Indeed a very intelligent French lady, who has within these few years published a sensible treatise on rural economy, decidedly prefers buckwheat to barley, both for the fattening of poultry and for inducing the hens to lay eggs early in the spring, so as to produce two broods in the season.

Although irrelevant to the subject in question, we must take the liberty of acquainting those ladies who may employ buckwheat for this purpose, that if they order some of it to be occasionally made into cakes, in the Ame-

rican fashion, they will find it a great breakfast delicacy. They are simply made of a batter formed of the flour and milk, which is poured, to the thickness of a crumpet, on a flat piece of iron, well known in Ireland as "the griddle," which is placed upon the fire, and in a few minutes each cake is hot, and eaten with butter.

*Indian corn* is, as we have seen, heavier than buckwheat, and is known to be very nutritive, though, not being grown in this country, and only to be generally found at our great sea-ports, it is seldom to be had in the towns of the interior; but it is an error to suppose it to be "dear;" for, although heavier than barley, its average price is nearly the same. As to *wheat*, notwithstanding its superiority in weight, its price will ever prevent its being generally used as food for poultry; and the dislike manifested by fowls is a sufficient objection to rye.

Now *barley and oats* being the corn most commonly employed in this country for the feeding of fowls, it follows that, when kept as stores, merely for the purpose of producing eggs and chickens, without regard to their

being fattened, the oat is by most people thought preferable, as being the cheapest; but the difference of price is made up in weight, as barley is one-fourth heavier than oats, and contains much less husk. Countrywomen indeed say, "that when fowls are fed solely upon oats, the eggs are neither so large nor so well flavoured; and that when the hens are being fattened, they require more time to render them fit for the table than if fed on barley." In both which assertions they are correct; but Moubray asserts "that oats scour them, and the chickens are generally tired of them after a while." This, however, we beg leave to contradict, as, in our own experience, we have formerly fed large numbers from our stable, upon oats only, both in this country and in Germany, without observing any such effect. We, however, have no doubt that were the fowls supplied with other grain, they would be pleased as well as benefited by the change; as a horse, though fed constantly upon oats, likes a feed of beans or barley when he can get it.

As a constant food, we much prefer barley, as being not only heavier, but as containing

more meal and saccharine matter than oats. But we must observe that the advice given by all our writers to give the *best barley* to our poultry is ill-judged; for the “best barley,” being used for malting, always bears a high price, whereas that which is discoloured, and unfit for malt, is far cheaper, although containing an equal quantity of nutriment.

*Supposing barley to be the food*, we have seen, according to the experiments of M. de Réaumur, that a full-grown fowl, of the largest ordinary size, will not eat daily more than a quarter of a pint of any sort of corn. In fact, his whole stock, consisting of 300 head of every sort—fowls, turkeys, ducks, and geese, were only allowed at that rate per day; and he states that if confined to fowls only, that quantity would have been fully sufficient for 360. Indeed Mr. Holland, of Aberdeen, whose poultry-yard we have described, estimates the quantity of corn for the annual supply of 130 fowls at only 15 quarters of oats, which is not quite a bushel each; and we know, from other sources, that it is considered an ample allowance, if accompanied with the run of a stable-yard and a paddock.

Looking, however, to the annual support of a couple of cocks, each with a dozen of hens and pullets of any good breed for the supply of a family, and meaning them to be abundantly fed with corn, without the advantage of a stable, their consumption would, in round numbers, amount to three quarters of *barley*, or three quarters and a half to four of oats, or at that rate, per year; but if furnished with the kitchen scraps, and having the use of a paddock and stable, nearly half that quantity may be saved.

This saving would not indeed amount, at the present price of either species of grain, to more than about forty shillings, and we are aware that there may be ladies who deem such a paltry economy as not worthy of notice. But to these we respectfully beg leave to intimate, that if not a matter for consideration in point of frugality of expenditure, it is of importance as a principle of conduct in the management of a household; for there, as in the business of life, it ought to be an axiom that *nothing should be thrown away*. The carelessness of a mistress begets that of her servants, and leads them to become pilferers, if not to the

commission of greater acts of dishonesty ; and it would be well if “Waste not, want not,” were inscribed over the chimney of every kitchen or servants’ hall, and strictly enforced by the example of the lady of the mansion.

In regard to the *savings of corn*, it should, however, never be forgotten that the loss which the fowls will thus suffer in point of nourishment must be made up to them by a sufficient quantity of some other kind of food, and as that will seldom be found equally nutritious, it will only support them in the state of *stores*. The “scraps and offal,” to which we have alluded, will, indeed, in a great degree, supply that deficiency, and maintain them in good condition ; for, *if kept too high*, they will fall off in their work, as layers ; and *if kept too low*, their eggs will lose in weight and richness. A medium should therefore be observed : keep them well—that is to say, in that apparent health which is denoted by the spirit of their movements, the brilliancy of their eyes, and the glossiness of their plumage ; but, if you mean to keep them as *laying hens*, do not let them be *too fat*. If, however, you intend them to be

fattened, the most usual modes are those stated in the following chapter.

Many persons imagine that the *boiling of corn* is not only an economical mode of feeding poultry, but also a superior method of fattening them—upon the principle that, as *measure* is the guide in filling the stomach, so should it satisfy the bird; and as the grain swells in the boiling, *bulk* should be the guide in nourishing it. M. Réaumur, therefore, made several experiments upon that subject, of which the following is an abstract:—

Different species of corn having been boiled until the grain burst, then taken out of the water and cooled, it was found that four measures of each had swelled to such a degree as severally to have increased to the following amounts: namely—

Oats . . . .	to 7 measures.
Barley . . . .	10 ditto.
Wheat . . . .	10 ditto.
Indian corn . . . .	13 ditto.
Buckwheat . . . .	14 ditto.
Rye . . . . .	15 ditto.

from which we should naturally suppose that the volume being so prodigiously enlarged,

the quantity of grain consumed would be considerably diminished. The experiments were not confined to a few trials, but were repeated in various ways upon a great number of fowls, in order to ascertain the exact difference of food which they would consume when the corn was boiled; and as the quantity of hard corn was—as we have seen—already known, the fact could be easily proved. The result, however, showed that, instead of the consumption of corn being lessened by the boiling, it was in one instance increased, and in most others there was no difference. Fowls which ate daily a certain quantity of *raw* oats, afterwards consumed precisely the same amount of the boiled; and buckwheat—although the four measures raw made fourteen when boiled—was consumed in exactly the same time. The instance to which we have alluded was that of rye; for notwithstanding the larger bulk occasioned by its being boiled, a cock and seven hens which daily consumed *three-fourths* of a measure in its raw state, were found to eat as much of the boiled as amounted to *four-fifths* of a measure when raw.

Both barley and wheat, although the latter in its crude state weighs one-fifth more than the former, and costs half as much again, yet appear, when boiled, to have filled exactly the same measure, and the same number of fowls consumed precisely the same quantity of both when boiled. No profit was, therefore, obtained from the boiling, in point of *economy*; but there might be some advantage in regard to *fattening*; for, although the fowls could not be induced to eat more of the wheat, it would yet afford them greater nourishment.

Barley, it however appears, can be profitably boiled; for the fowls which daily ate *two* measures of it when raw, only consumed *three* measures when boiled: so that, as four measures, of any size, when raw, produce *ten* measures when boiled, there is an evident saving of two-fifths in the consumption of the grain. Those fowls, however, which ate three measures a day of boiled barley, only ate the same quantity of boiled Indian corn, which being heavier, though not dearer, than barley, is therefore the cheaper of the two. The trouble is nothing, for there is always a fire in the kitchen, and the grain may be heated

when no other work is going on ; but a doubt may arise respecting its effect on the flesh, which it might not improbably render flabby.

*Boiled rice* is an excellent food, as being not only very nutritious, but as improving the delicacy of the flesh—particularly if it be boiled with skim-milk ; and as the common sorts of East-India rice may now be had at from 10s. to 12s. the cwt.—that is to say, for less than three half-pence the pound, although grocers charge three pence,—it is nearly as cheap as barley. In saying “boiled,” we, however, only mean that the grain should be saturated with either water or milk, so as to occasion it to swell without retaining much of the fluid ; but boiling is unnecessary to digestion, as the gizzard will crush any species of corn, however hard it may be.

For the purpose of testing this by experiment, we lately put up a couple of young Dorking fowls, of the same brood—one a pullet and the other a cock—of about five months old. They were put into separate roomy coops, placed in an airy but rather dark cellar : the cock being fed solely upon barley, and the pullet upon rice partly scalded

with milk and partly raw, and both were allowed to eat what they liked, as the troughs attached to the coops were always left full, and the only addition to their food was an occasional handful, between them, of baker's raspings and cinders to aid their digestion.

They were thus fed during exactly four weeks, and roasted two days after being killed. They were both fine fowls, though not so fat as people might imagine, and the cock weighed six ounces more than the pullet; he was, however, when alive, the larger of the two. The object was, however, rather to ascertain any difference that might be occasioned by the mode of feeding in the quality and flavour of the flesh; and every one of a small party who tasted of the birds, gave their decided opinion in favour of the pullet. Although, as we have already said, the meat of both was fine, yet that of the pullet was not only whiter, but had also a delicate richness of flavour which rendered it much superior. This superiority may, however, have arisen from the difference of sex, the flesh of the female being in most cases more delicate than that of the male; and we must admit that the

experiment would have been more correct if made only upon either cocks or pullets.

The difference in point of expense was next to nothing: the quantity of barley being four quarts and a half, and the rice four pounds, of which much was wasted in consequence of the milk becoming sour in the hot weather. The cost of the rice, at the wholesale price, was sixpence, and of the barley sixpence three farthings—no account having been taken of the milk, though, if purchased, it might have cost twopence when skimmed. The baker's raspings cost one penny; so that the entire fattening of the pair, during four weeks, only amounted to fifteen pence three farthings.

In feeding, although the pullet had the rice given to her both raw and boiled, she was observed to eat far more of the latter; and we understand that in China, and throughout a great part of the East Indies, where rice is commonly used for the fattening of poultry, it is always boiled: the better way is, however, in our opinion, to give both barley and rice—the one raw, and the other boiled.

## CHAPTER VII.

Spring Chickens, Cockrels, and Pullets—Fatting of grown Fowls—Cooping—Modes of fatting in Sussex and Berkshire—Operation of Cramming—French Mode—Coqs-vierges and Poulets à la Reine—Sucking Chickens—Old Fowls—Pillaw—Observations on Cramming.

FOWLS are fattened by the dealers at all ages, both as *young chickens*, *pullets*, and *grown cocks* and *hens*, and very nearly the same methods are in all places employed; but as there are occasionally some differences in the modes of management, we shall succinctly state what information we have gained from our own experience, as well as from personal communication with other persons, and collected from the various publications on the subject.

Supposing the brood, on their separation from the hen, to be from eight to ten weeks old, and, as we have stated in a former chapter, “to have been well fed and in good condition,” they will be grown enough to be fattened within a short time as spring chickens,

cockrells, and pullets ; or as full grown fowls when they arrive at the age of five to six months, according to the state of their growth : this, however, depends much on the sufficiency and nature of the food on which they have been fed, and the care with which they have been treated. As young fowls do not moult in the year in which they are hatched, they will generally be ready at that period either for being fattened off before Christmas, or, if they be hatched late or there be a second brood, in the early part of the following spring, at which time they fat much better than in the autumn. The better way is, however, first to fatten the cocks, and retain the pullets to give eggs during the winter ; after which they may be fattened when the store hens of last year's growth are beginning to lay : in both which cases, any of the following modes of feeding may be safely adopted.

Mr. Elliot, farm bailiff of Earl Spencer, states, by the direction of his Lordship, " that the method of fattening fowls for the family at Althorp is, to shred mutton-suet very fine, mix it with milk and sugar, and with this mix

ground oats to the consistence of batter. They should be kept in the dark, very quiet, and warm in the winter ; and will, in this manner, be ready within about three weeks."

In Russell's "Improved System of Agriculture," the mode of feeding, practised for many years with success by one of the first higglers, is stated to be, "in the first place, to keep the fowls intended for fattening without food for twenty-four hours, after which ground oats, scalded and mixed with water to a moderate consistence, must be given them, when sufficiently cooled, in troughs three times a day. On the fourth day it will be necessary to add to the oats a little fresh milk ; and, within a fortnight from the taking up, the fowls will be sufficiently fat."

According to our own experience, however, we should say, that if only one species of food be used, we should prefer barley to oats ; and that it would be difficult to fatten a fowl upon the latter within the stated time. We know also that higglers, poulterers, and breeders for sale use chandler's greaves and kitchen-stuff mixed up with barley or oatmeal, as well

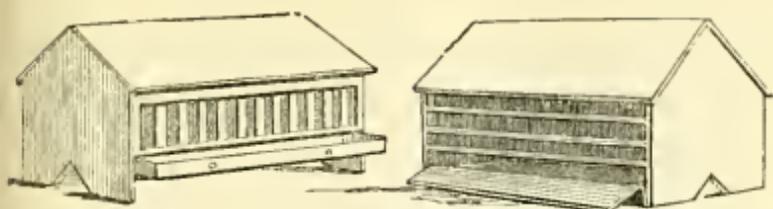
as milk, and cram them with this paste in darkened coops; by which means they are very speedily fattened.

The chief objection to this mode arises from its so quickly fattening the poultry, as to render the flesh rather wanting in firmness; the sole object of the practice being to bring the fowls to market as speedily and as fat as possible, for the plain reason that it is the cheapest and most expeditious mode. It should, however, be observed, that a fowl thus fed, must, when completely fat, be killed without delay, or it will daily fall off in health, and the flesh become red from the feverishness occasioned by over-feeding.

Those persons, therefore, who wish to have fowls constantly fat, without having any fixed time for using them, should never cram them, but should always keep some of them in coops, in which their flesh will increase, and they will remain for a great length of time in perfect health, as indeed may be witnessed in long sea voyages, where they are always cooped, and ever ready for the table. An eminent innkeeper, indeed, whose house we sometimes visit, and who always has remarkably fine

fowls, tells us that he coops all his white-meat poultry, which he sometimes keeps for weeks together, feeding them night and morning upon milk boiled in rice, which is removed after their being fed, and in the middle of the day a few grains of barley and gravel, or a powdered bone or egg-shell, are left in the trough. The coops are cleaned out as occasion requires, and if the fowls appear uneasy, they are let out for a few moments into a small closet, upon the floor of which ashes are spread, upon which they roll themselves.

The coop, being moveable, may be placed in any dark, quiet, warm corner, and made for any number of fowls. It should have partitions just large enough to contain a fowl within each, without allowing it to turn round: the front having bars to admit the head and neck of the fowl, with a trough underneath to contain grain and water; the back being merely railed across with rods, which may be drawn out when a fowl is to be put in or taken out, as well as for its more easy cleansing; and if the floor of the back part of the coop be made in a slanting form, it will catch the dropping of the bird without retaining it.



To this we must add, that a friend of our's fattens his fowls without cramming; and that chiefly on the seed of the *sun-flower*, which most ladies have in their gardens, and which, as Moore elegantly says—

“ turns to her god, when he sets,  
The same look that she turned when he rose.”

Its properties are not only highly fattening, but are thought to impart to the flesh somewhat of the flavour of the pheasant; this, however, having been denied in a recent publication,\* and we also conceiving that the seed would render it oily, he lately sent up a pair for our use from his residence in Surrey. They were fine fowls—roasted, of course, and served up with bread-sauce to a large party, who all tasted of them, and admitted that they were highly flavoured, without any appearance of oiliness, but devoid of the peculiar *haut-goût* of game, though very fat: yet

\* Quarterly Journal of Agriculture, No. xl., p. 519.

we have little doubt that the game breed, if fed upon buckwheat and fattened upon this seed, would deceive the palate of many an epicure.

In the Agricultural Report of Sussex the mode of feeding, in the neighbourhood of Horsham, where they are largely grown and famous for their size, is stated to be, "Ground oats made into gruel, mixed with hog's lard, brown sugar, pot-liquor, and milk; or ground oats, treacle, and suet, together with finely-chopped sheep's-pluck: the pot-liquor, mixed up with a handful of oatmeal, being boiled up, and when taken off the fire made into a paste, and divided into rolls of a sufficient size for cramming, which is done every morning and night. Fowls, thus fattened, and cooped two or three days before beginning to cram them, will in a fortnight average full five pounds, some frequently seven, and others (probably of a superior breed) arriving to ten pounds' weight!"

Should it be the intention to fatten a brood, whether of the first or second hatching, for either winter or spring use, then the following method is used, as being that practised in

and around Wokingham, in Berkshire, where it is as well, if not perhaps better understood than in any other part of England, and an account of which we have lately received from an eminent breeder in that neighbourhood.

“As chicks, they should be kept in good condition, and the earlier they can be put up, when about two months old, or when separated from the hen, the better will they go on in fattening. To do it speedily they should be separately cooped and warmly covered, but, as that may be inconvenient, they should be placed in a small, dark chamber, which in cold weather should be kept very warm, and they should be never allowed to go out. Indeed, their being left loose, even in a small room, materially impedes their fattening, and it is far better to coop them; keeping them, at the same time, undisturbed by the noise of other fowls, or by the cleaning out of the coop more than once, or at the most twice, in each week. Each coop should be only large enough to contain a single bird; or partitions may be made to that size in a large one, and the chicks may see each other from the bars. The front should have a trough for

grain and water, and the bottom of the back part be either left open or railed to allow of the excrement falling through it. The floor is often left without any covering, but a good bed should be made of straw or hay.

“Their food for the first few days, or a week, until they become reconciled to confinement, should be bruised barley and barley meal mixed into a paste with new milk and treacle; and this, if not left to them at discretion, should be given to them at least three or four times a day: a little coarse sand or fine gravel being left in the trough for them to take at pleasure. At the expiration of this time they should be crammed morning and evening—at about seven o’clock each time—with the paste, already described, to which is added melted mutton-suet, though any fresh fat may do nearly as well; the drink being milk and treacle.

“The *operation of cramming* consists in rolling this paste into sausage-shaped pieces of about the size of the little finger, and having dipped it into the liquor mentioned, the fowl is held firmly between the knees on the lap of the feeder, the mouth of the fowl being

held open with the left hand, while with the right hand the cram is adroitly thrust down the throat. After this, a spoonful or two of the liquor is given, and this is repeated until the crop is full, or as much as it is supposed they can digest; which object must be carefully attended to, or they will not empty themselves; it should not, therefore, be repeated more than twice within the twenty-four hours. The fowls soon submit to the operation without struggling, and also easily reconcile themselves to being cooped; and this mode of feeding will attain the object of fattening any fowl, of whatever age, probably within a fortnight, and certainly with complete effect: the general cost varying from ninepence to a shilling each."

In France a small tin funnel is sometimes used for the purpose of cramming; the food being placed in a bended mouth-piece, which is put into the bill of the bird with one hand of the feeder, while he holds the fowl with the other; and it has been described by many of our writers as being a more expeditious and cleanly mode than that commonly practised in this country. We should imagine, however,

that those persons have never seen it in use, for there is nothing uncleanly in cramming a fowl with the finger, and it is a far better mode, both as to ease and expedition, than by the funnel. The *coqs vierges de Normandie* are fattened in that manner at Caen, with a paste made chiefly of buckwheat flour, ground rice, and the raspings of bread, mixed up with curds, and well moistened with milk, into which there is also put a little salt: the quantity of paste being at first moderate, but gradually increased until it fills the crop, and time enough allowed between each feeding to secure digestion.

These young birds are in such high esteem at Paris, that—as we learn from Madame Gacon Dufour and the ‘*Manuel du Zoophile*’—their usual price there is twelve francs each. Chicks are also fattened in the same way for the Paris market at six weeks old, and sent there, in the month of April, plucked, trussed, and separately wrapped in paper as *poulets à la reine*. They are sent as far as twenty to twenty-five post leagues, by carts used to convey poultry, and travelling by relays of horses in the same manner as the post. Such, indeed,

is considered their delicacy at that season, that it is not uncommon in London to pay as much for them as fifteen shillings the couple: in Ireland, too, they are in great request at the tables of the gentry, and are there, not unaptly, called “sucking chickens.”

As to fowls “of a certain age,”—as ladies say—no teeth can face them. Indeed Cobbett, whose palate appears to have been rather more nice than we should have expected, insists “that they are never good for anything when they have attained their full growth, unless they be capons or poulardes. If the pullets be old enough to have little eggs in them, they are not worth a farthing; and as to cocks of the same age, they are fit for nothing but to make soup for soldiers on a march.” Although there may be some truth in the remark, when they are roasted or boiled, we yet do not wholly agree with it, as we know that even an old hen, after having for years sedulously done her duty in the abundant production of eggs, and rearing broods of chickens, may then close her useful life with some *éclat* in the shape of a well dressed *pillaw à la Rundell*; or even in a much

less elaborate manner, by stewing her until the flesh becomes easily separated from the bones; then mincing it small with a few green chilis, a tomato, and some chili vinegar, or any sharp sauce, to add to the flavour. Or, if made into broth, it will be better than that made from any young fowl or chicken.

Objections are frequently made to *cramming*, “as making the flesh unwholesome,” but this we look upon as very unfounded, for although we prefer the flesh of what is called a barn-door fowl, in consequence of its firmness—notwithstanding Cobbett’s calling them “nasty things”—yet, in point of *delicacy*, the crammed fowl is perhaps superior; and as to there being anything in the operation injurious to health, it may be considered as totally devoid of proof.

## CHAPTER VIII.

Economy and aliment of eggs—Composition, weight and quality—Number laid by hens—Expense of maintaining fowls—Comparative cost of poultry and butcher's meat—New-laid and stale eggs—Experiments on the preservation of eggs—Winter laying—Cock's eggs.

EGGS are the main annual income of the poultry-yard; for it is chiefly by their production that the maintenance of the fowls is paid until the birds are put upon the table. The smallness of their cost renders them profitable in point of economy; and as an aliment, nothing perhaps but bread can be found more generally useful. They can be dressed in a greater variety of ways than any other animal food, and their qualities are known to be so superior as to be considered a universal delicacy, whether on the table of the peasant or the prince. Some species are indeed more delicate than others, but of whatever description they may be, they are all equally nutritive. Those commonly called

“hen’s eggs” are, however, the only sort in daily use, because hens are of all fowls the most prolific, and the most generally reared. Indeed, it has been truly said, that “of all sorts of animal food, the fowl, the chicken, and the hen-egg are most salutary to children, to women of tender health, to the sedentary, and to the sick.”

The egg is composed of three different substances. The *outward* covering, or *shell*, is formed of calcareous, chalky matter, in the proportion of ninety-five parts in a hundred of carbonate and phosphate of lime; and, looking to the rapidity of the formation of the egg, this shows the necessity of supplying the fowls with those materials of which the shell partakes. When “soft eggs,” as they are called (which are eggs surrounded by a film, instead of a perfect shell), are layed, it is evidently because the hen has either not had or has not eaten sufficient chalky matter. It has indeed been frequently remarked, that fowls reared upon calcareous soils are generally finer in their flesh and more healthy than those bred on clayey land: therefore pounded bones, egg and oyster shells, and

lime-stone gravel should be occasionally strewed in the yard. The *interior* forms the *yelk*, or “yolk”—as it is commonly called—surrounded by a white, glairy substance, or *albumen*, both so well known as to need no further description than that already given of the *fœtus*: but it should be observed, that the idea very generally entertained respecting the albumen not being a nutritious substance is founded in prejudice.

The weight, number, and quality of eggs vary both according to the age, the breed, and constitution of the hens, and the nature of the food on which they have been nurtured. Those of young pullets are never so heavy during the first year of their laying as when they become hens; and those of the larger breeds are generally thought to be not so well flavoured as those of a more medium size. Hens of a robust constitution will lay more and better eggs than those which are feeble; and, above all, the nature and sufficiency of the food will, in a great measure, determine the weight and quality of the egg: for if the hens are ill fed, the eggs will be light and the yolk insipid; but if put into a

good condition, the hen will lay more and larger eggs of a better flavour.

The weight varies from  $1\frac{3}{4}$  to  $2\frac{1}{2}$  ounces, and the eggs of Malay fowls and their crosses with Dorkings are not unfrequently found to weigh full three ounces. We, however, recently weighed several eggs produced by the ordinary breeds and fed in the usual way, the largest and the smallest of which were severally as follows :—

	ozs.	grs.		ozs.	grs.
Weight of the largest	2	105	of the smallest	2	35
„ yolk	0	338	„ yolk	0	336
„ white	1	157	„ white	1	94
„ shell	0	90	„ shell	0	85

The eggs were weighed before being boiled, and the difference in weight, after being boiled, only amounted in the one instance to 14 and in the other to 5 grains ; which, as there are 480 in an ounce, is scarcely perceptible : but, although the weight of one was 70 grains greater than the other, there only appears to have been two grains difference in the weight of the yolk, and this, whether arising from constitution or mode of feeding, could not be ascertained.

*As to quality*—although eggs vary consi-

derably in flavour, yet, if they be but fresh, and of the same kind, people seldom think there is any difference in the taste of one egg and that of another, and they are all eaten alike, whether produced by hens fed upon garbage or upon substantial corn. There is, however, a very material distinction in the richness; and if this be not discovered by the palate, it may be known by the colour of the yolk, which, if pale, always denotes a want of flavour, but if of a deep orange, is ever rich and nutritious; though it must be confessed that some persons consider them on that account wanting in delicacy. Some of those insects and grasses which abound during the summer, and of which hens are very fond, will also sometimes make the eggs disagreeable to a sensitive palate; but this may be corrected by giving them a greater abundance of grain. Some species of food will even taint the flavour of the eggs: thus chandlers' greaves and kitchen stuff, which are sometimes made up into a paste with bran, or much of any rancid, greasy matter, if given to the hens, will make the eggs rank. Garlick and mint, although good for them

in winter, will in a short time impart somewhat of its scent; and the fir tops found in plantations are said to give them an odour of turpentine. Grain of any sort, particularly barley—in consequence probably of its saccharine property—renders them very rich and delicate; but peas, it should be observed, will have the effect of imparting an unpleasant flavour to the egg, though not to the flesh.

*Respecting number*—we have already stated that from ten to twelve, and in some instances even fourteen, dozen of eggs are produced by hens of the common breeds; but so various are the numbers layed by different fowls and under different circumstances, both as to their period of moulting and the time of their beginning and ending their laying, that—as the following account will show—no certain calculation can be made of their average annual amount. Thus, in one of the publications of the Labourers' Friend Society, the produce of three hens (two of them more correctly pullets) from May to November was 343 eggs, and that of three Polish pullets, hatched in June, is stated to have been during two consecutive years 524 and 456 eggs; the

weight of those of the first year being 52lbs., and of the second 57lbs.

It will be thus seen that the pullets layed more eggs within the year than when they had become hens; but it appears that those of the first year's production weighed, upon an average, only *ten* to the pound, whereas those of the second year weighed *eight* to the pound, and yielded 5lbs. more than the former. The fowls were fed entirely on corn; having each a bushel of barley with about 6lbs. of boiled rice, and a little barley meal; but they did not, in either case, bring up a brood, or ever evince any desire to sit: while another pullet, after laying 56 eggs within 12 weeks, commenced hatching.

This produce may appear large; but it seems that, with a different breed, 212 eggs have been obtained, within three months, from three hens. Mr. England, of Aberdeen, indeed mentions in one of the prize essays of the Highland Society, as a fact within his own knowledge—"that of late there has been brought from Russia a very productive kind of fowls which do not sit: the produce of four hens of which breed and a common cock

has each been at an average 220 eggs annually for three years; and the hens of a farmer to whom the mode of crossing was communicated, have each, when young, produced 312 eggs annually!"

Other instances might be mentioned—though certainly not equalling the latter; but, in our own experience, we have seldom known more than twelve dozen of eggs to be got within twelve months from any hen that had hatched a brood of chicks.

We shall, however, here quote one more instance from a statement recorded in Baxter's "Library of Agricultural Knowledge," as derived from a most respectable source, the correctness of which may be depended on, and which clearly shows what may be obtained from the keep of a small number of fowls by judicious feeding and proper management. "The individual from whom the information was got keeps only five fowls, of which one is a cock, and are a variety of the so-called 'Everlasting Breed.' They are fed twice a day; having barley in the morning, and wet food at night—such as sharps, bran, and pollard, mixed up with barley-water and

given to them cold. They are also occasionally supplied with pulverised oyster-shells, and sometimes a small portion of gravel is given to them in their food. The expense of keeping, with the produce in eggs for two separate years, was as follows:”—it is admitted “that they pick up a portion of their own living by their own efforts during the day.”

## FIRST YEAR.

	<i>s.</i>	<i>d.</i>
4 Bushels of barley . . .	16	6
2 Ditto sharps . . .	5	1
$\frac{1}{2}$ Ditto pollard . . .	0	1
$\frac{1}{2}$ Ditto bran . . .	0	5 $\frac{1}{2}$
	<hr/>	
	£1	2 1 $\frac{1}{2}$

No. of eggs 710.

## SECOND YEAR.

	<i>s.</i>	<i>d.</i>
2 $\frac{1}{2}$ Bushels of barley . . .	11	0
9 $\frac{1}{2}$ Gallons of sharps . . .	3	6 $\frac{1}{2}$
7 Ditto pollard . . .	0	9
4 Ditto bran . . .	0	6
	<hr/>	
	15	9 $\frac{1}{2}$

No. of eggs 594.

Now, on looking to this difference in the cost of feeding—which is rather more than it would be at present—and to the number of eggs, one cannot but be persuaded that the falling off in the produce of the second year was occasioned by the diminution of

the corn: for, although bran and pollard are useful in making up a mess of paste, and will doubtless fill the craw, they yet contain very little nourishment; and, although the profit is stated to have been nearly alike in both years, yet, had the weight and quality of the eggs been ascertained, we have no doubt that those of the second would have been found inferior to those of the first year. But, supposing the quality to have been the same, as the maintenance of the hens cost during two years only 1*l.* 18*s.* 5*d.*—*the eggs were had for little more than a farthing each*: and this may be worth consideration to a prudent housekeeper, for, in London, a good egg can never be got for less than a penny at any time of the year; and, during winter, we have when in ill-health, regularly paid *four-pence daily for a new-layed egg*.

Early in this humble essay we pledged ourselves that the cost of poultry, if economically managed, would be less than that of butcher's meat. Nor can this be wondered at if we look to the fact that the consumers in all large towns buy their eggs and fowls from dealers who have, among them, no less than three or

four separate profits: first, the breeder has his on the rearing; after him, the higgler who travels the country, as a purchaser to supply the city, has his also, on the sale to the dealer or poulterer; who, lastly, sells them for full double their original cost.

Having here shown the yearly maintenance of fowls of a large breed, when corn was higher than at present, to be *3s. 10d.* each, while the annual average number of eggs layed by each hen was 163, we now beg leave to call attention both to that statement, and to the following estimate:—

Supposing the five fowls last-mentioned to have been purchased when full-grown chickens, and to be worth only the same price when old fowls—we have seen that the weight of good sized eggs is from 2 ounces to  $2\frac{1}{2}$  ounces; that the shell weighs only a few grains; and that the eggs lose nothing worth naming in their weight on being boiled. But, supposing the pullets' eggs to weigh only  $1\frac{3}{4}$  ounce, and those of the hen  $2\frac{1}{4}$  ounces, their joint weight would be—

710 Pullet's eggs, at $1\frac{3}{4}$ oz.,	1242 $\frac{1}{2}$ oz. =	77lbs. 10 oz.
594 Hen's eggs, at $2\frac{1}{4}$ oz.,	1188 oz. =	83lbs. 8 oz.
	<hr/>	<hr/>
		161 lbs. 2 oz.

Which, calculating the expense of food, as already stated, at *1l. 18s. 5d.*, shows the cost to be *under threepence per pound*.

On the consumption of this food, and of the flesh of poultry, it should also be recollected, that eggs lose nothing in weight on being dressed, while roasted beef or mutton loses one-third, and a fowl is picked to the bone without the loss of a fraction of meat. We, indeed, tried this experiment by dining one day, *tête-à-tête*, with a friend upon a roast fowl, and the next upon as much loin of mutton as the fowl cost. The broiled remains of the fowl were amply sufficient for the breakfast of two persons of moderate appetite; but that of the mutton was not worth bringing to table.

Further, it may be remarked, that poulterers never throw away the offal of fowls; and, in point of strict household economy, the heads and neck, the greater part of the entrails and the feet, if put into a *Papin's digester* (which no housekeeper should be without), will make strong jelly. The very feathers are saleable; or may assist in stuffing cushions or servants' beds.

As few eatables are more delicate at a breakfast-table than a *new-layed egg*, so, no-

thing is more nauseous than one that is *quite stale*; and as hens generally cease laying in the month of October, it is of great importance in housekeeping to preserve them in a state of freshness during the continuance of the winter. It is generally thought that the cold of winter is what prevents hens from laying, and there can be no doubt that it checks their disposition to lay; but they recommence in February, in which month, and that of March, the weather is often more severe than in October, when they usually cease. It is, therefore, more probably occasioned by their having already layed all those eggs of which the germs were contained in the ovary, and that they require time to renovate them, or to recover from the effects of moulting. However that may be, perhaps no means can be devised for keeping them so perfectly fresh as to retain the taste of those which are new-layed, although there are writers who pretend that they may be kept for months in a milky state without any loss of flavour. They certainly can be preserved without taint, and in a fit state for family use, until the commencement of the spring season for laying; but we cannot admit

that they retain anything like "*the milkiness of those newly layed.*"

The object of those trials which have been made for that purpose, has been either to exclude the air effectually from the egg; to close the pores of the shell; or, to maintain the yolk in the centre of the white, in order to prevent it from coming into contact with the shell. The exclusion of the air is effected by burying the egg in bran, fine salt, sawdust, or dry sand, placed in a box covered up and deposited in a wine-cellar, or some room where the temperature of the air will not be exposed to frost. The closing of the pores is done either by greasing the shells with melted suet, or lard (for if butter be used it will become rancid), or, to immerse the eggs for a minute or two in boiling water, so as to coagulate the film which surrounds the interior of the shell; and the prevention of all contact between the shell and yolk is achieved either by placing the eggs in rows with one end downwards, or, by turning them every day.

We have carefully tried all these experiments when preparing this little treatise for publication, but we must observe that, what-

ever plan may be employed, should be done as nearly as possible on the very day on which the eggs were layed; and that it is useless to commence the process until some time in the end of August, or the beginning of September, for, if begun sooner, the period which must elapse before the end of January might, probably, occasion the failure of the attempt. May and June are, indeed, the months which produce the greatest quantity of eggs, but these should be either consumed in the family, or disposed of to a neighbouring cheesemonger in exchange for other articles, as it would be too soon to put them by for winter use. We commenced our operations in September, upon eggs taken daily, warm from the hen; closed our trials on the 26th of the same month, and tested them in the presence of a lady, by boiling the eggs, on the 26th of January—thus affording four clear months for each experiment. The result being—that neither those shut from the air by being placed in bran, saw-dust, sand, or salt, nor those immersed during periods in water, had acquired any taint of either smell or taste to prevent them from being used in cookery;

but neither these, nor those smeared with oil and suet—though much the best—were without an indescribable flavour of staleness, or what cooks term “shop-eggs,” which deprived them of all title to what we should call “new-layed:” and of those continually turned, some once a day, and others two and three times a week, and put in a cool place, none were fit for use. We, therefore, decidedly prefer the mode of greasing, as being both the easiest and the best. We know it, also, to be the plan most commonly practised throughout France, where the use and management of eggs and poultry are more general and better understood than in this, or, perhaps, any other country; but, whatever may be the mode here adopted, the eggs should always be placed upright, with the small end downwards.

Should you have a dairy, you probably in the summer season salt some of the butter for winter use; and it has been suggested to us that, in doing so, it would be an excellent plan to fix the eggs in layers, either in a jar, or a small barrel of salted butter: for, in this manner, as both the butter would be made and the eggs layed simultaneously, both would be pre-

served and used together, and the contact of the egg could not in any way injure the butter. The first layed eggs should, however, also be the first consumed ; and, as they would be in the bottom layer, they would thus be the last to be eaten : but this can be easily obviated, by putting the layers of eggs with the larger ends downwards ; and when the jar or barrel is full, then turning it upside down. The only objection, as already stated, is—that if the operation be commenced in June, it may fail in January ; but from the fresh appearance of the eggs put into butter in September and dressed in January, we are of opinion that there could be little risk in the trial.

The advantage of thus *preserving eggs on sea voyages*, where salt butter must necessarily be used, is obvious ; and, where milk cannot be had, a small portion of the yolk of a raw egg mixed quickly up with either tea or coffee, will give (particularly to the latter) much of the flavour of cream.

With whatever care eggs may be preserved, they, however, never equal the delicacy of those which are really new-layed ; and as many per-

sons use eggs daily at breakfast, it is really a matter of some importance to those ladies who keep hens to take means for inducing them to *lay during the winter*. The main point in doing this, is to choose them young, and of a strong constitution; pullets of an early brood, which show a disposition to lay, or those hens which have not begun to lay early in the season, being the best. Then, above all, to keep them warm, only allowing them to go out in the middle of dry, sun-shiny days; and to feed them abundantly, but without cramming or trying to fat them with exciting food. Of this the chief foundation should be barley; but in addition to this, occasional feeds should be given of either malt, hemp-seed, mustard, or coriander; and, indeed, if a handful of pimento, or black-pepper, be thrown among them, they will greedily devour every grain of it: never, at the same time, forgetting that well-known and approved nostrum, "toast and ale."

In fine, look to those which you think likely to answer your expectations, and if they do not, fatten them off at once for the table, which will be in great part already done through

the mode in which they have been fed. Those which lay during the autumn and winter, will cease during the summer, and when they fall off in laying at the latter end of the spring, they will then be in prime age and order for being fattened ; and thus, having pullets and hens of different age and temperament, both eggs and fowls may constantly be kept in succession.

In putting up hens with the intent of getting them to lay during the winter, most people have them accompanied by a cock ; which, although for some reasons, perhaps advisable, is not absolutely necessary, for it is well known to naturalists that hens will lay eggs which are brought to perfection without any connection with the male ; in proof of which, they have been separately shut up for two years together without any diminution of the number of eggs which are usually produced by those hens which are accompanied by a cock, nor was there the least perceptible difference in the quality.\* They will not, indeed, produce chickens ; but when the object

\* See Olivier de Serres, "Théâtre d'Agriculture," 2nd edit. vol. ii. p. 156.

is only to produce eggs, it can be attained without the company of the cock.

If eggs be held up to the light, there will be seen in the yolk of those which have been impregnated, a small cord of whitish film, which is the germ of life, and which, if not prevented by all contact with the air, after a short time dies, and occasions putrefaction; but those eggs which have *not* been impregnated do not contain that film, and are called "clear." They are therefore generally considered as being less subject to decay, and are, by many persons, thought to be more delicate. There are, however, others who scout the idea of either earlier decay or greater delicacy; though certainly, the film, small as it may be, is not an agreeable appendage to the yolk. Those who prefer *clear eggs*, should, therefore, separate the hens from the cock at least a couple of months previous to any intention of preserving the eggs during the winter.

It would be unpardonable to close this chapter without adverting to the singular notion still entertained by many village gossips, *that cocks sometimes lay eggs*; and that

if one of these be deposited in a dung-hill, it will produce a basilisk or winged serpent! prognosticating all sorts of misfortunes to the owner, and looking upon the unfortunate cock as an evil spirit, which they are however afraid to kill. It arose in consequence of eggs, of a very diminutive size, being known to have been layed by hens wearing all the appearance of being cocks, by a change of plumage when they became old; instances of which have been recorded by many authors in the *Annales des Sciences*, and recently by White, of Selborne, who relates several anecdotes in proof of the fact.\* We must not, therefore, feel astonished that tales of these "freaks of nature," accompanied with comments of the ignorant and credulous, have given rise to the fable of the cockatrice.

\* See his Natural History of that village, Letter xxxv.

## CHAPTER IX

Origin and appellation of the turkey—Price in the sixteenth century—Description—Battles and courtship of the cock—Laying and hatching of the hen—Eggs—Nests—Period of incubation—Chicks; mode of management and food—Poults; and their treatment—Rearing and buying—Grown turkeys; and French manner of feeding—Flesh of the cock and hen—Weight and age—Cramming.

OUR English appellation of TURKEY has been improperly applied to this bird: but, about the period of its first introduction into Europe, it was customary to designate by that name many foreign articles of luxury or rarity which came through the Levant from the East; as for instance, coffee, of which, although not a grain of it is grown in that country, yet the term is constantly applied to the berry by grocers who want to recommend it as superior. When first known, the bird was indeed frequently confounded with the Guinea-fowl, which it somewhat re-

sembles; and in France it is called "*Dindon*" and "*d'Inde*," no doubt in consequence of a supposition that it came from India; but it is distinctly ascertained to be a native of North America. It is, indeed, somewhat remarkable that, although the tenderest of all our poultry, it is yet found wild in large flocks throughout the whole range of that continent, even so far as the Canadian forests, and was not brought into Europe until after the discovery of that quarter of the globe by the Spaniards. It was then gradually carried from Spain to Italy, and other parts of the south, but did not reach England until some time in the reign of Henry VIII., its arrival being recorded in the well-known distich of 'Baker's Chronicles:—

“*Turkies, hoppes, pickerell, and beere,*  
Came into Englande all in one year.”

The breed however spread so rapidly, that in a feast given in the Inner Temple Hall, on the 18th of October, 1555, turkey chicks were bought in the market at the price of four shillings each; which, although a large sum at that time, was not so extraordinary as to be thought extravagant, as, on the same

occasion, capons, which were plentiful, cost two shillings and sixpence; and the price of a bustard, which was not then a very rare bird in this country, was ten shillings. Indeed, Tusser,—who soon after published his ‘Five Hundred Pointes of Goode Husbandrie,’—thus mentions them as commonly used in the homely Christmas fare of our farmers:—

“Goode breade and goode drinke, a goode fire in the hall,  
 Brawne, Pudding and souse, and goode mustarde withal;  
 Beefe, mutton, and porke, shredde-pyes of the best,  
 Pigge, veale, goose, and capon, and *turkey* well drest,  
 Cheese, apples, and nuts, jollie carrols to heare,  
 As then in the countrie is counted goode cheere.”

Although their domestication has not entirely destroyed their instinctive habits of wildness, and they have not only constant opportunities of straying from home, but have in many instances been turned loose by gentlemen having extensive forests upon their estates, yet they are, in this country, never found to propagate except in preserves; or if they by any chance bring up a brood in the woods, they return with their chicks to the home from which they had been ejected.

The turkey is so well known as to need little description. The male is a majestic

looking bird, armed with spurs, and having the power of expanding his large tail in the manner of a peacock. His head is surmounted by a small, red, fleshy protuberance growing over the upper bill, which muscle, either in love or anger, becomes of a bright scarlet, and is extended so far as to make it fall two or three inches below the bill; underneath which, there is also a red membrane, hanging down to about a third part of the neck, and a tuft of black hair five or six inches long pendent from the breast. The hen-turkey is much smaller than the male; her head being in proportion to her body, and, like the upper part of her neck, naked of feathers, but covered with little pimples of a palish red colour; she wants the pendulous wattles of the cock, and is incapable of erecting the tail.

Unlike the various breeds which compose the tribe of gallinaceous fowls, the turkey shows no difference but in the colour of its plumage, which is either pure black or white; those of the cinnamon, or copper colour, which were formerly much esteemed, having now generally disappeared—in consequence, as it

is said, of their tenderness ; although the plumage of the wild species is precisely of that appearance, and the qualities of the bird, both in constitution, size, and flavour of the flesh, are nearly the same. The black species is, however, generally preferred, from being thought whiter in the skin and firmer in the grain of the flesh than the white, and the chickens are supposed easier to rear. We, however, imagine this to be a prejudice which has arisen more from the great numbers of that colour fed in Norfolk, and sent as presents all over the kingdom, than from any other cause ; for we could never discover any difference of flavour between the black and the white, which we have indiscriminately bred, and vast quantities of both colours are reared in France.

The *cock-turkey*, when not excited, is a stupid bird : so much so, indeed, that any silly fellow whom in England people would be apt to call “a goose,” is in France always termed “*un dindon*.” When not aroused by that passion to which no being is insensible, he is also a mere bully, for although he will bluster over the common fowls if unopposed,

yet if a stand be made against him he will run away; but should another cock intrude upon his rights as constituted lord and master of his mates, the antagonists fight for the hen as desperately as do those of any other fowl. They spread out and erect their tail, strutting pompously back and forward with their head drawn back to the shoulders, and uttering a succession of puffs from the lungs. Having thus for some time alternately surveyed each other, with their feathers ruffled, the struggle then commences by striking each other violently with their spurs and wings until one is brought to the ground; and, if not separated, will not improbably be killed by his opponent. The cock has also a great antipathy to the colour of scarlet, and will undauntedly commence an attack upon any person wearing it, with a gobbling note of preparation for battle.

In courtship, his movements as well as those of the hen are yet equally studied with seeming affectation. They move around each other with an amusing air of dignity, which has been not unaptly compared to the ancient formal mode of a couple dancing a minuet:

the cock amorously calling the hen with his "glou-glou" note of love, and she coyly responding with her "pur" of reciprocal affection; both making occasional leaps in testimony of their mutual satisfaction.

He is usually allowed to have four or five mates, but if confined to *two*, it will be found that the hens will generally hatch a larger number of chicks, and, what is of still greater importance, produce them stronger, and consequently more likely to live, than if he were indulged with a larger number. Neither is it necessary that he should be in constant dalliance with his dames; in consequence of which it is by no means uncommon among cottagers to maintain only one cock, which they lend to each other for a visit of a few days. Should this plan not be adopted, and that a cock is kept for attendance on the hens, we should say, that whenever they commence hatching, the sooner he is fattened and killed, or sold off, the better, for he will then be not only useless, but troublesome to the hens, and dangerous to their future chicks.

Turkeys are in their prime for the table

when from seven to eight or ten months old, after which they go out of season, and are afterwards only used for breeding. They may be fed in the same manner as common fowls, and maize, or Indian corn, will be found very fattening; but neither tares, peas, nor pulse of any kind should be given to them. They are such gluttons that if fed wholly upon corn, and kept until twenty months old, they would hardly repay the expense. The trouble too of rearing them is such, that in small families where not many are wanted, it is better to purchase the requisite number from travelling higglers, who bring them about the country for sale when they are feathered. They may always be purchased at prices which will pay well for fattening, and thus will be saved the maintenance of a cock and his hens.

As the turkeys grow fat, they become disinclined to the exertion of roosting, and as they thus rest upon the floor, it should be covered with straw, which should be frequently removed; but if only kept for laying, it is better to let them have an airy shed less warm than that of the fowl-house, and with

lofty perches, as, if allowed, they would instinctively roost upon trees even during the depth of winter : to which, however, there are so many prudential objections that we have never heard of its having been permitted except at Bagshot Park, a seat of His Royal Highness the late Duke of Gloucester, in the poultry-yard of which there stood a magnificent tree for their accommodation.

*Turkey-hens* are better mothers when two years of age than when only a twelvemonth ; producing larger eggs and more of them. They are, therefore, not uncommonly kept until four or five years old ; but, if not killed when quite young, the most usual way is to fat them off after they have reared a first brood. They commence laying rather earlier than those of the common fowl, usually producing an egg every second morning until they have brought forth from fifteen to twenty, at which time they are generally ready to sit ; but they recommence the operation in the course of the summer, and sometimes also in the autumn, though they do not, on either of those occasions, lay perhaps more than a dozen to fifteen. The eggs, which are larger

than those of the common hen, are therefore seldom seen on our tables, as during the spring they are wanted for hatching, and in the summer season they, as well as those of the common hen, acquire a flavour approaching to rankness; which is a loss to the epicure, for they are more delicate than those of any other fowl, and highly prized by cooks for their superior quality.

When in their wild state, instinct induces the hen to secrete her eggs; and so much of that desire exists when domesticated, that, if allowed the use of a field and shrubbery, she will endeavour to lay in some unfrequented spot. A nest should therefore be made for her either under the resting-shelf of the fowl-house, or, still better, in a corner of any quiet, unoccupied shed, as quietude is congenial to the state of incubation. It should be placed upon the floor, and made either of matted straw, or of a piece of thick hempen door-mat, cut into a nearly circular form, about eighteen inches to two feet in diameter, according to the size of the bird, and bound round with a twisted rope of straw, to prevent the eggs from rolling out: some loose, short-

cut straw may also be thrown upon the nest, more for the sake of cleanliness than warmth, for they not unfrequently lay upon the floor of the shed in which they roost.

The time of their laying is most usually in the morning of every second day, though some will lay every day; and, if there be any appearance of an egg being ready to come forth, the hen should be kept in the house until it is layed. She will go to the nest (in which, of course, a false egg has been laid as an inducement) without repugnance, and by doing so two or three times she will not desert it; but if she has already secretly made a nest, which you have discovered, then do not remove it, unless it should be exposed to the incursions of polecats, rats, or foxes; for frequent instances have been known of turkeys straying from their home into a forest, and having long afterwards come back, followed by a healthy progeny.

The *period of their incubation* lasts from twenty-nine to two-and-thirty days; but its close may be calculated as commonly occurring on the thirtieth, and they are such patient sitters that they will sometimes remain

for days together without stirring. This induces some persons to place food and water before them ; but, as we have already stated respecting fowls, it is an injudicious practice ; for nature teaches the bird to go out once a day for the search of food, and if that be supplied to her without moving, she will foul her nest. It should not, therefore, be put within her reach, but may be placed within her sight so as to induce her to seek it : the better way is, however, to feed her in the yard. As in the case of common fowls, care should also be taken never to turn, or in any way meddle with the eggs, for the hen will herself do all that is necessary at the proper times. Nor should any one be allowed to go into the room in which she is sitting, except the person who has the management of the poultry ; for she is easily frightened by the appearance of a stranger, and if disturbed or scared from her nest, she may, perhaps, not return to it until her eggs are so chilled as to become addled. The cock should also be prevented from coming near her when sitting, for if he finds her on her nest he will drive her away, and probably break her eggs : but there is no ob-

jection to placing more nests than one on the same floor, for the hens will not interfere with each other, however closely they may be placed, and without any partitions to divide them; indeed Audubon mentions in his "Ornithological Biography," that he once discovered in America three wild turkeys sitting together in the same nest on forty-two eggs.

The *number of eggs* put under the hen should never be more than fifteen, whatever may be her size, and if she be not large, a smaller number will be sufficient; so as to secure her completely covering them with her body. The laying of fifteen eggs will, however, occupy at least a month, and it is well worth observation that new-layed eggs produce stronger chickens than those which have been long kept. It is, therefore, the constant practice in America, when the turkey has laid six or eight eggs, to put them under a common hen; and, when the turkey-hen is ready to sit, her number may be made up either with guinea-fowl eggs, which take the same time in hatching, or, in a few days afterwards, with eggs of any other fowl. It has also the further advantage of producing the

first brood a fortnight earlier than if all the eggs were kept for the same hatching.

Notwithstanding the increased length of time thus required by common hens when employed to hatch turkey eggs, they yet sit patiently till the full period of its completion. They are, indeed, found to be more careful mothers than the real parent, as treating the chicks with greater tenderness, not exposing them to wet, and teaching them more quiet habits than those of their wild nature. Turkey hens are also sometimes employed to hatch the chicks of common poultry, of which they will cover full one-and-twenty eggs; but such experiments, though occasionally vaunted by theorists, are seldom successful, and Nature, when not controlled by circumstances, should be left to herself.

The advice given in respect to the *management of hatching* the chickens of fowls will apply in every particular to those of turkeys; the mother helps them from the shell, and, when brought forth, shelters them closely under the warm coverture of her wings, to which they instinctively repair in equal divisions. Should they be unusually feeble on

coming out of the shell, a few drops of warm ale, or wine, may be given them, by having the liquid in one's mouth and putting their bill into it, if they have not strength enough to swallow the drink; but the greatest gentleness must be used in handling them, for they are even more tender than the chicks of common fowls, and may be killed by roughly forcing anything down their throat, as frequently done with pepper-corns. Nothing, indeed, should be given to them to eat until they are at least a day old, and then it should be presented to them in the palm of the hand, when the hen may have for a short time left them; nor, in doing so, should they be taken out of the nest.

The *chicks*, when hatched, are covered with a soft, hairy down, of extreme delicacy, and continue very feeble for a few days—of which the third is always thought critically dangerous—during which time they should be kept in the house, and only carried into the air for a short time in the middle of the day in very fine weather: the hen being all the time confined in a wicker hutch, having bars wide enough to allow of the chicks' egress and

ingress ; or in a hen-coop raised a few inches from the ground to permit the chickens passing under it for shelter. Not only, indeed, should they be guarded from the cold, but also from the glare of a mid-day sun if it should be very hot ; though that can seldom happen until summer, at which time they will be strong enough to support any inconvenience which it may occasion, and they can run into a shade if necessary. The greatest danger, however, arises from rain ; for, if exposed to a shower which completely wets their plumage in its then downy state, the chill may kill the bird if it be not dried : great care should therefore be taken to avoid their exposure, and, should such an accident occur, every means should be tried to remedy it, by drying them gently with warm flannel, putting them near the fire, and giving them a little toast and ale ; but returning them as soon as possible to the congenial warmth of the mother's breast."

The *food of the turkey-chicks* should be much the same as that given to those of the fowl, though at first still more delicate, confining it for a few days to hard-boiled egg and curds

of milk, with crumbs of toasted bread, which may be soaked in a little strong ale or wine if the chicks appear weak, but, if not, milk; to which may be added a little chopped parsley, mustard, nettle-tops, and fennel, or any tonic herbs, and a young chive, together with ants and their eggs if they can be got, or if not, a few gentles will act nearly as well; but all sloppy food should be avoided. Any of these things may be given three times a day, sparingly at first and gradually increasing the quantity as the chicks grow stronger. Nothing can be better for them than curds, but it should be made fresh every day, and never allowed to be given to them if at all sour. When allowed to peck for a short time daily about the garden, or on a grass-plot, coarsely-ground barley or oatmeal may be mixed with the above, or made—as some people do—into a paste with milk, and put before them to peck at; but, if not frequently changed, the milk will turn acid, and the paste will cause the chicks to scour: plain water is, therefore, perhaps better. As the weather grows warmer, and they are allowed more liberty, they collect sufficient food from

insects and seeds to satisfy their hunger during the day, and then it will be sufficient to feed them morning and evening; but they should never be allowed to become poor in flesh.

They should have a constant supply of the purest water given to them in some vessel which will not allow them to wet themselves: they should not, therefore, be permitted to approach any spot where that could happen; neither should they be allowed to go out in rainy weather; nor until the dew is off the grass in the morning.

They are subject, when two or three weeks old, to a dangerous disease called the "Pip."\* They will also continue delicate until well feathered, and require great care during the first two or three months of their existence; yet if attentively managed, and more especially if sedulously guarded from wet, they will, probably, get through their chickenhood with very little loss, until they throw out those granulated pips, or nipples, with which their head and neck are covered, which then become of a scarlet colour—provincially termed "shooting the red"—and is the most

\* See Chap. XIV.

critical period of their life ; but, that once passed, they become as hardy as any other fowl, roosting along with the hens, and then acquire the name of "Poults."

On the approach of winter, there appears on the breast of the young cocks a sort of tumour which produces the tuft of hair already described, which in the second year grows to the length of near four inches, and still longer in the third, at which time the bird arrives at his full growth, and becomes "a Stag," the hens not being in their prime until the age of four.

The *poults* are thought great delicacies when fattened for the table ; but it is not easy to bring them into that state unless they are crammed, as well as cooped. No one should think of fattening them as *grown turkeys* until they are full six months old ; but when large enough to be brought into condition by Christmas, either when poults or at any later age, they must be shut up during a full month or six weeks before the time, if intended to be crammed ; and, if not, a couple of months earlier will be necessary, during the whole of which they must be abundantly

fed on barley, or other grain, with only a moderate quantity of hot potatoes, which, during the last fortnight, must be omitted, and the paste of meal and mutton-suet mixed up with new milk substituted.

This will, of course, occasion a greater consumption of corn, but it will cause less trouble than that of cramming, and will have the advantage of their increasing in weight; they will also continue fit for use, and indeed improving, during the winter, and therefore may be killed at any time when wanted, whereas a crammed turkey—as we have remarked in regard to fowls—should be dressed when brought to the point of being fat. When intended for family consumption, it is, therefore, far better to feed them in the common mode, and indeed we have fattened old birds to great weights even without cooping. They should, however, in that case, be shut up together in a rather darkened room, and only allowed to go out for about an hour in each day to air themselves and have their chamber cleaned and ventilated.

The *weight* to which they may be grown depends partly upon their age, but more on

the mode of feeding, and the female is much smaller than the male. A cock turkey hatched in March, may be brought to the weight of ten or a dozen pounds when skewered by the poulterer, within eight months, if amply fed during the whole time previously upon corn, with only a small quantity of any other food. If kept for a year longer, he will probably reach four pounds more; and, at three years of age, he may arrive to the weight of 20 lbs. when divested of his feathers: the difference between live and trussed weight being about one-third in favour of the former. They are, indeed, sometimes brought to near that weight when little more than a year and a half old; and we, last Christmas, saw one of that age, at a poulterer's in Oxford Street, which, when alive, weighed 35lbs.!

The late Countess Spencer, with that kindly consideration for the welfare of the yeomanry for which the family has ever been distinguished, some years ago offered premiums for the rearing and fattening of poultry, without cramming, at the Earl's seat, in Northamptonshire, and the following were the average weights alive:—

Turkey, 20 lbs. 4 oz.	Pullet, 6 lbs. 3½ oz.
Capon, 7 lbs. 14 oz.	Goose, 18 lbs. 2½ oz.
Couple of Ducks, 15 lbs. 10 oz.	

But so many attempts were made to deceive the judges by various infringements on the regulations by which the prizes were to be adjudged—even by cramming the fowls with shot on the day of the award, for the purpose of increasing their weight—that her ladyship was reluctantly compelled to abandon the project.

The superior flavour of the Norfolk turkey is attributed, perhaps justly, to the great dryness of the soil and extensiveness of the range on which they are allowed to roam.

In common fowls there is very little distinction between the *flesh of the cock and the hen*; nor is there, indeed, much perceptible difference in that of the turkey when young; but when they reach the age of a year or of a year and a half to two years old, that of the hen is far the most delicate, while that of the cock possesses greater flavour. It was formerly, indeed, much the custom to mix up aniseed or other aromatics in the paste used for cramming turkeys, in order to render the flesh

more savoury ; but, although this proved to be only a fanciful experiment, yet, in fattening them for the table, attention should be paid to heighten these separate qualities. The cock should therefore have, now and then, along with his corn, a clove of garlick chopped, with a small quantity of either raw or dressed meat given daily, until within a fortnight of the time when he is to be killed ; during which time he should have nothing but grain—chiefly barley-meal made into paste with ale and molasses, or strong broth.

In the feeding of the hen, meat and garlick should however be omitted ; while rice and sago—both or either—should be boiled in milk until thick, and given warm : the drink should also be milk. The hen should be cooped a fortnight before she is to be used ; and both she and the cock should occasionally have a few grains of whole pepper, or mustard-seed, thrown to them at discretion : to which also should be added a little fine gravel, or a pounded bone, or oyster-shell.

It is not however very usual, either in this country or on the continent, to make any distinction in the mode of feeding the cock and

hen, although there can be no doubt that, if the former be much more than a year old, there ought to be considerable difference made in the manner of their being fattened. In France the common mode employed for both one and the other is, to keep them separately in the manner we have stated, and to feed them for a full month with a paste formed of bran and boiled corn, together with tonic herbs of any sort minced up and all mixed together with melted fat. This is left to them at discretion, to peck at as they please during the day, and if any part should be left at night, it is given to the pigs. Along with this, however, quantities of potatoes are also given; and at the end of the month, or perhaps a little more, they are crammed every night with as many balls of barley-meal as they can swallow: by which means, it is said, they are so well fattened in the course of ten days or a fortnight, that the cocks weigh from 20 to 25 pounds; and, when stuffed with truffles, are sometimes sold in London for five guineas each.

After all that has been said and written about the “unnatural cruelty” of cramming,

and of its being “a disgrace to our enlightened times!” we confess that we can see nothing in it that more justly merits those reproaches than many of the modes in common use for fattening other animals. Oxen are stall-fed in heated stables, although, if left to nature, they would, never enter the shelter of a roof. London and most of our great towns are entirely supplied with milk from cows which are confined all the year round; their calves are taken from them when less than a week old, then fattened in darkened pens, and bled occasionally by the butcher to make their flesh white.

It is somewhat amusing to see in Martin Doyle’s ‘Practical Husbandry,’ the act called “criminal in the eye of humanity; and persons guilty of knowingly consuming crammed fowls, accomplices after the fact!” For although we have not the honour of personal acquaintance with that gentleman, we yet know him to be a person moving in good society, and therefore, we doubt not, often guilty of the fact. We can, indeed, ourselves vouch for its not rendering the flesh “unwholesome,” as we have made many a hearty meal off crammed fowl and turkey without finding

our health unpleasantly affected; nor have we ever yet heard of either man or woman who made the least objection to partaking of them because of their having been crammed; neither, we believe, do ladies, when they give orders to their poulterer, ever make inquiries regarding the manner in which the birds have been fed. There is, in fact, no cruelty in the operation, for the bird soon loses its desire for liberty, and easily reconciles itself to the pleasing sense of plenty. We look, therefore, upon such displays of humanity as arising, if not from affectation, at least out of maudlin sensibility: much like those exclamations which we constantly hear respecting the "barbarity" of driving stage-coach horses at the rate of ten miles an hour; though no animals in the kingdom are better fed or taken care of, and many a poor fellow would gladly work harder if equally well supported.

## CHAPTER X.

Origin of the Guinea-bird—Introduction into this country—Price—Description—Habits—Modes of keeping them out of gardens—Difficulty of discovering their nests—Eggs—Flesh—Pheasants, and their domestication—Partridges—Finding of a brood—Pea-fowls—Beauty of the cock—Origin—Ancient use and mode of dressing—Value as food—Italian saying.

THE PINTADO, or GUINEA-FOWL, is a native of Africa, where it is found in large flocks, both in a wild and domesticated state, and has been diffused over the greater part of the habitable world. It was, indeed, very early introduced into Europe, where it formed a prominent delicacy at the expensive entertainments of the ancient Romans, and soon spread over all the southern states; but, as being indigenous to a warm climate, it only slowly made its appearance in the north, in many parts of which it is even now unknown. Although brought to this country at so early a period that an author, who wrote in the sixteenth century, gives directions respecting

their sheds in a manner which would suppose them to be familiar to the yeomanry, yet it is only comparatively of late years that they have been in anything like what we should call general use, and even at this day they are scarce in both Ireland and Scotland. We well recollect that, forty years ago, their regular price at all London poulterers was half-a-guinea each, whereas now they can be bought for five or six shillings: a diminution certainly not arising from any objection to them on the part of purchasers, but from the dealers having overcome the unfounded prejudice regarding their supposed tenderness, and consequently rearing them more largely. We indeed doubt not that, were it not for the difficulty of conquering the wildness of their nature, and the trouble which it occasions, they would be as plentiful in our markets as any other species of our poultry; for, so far from their being constitutionally delicate, they will roost throughout the winter upon the highest trees, and are in fact, when full grown, more hardy than the common fowl. When very young, they are, indeed, rather tender; but the assertions made by a late

writer "that they are bred more from curiosity than profit," is contradicted by the fact which he admits, "that they are largely fed for the London markets."

The Guinea-birds are handsome fowls; their back is arched, with the tail bending downwards, and, as they stand high upon their legs, being also nearly two feet in length, they appear larger than they really are; for, when plucked, they seldom exceed the size of a good Dorking fowl. Both cock and hen are nearly of the same size, and so much alike in appearance that it is difficult to distinguish the one from the other. Their plumage is dark, uniformly speckled with white spots, and their note of call is very disagreeable. They congregate together quietly and amicably, but if put along with other fowls, they are quarrelsome and cruel; attacking them relentlessly in the cowardly manner of a body opposed to one, which they will surround and peck at with fury, but if stoutly opposed they run away. Although partly domesticated, their habits still partake of the wildness of their nature, and it has been hitherto found im-

possible to completely tame them: nor can they be put up to fatten; for if confined, they immediately begin to pine away. It is, therefore, customary to let them have the range of some fields, over which they will roam during the whole day, picking up insects, and only returning at night to seek their evening meal; after which they will fly up into any trees surrounding the house, where they roost and keep watch, for if any one approaches after dark, they immediately give warning by a joint scream of alarm.

Now in this there can be no harm, for a watch around a country-house is no bad protection to the inmates, and we defy any one to steal the birds, for it is no easy matter to catch them even when in the poultry-yard, and if they would only descend from their roost in the same modest quietude in which they ascend to it, all would be well; but, unfortunately, no sooner does day-break dawn, than, should there be any fruit or vegetables in the garden, they pounce upon it until their craws are filled, and they besides commit great destruction of the young roots and seeds.

They are in truth insufferable pests in a garden, for they fly so high that no wall can stop them; and they commit extraordinary depredations on peas, beans, and bushes bearing any kind of fruit, for, should it be above their reach, they spring up to it with a bound, and pull down the pods and bunches; nor are ripe strawberries safe from their attacks. We have shot at them repeatedly, with powder, to frighten them, and though they have flown away, yet no sooner was our back turned than they sprang over the fence, and recommenced their havoc. A terrier dog, if taught to hunt them, and kennelled, without being chained, in the garden, will indeed have a good effect in keeping them off; but he must be constantly kept there during the whole time of there being either pod or berry growing. A plan has, indeed, been recommended as likely to answer the purpose—which is to closely clip *one* wing of each chicken, when too young to fly, which, thus destroying their balance when they attempt it, will prevent them from rising in the air. This, however, has the inconvenience of depriving the hen of the power of sheltering the whole of

her brood, the greater part of which would thus perish; to avoid which, and still to have the same effect, one pinion of the chick has been dislocated—as not uncommonly done by the breeders of tame pheasants. We have not done it ourself, nor do we offer any opinion upon it; but we have heard that although the operation might be thought cruel, yet the pain is in fact very slight and only momentary, though it will partly deface the appearance of the bird.

Of this, however, let ladies be assured—that, if they have any regard to their gardens, they must either adopt one or other of these modes, or not attempt to keep Guinea-fowls. That of the dog is perhaps the best, as not infringing upon the feelings, and if he be sharp, he will drive them from your own garden; but they will then most likely go to that of a neighbour, who being naturally annoyed by such marauders, may not improbably assume the right of shooting them—not with powder for the mere purpose of frightening them, but with good round shot, to kill them as trespassers. Supposing, however, this not to happen: still, if they have

the use of their wings, no fence can hold them ; they will stray over the adjoining fields, and the hen will seek some sequestered hedge or briar where she may lay her eggs in secret ; which she manages with such inconceivable cunning that broods have been brought home without any one knowing where they had been reared.

We some years ago resided upon a large farm where there were several pintadas, but although most of their eggs were discovered, we could never prevail upon any of them to sit upon nests prepared in a house, and some of those which did sit in the bushes never produced a single chick. This, however, we presume to have been rather occasioned by the pilferage of the peasantry, or the destruction of the chicks by rats or other vermin, than by any fault of the hens.

Although troublesome in the poultry-yard and garden, they are yet so much esteemed upon the table as to be always a desirable addition to the stock of fowls. It is, therefore, a good mode to put the eggs under a common hen—which will cover fifteen—and when the chicks are strong enough to be

handled, then dislocate the pinion joint. The eggs are always to be found in the markets, and thus the plague may be avoided of keeping a set of the old birds.

If reared, a good mode of keeping them near home, and inducing them to lay there, is occasionally to throw any chopped root or vegetable, which they will watch for; and to place within side the hedge, or shrubbery, some furze bushes, or heather, and a little straw, in a manner so apparently concealed that they may imagine it cannot be discovered. These you of course examine every day or two when they are not present, and if you find an egg, take it away, leaving a false one in its stead.

In this manner you may collect scores of eggs, for the pintadas are profuse layers, though it is singular that they never cluck, or give any indication like that of a common hen, of their intention; and this adds materially to the difficulty of discovering their nests. Should they sit, it may be well to let them take their chance of bringing up a brood; but some of the eggs should also be placed under a hen of any breed known to be a steady sitter, as the chicks

cannot be hatched in less than thirty days. The eggs are smaller than those of any breed but the bantam, and she is the best foster-mother, for she will be content to remain quietly in the yard without dragging the young things through the grass. They may be brought up precisely in the same manner as turkey chicks; and if an ant's-nest should be found, and a shovelful of it tossed to them by the gardener, it will be a most desirable addition to their food.

Notwithstanding what we have said of the injury which they commit in gardens, we must admit that if allowed to go into them when the fruit is gathered, they also destroy great quantities of insects; and, as the little chicks when very young are incapable of doing mischief, it may be as well to permit their entry for an hour or two each dry, sunshiny day.

The eggs are speckled, and are considered so rich as to be preferred by many for the greater relish of their flavour. The flesh also partakes somewhat of the flavour of the pheasant, with more of that succulence in which the latter is deficient; the bird is therefore highly prized as an excellent dish at the

best dinners—more particularly as it comes into high season just as game is going out. Its usual weight may be taken at about five pounds for the cock and a trifle less for the hen, which is rather the more delicate of the two. They are both invariably roasted: which is no doubt proper, so far as regards the relish of the pheasant, for boiling it would destroy the game flavour; but the pintada does not possess so much of that as should prevent her from being dressed in the same manner as a hen-turkey.

We fear that no plan which may be adopted for the purpose of rearing these birds, and endeavouring to retain them within the precincts of the poultry-yard, will be effectual; but, if tried, no directions can be more appropriate than those of the ancient author to whom we have alluded, and which we herewith quote in his own quaint language—  
“They require greate attendaunce, and yee muste make their courte somewhatte hye; sette alsoe wythe bordes agaynte the walles, round about the courte, in length, and their pearche made soe to sitte where the sunne may shine; and closed all above and before

wythe lathes verie hie togetherre, about the height of a pole from the earthe, well covered alle over :” for it must be observed that they cannot bear the close air of a warm fowl-house. That in which they are to be kept should be fronted with open laths, instead of close boarding, and, as they roost high, they should have lofty perches ; but the nests must be placed in the manner already stated.

Attempts have been repeatedly made to domesticate the *Pheasant* by putting their eggs under a common hen, and, as their habits are very similar, it was imagined that the trials would succeed ; but although the chickens, when hatched, throve along with the other poultry, yet, when arrived at a more mature age, their natural propensity ever so strongly leads them to seek their native woods, that it has been found necessary to cover the yard with a net to prevent them from escaping. Notwithstanding which, a much read publication, when stating it, seriously goes on to say —“that several acres of ground are required to permit the birds a proper extent of range !” As this, however, is too absurd to be acted upon, the contrivance has been adopted of

either disjointing one pinion of the bird, to prevent it from flying, or of cutting the feathers of the wing, and repeating the operation when they grow.

Efforts for the same purpose are indeed continually made by fanciers and dealers; but the flesh is far inferior to that of the wild bird, and we should think that unless a gentleman wishes to replenish his coverts, or stock a plantation, it is hardly worth the trouble. The eggs may, however, always be purchased in London about the month of April; the hen usually laying from a dozen to fifteen, and many more when tamed: indeed an instance has been mentioned by Moubray, of a domesticated pheasant having during the season layed the unusual number of seventy-four eggs. She sits rather irregularly, and a few days longer than the common hen.

The chicks may be fed in the same manner as those of the turkey and guinea-hen; but, when full feathered, if the wings be not clipped, they will daily stray from their foster-mother, and finally desert her for the neighbouring thickets. They will not, however,

entirely abandon their former home, their haunts being always around the house, and, in hard weather, they will approach it with the confidence of receiving food. They crow like a cock, and their life is supposed not to extend beyond six or seven years: this, however, they seldom reach; the hen may, indeed, sometimes complete the term of her existence, for no true sportsman will shoot her, but the cock seldom escapes the fate described in Pope's Windsor Forest—

“ See! from the brake the whirring Pheasant springs,  
And mounts exulting on triumphant wings;  
Short is his joy, he feels the fiery wound,  
Flutters in blood, and panting, paints the ground.”

The eggs of the *Partridge* are also sometimes put under a bantam-hen, as the nests are frequently found in the fields, and one was once discovered in our presence by the mowers of a meadow, containing the extraordinary number of twenty-two chicks. The mother—with that hallowed instinct which teaches her to protect her offspring at the risk of life—actually clung to them while the work was going on around her, until by a stroke of the scythe, her head was severed from her body,

and we shall never forget the manly feeling of regret evinced by the honest fellow who caused the accident. The chicks were carried to the house, and every care bestowed upon them; but they had been only lately hatched, and it soon became apparent that no tenderness, however delicately administered, can equal that of the parent bird, for they gradually drooped, some daily dying, and in the course of a week not one of them was left.

We name the *Pea-fowl* rather as an ornamental appendage to the lawns of some villas, than as being of any real use in the poultry-yard, into which, if they be admitted, they peck at and destroy the chickens of the other fowls. Nor is it of value in any other sense than the beauty of its variegated plumage: the peacock being, indeed, a splendid creature, which every one must admire when he displays the gorgeous brilliancy of his magnificent tail.

The bird came originally from the East, and was at a very remote period brought from Asia Minor into Greece, from whence it was transplanted to Rome towards the fall of the Republic, and afterwards found its way to every

other part of Europe. It was celebrated by the troubadours as the food of heroes and of lovers, and was frequently served at the sumptuous repasts of the great nobles. On the celebration of the nuptial feast, given in 1468, on the marriage of the Duke of Burgundy and Queen Margaret of England, it has indeed been recorded, that no less than one hundred peacocks were served up every day during a week! They were skinned with their feathers on, and, when roasted, the skin and plumage were replaced, so as to appear as if still alive. Great numbers were fattened by the poulterers of Paris, nor were they at all unusual at the tables of the rich in England, though old Gervase Markham describes them as—  
“verie unwholesome, and used in greate banquets more for rarenesse than nouryshment; for it is most certaine that roste a peacocke or peahenne never so drie, then sette it uppe and looke on it nexte daie, and it will be bloode-rawe, as if it had not beene rosted at all.”

This may indeed be somewhat exaggerated, and was probably dictated by dislike at the expensive profusion of such entertainments;

but, unless when the bird is very young, the flesh is coarse and stringy; and although we sometimes hear of a pea-chick, or a young pea-hen being brought to table, it is yet more for the indulgence of curiosity than appetite. It is, indeed, so very inferior to that of the turkey, that its use has been entirely superseded by the latter.

The peacock, although seldom indulged with more than one mate, would yet be better pleased with half a dozen. The hens sit on their eggs the same time as turkeys; their chicks are also equally tender; and they may be reared in the same manner. When full grown, they are however quite as hardy, braving all kinds of weather, roosting on the trees around the house, and keeping strict watch on the nightly intrusion of strangers, which they announce, like the guinea-fowl, with a very disagreeable shriek. Like them also, they are sad depredators on the kitchen-garden; and there is a saying in Italy, that "the peacock has the plumage of an angel, the voice of the devil, and the guts of a thief."

## CHAPTER XI.

Aquatic birds—The swan : its beauty and habits—Domestication—Wild geese—The domestic goose ; description and terms of designation—Michaelmas-day—Choice of breed—A lag—Laying ; nests ; and hatching—Gulls—Goslings—Treatment—Fattening of green geese—Stubble and Michaelmas geese.

THE web-footed, aquatic birds, which have been domesticated, are the SWAN, the GOOSE, and the DUCK, which, although each of a separate race, yet bear a much nearer affinity to each other than any other kinds of poultry. The two latter are, however, the only species now used as food in England ; though formerly the swan was, on great occasions, brought forward as a luxury, and in such high esteem, that in the record of a splendid entertainment given on the marriage of one of the Nevilles in the time of Henry VIII., they were charged at two shillings each, or eight times the value of the goose. Originally natives of the north, they all breed in the uninhabited

fens and swamps of that climate ; but, being of migratory habits, they, on the approach of winter, regularly quit those cold regions for more southern countries, in flights of several hundreds.

Of the *Swan*, in its wild state, we know but little, for it has ever been a scarce bird ; and even the tame breed, though very anciently domesticated, would probably have been long since destroyed were the race not protected by enactments of the legislature, and preserved as ornamental appendages to pleasure-grounds. Its plumage is of the purest white, and no bird can exceed the swan in gracefulness of motion, as—

“ —with arched neck

Between her white wings mantling proudly,”

she sails upon her favourite element.

The pair pass their lives together in the peaceful enjoyment of mutual love—that “Heaven’s best gift !” which sheds happiness upon every creature which tastes it. They live chiefly upon those herbs and their seeds which grow spontaneously about the water ; and build their nest, of sticks and rushes, upon some islet in the stream, or in any re-

tired spot upon its bank ; the male diligently assisting in its formation. The female lays only once a year from five to seven or eight eggs, which she sits upon during six weeks for hatching ; and the old birds may often be seen carrying their young family—or “cygnets,” as they are termed—on their backs, by raising up their wings in the manner of an arch, and thus forming a sort of cradle.

The birds are known to have lived to more than a century, and it has even been asserted—though without any proof which can be relied on—that their existence sometimes extends to even three hundred years ! An idea was long entertained that before death they sing lamentably, and poets have alluded to—

“The swan-like dirges of a dying man ;”

but it is almost unnecessary to state that the supposition is unfounded ; for although Byron calls the strain—

“Sweet as the swan’s last requiem ere she dies,”

yet he, also, we may presume to have made use of the usual poetic license.

Flocks of *Wild Geese*—or “grey-lags,” as they are sometimes called from the colour of their feathers—were formerly not uncommon

in many parts of the kingdom, and sometimes remained to breed in the fenny districts of the eastern counties; yet, since the drainage and cultivation of those marshes, they are now rarely seen. They fly together in angular lines, at a vast height, led on by one bird heading the columns, which meet to a point, and when they alight for food and rest, sentinels are stationed among them to guard the flock from surprise. Naturalists describe more than twenty varieties, but the difference is generally so slight as to be, in most instances, more fanciful than real, and the only species which are commonly looked upon as being distinct are the "Gannet," or "Solanoose," the "Barnacle," and the "Brent."

The *Domestic Goose* differs nothing, except slightly in its plumage, from the wild breed; the belly of which is white, but the rest of the feathers of a dingy, ash-coloured grey, while those of the tame breed are generally quite white, though some are grey, and the females, even of the white breed, have commonly a few grey feathers intermixed. It may excite surprise that such a trivial point as white or grey should occasion any difference of opinion; yet

it is matter of dispute among breeders as to which colour should have the preference. Mr. Parkinson, who farmed largely in both England, Ireland, and America, and is the author of an esteemed work on the breeding of live stock, prefers females of the dark grey colour, and the male, or "gander," of the large white kind; having found that, "although the dark-grey geese are rather smaller, they are of a much hardier nature than the white." He therefore advises a cross between a gander of the white, and a goose of the grey breed; with which he has raised, from one of the geese, as many as eighteen goslings in one brood: thirteen being hatched by the goose, and five by a hen. He indeed says, "that he has, for years together, had from the produce of two geese and a gander, twenty eight: the geese, when fattened, weighing from 11 to 13 lbs., and the ganders from 15 to 18 lbs. when drawn and ready for the spit."

Parmentier agrees in recommending this cross, while others condemn it. For our own part, we think it immaterial; though, were we to make a choice, we should prefer the larger breed of either, without caring for

the colour: only looking to their being well feathered, full sized and round in the body, short legged, and broad footed, with a head carried high, a lively eye, and a general appearance of health. The breed just described is the one most commonly reared in this country; though a few varieties, such as the *Emden*, the *Spanish*, and the *Canadian* species, are bred by a few persons, and esteemed either for their real or supposed superiority.

Geese are, when just hatched, called "gulls;" then, immediately afterwards, and until they become feathered, "goslings," and "green geese" when a few weeks old, and fit for the table. After harvest, farmers usually turn them upon those fields from which corn has been reaped, after which they acquire the name of "stubble-geese;" and about the month of October, at which time they are full grown, they are termed "Michaelmas-geese:" in consequence, as it is said, of Queen Elizabeth having, on her way to Tilbury Fort, dined on the 29th of September, 1589, at the ancient seat of Sir N. Umfreville, near the place, and was, it seems, eating heartily of roasted goose, when a messenger arrived with the intelligence

of the destruction of the Spanish Armada; upon which her majesty called for a bumper of Burgundy to aid the digestion of the goose, and to hail the good news. The commemoration of the event has, in the lapse of time, been buried in oblivion; but due honours are still unconsciously paid to it on every Michaelmas-day, by the destruction of many a goose on its anniversary.

A gander and five geese are technically called "a Lag," being the number most usually bred together; though the gander will be contented with one mate, and, if allowed, will remain constant to her through life. French breeders, indeed, not uncommonly allot as many as eight, and even ten, geese to a gander; with a view, of course, to increase the number of young stock; in which, however, they frequently fail, for it has been found that although the geese may lay and sit upon their eggs, yet many of these do not bring forth young. We would not, indeed, in any instance, recommend more than five; though two or three would, we imagine, in most cases, rear up as many goslings as any moderate private family would require. It

is a much better plan to keep the breeding geese for the whole of their natural lives, than to kill them ; as they will become better layers and sitters, as well as more careful nurses, as they grow older.

The goose usually *lays from twelve to fifteen or eighteen eggs*, at two or three times in the season : thus producing altogether about fifty in the course of the year ; and instances have occurred of a goose having layed upwards of one hundred eggs within the year : but that rarely happens. The eggs are very large, and seldom eaten alone, in their natural state ; but we have tasted them at the breakfast-table, and when quite fresh, have not found them so strong in flavour as people generally imagine : we believe they are even highly approved of by cooks.

Geese never lay during the winter, and do not commence in the spring until some time in the month of March, or, if the spring be mild, in the latter end of February—earlier or later, according to the weather, and the mode in which they are managed ; for, if well fed and sheltered, the sooner will they begin. Breeders for the market, therefore, commonly

give them such exciting food as hemp-seed, and barley-meal mixed up with good strong ale; and ladies who wish to have green geese early on their tables, should feed them in the same manner.

When a goose feels an *impulse to lay*, she evinces the desire by carrying straws in her bill; and when this is observed, a temporary nest of straw should be laid for her. She should be confined in the shed until she has layed one egg; after which she will continue to lay her intended number in the same place. Only one is, however, usually left with her, the rest being regularly removed and kept in a cool place, until the period for incubation, which will not arrive for more than a month, as the bird only lays an egg on every second day. Most housewives are, indeed, careful to keep the eggs of each goose separately, from a prevalent idea that the bird can distinguish her own, and will not pay due attention to those of another: it is, however, an unfounded prejudice.

During the process of hatching she must not be divided from the gander; as he, unlike the turkey, will visit her frequently, during

the whole time, with all the devoted attention of a lover ; sometimes taking her place, where as Goldsmith says, “ he sits with great state and composure :” and if another goose should be hatching at the same time, their nests may be placed adjoining to each other.

*Incubation* lasts only from four weeks to thirty days : which we must particularly notice, as no less than three treatises have been recently published, each stating “ the period of incubation to be *two months* ; which, if relied upon as a fact, might lead inexperienced breeders into error. The mistake, however—if such it can be called—has been taken from a prolix work translated some years ago from the French, and from which large extracts have been unhesitatingly copied, even without acknowledgment, by the writers to whom we have alluded ; though the adoption of so gross a blunder evidently proves them to be practically ignorant of the subject.

No other care is necessary for the preservation of the young gulls than that of the treatment already explained concerning the chickens of hens and turkeys, for although

most authors advise their being taken from their mother, and kept warm until the hatching of the whole brood is complete, yet we say, "leave nature to herself;" instinct teaches the parent to do what is right, and she neither needs nor cares for our assistance: so far from it, indeed, that she will resist any attempt of the kind.

The goslings should, at first, have a little paste of any kind of coarse meal or the raspings of bread, mixed up with curds and milk; then grits may be added, and within a few days, bruised boiled potatoes may be substituted for the curds and milk, and chopped lettuce and nettle-tops may be given to them. Like all young things, they should, in short, be allowed as much nutritious food as their nature requires; but care should be taken to prevent its being of such a kind as to occasion diarrhœa, and they should be carefully guarded from cold, as well as wet; for they are extremely tender during the first month of their existence, or until the soft down with which they are covered acquires strength enough to protect them. They should, therefore, never be exposed to the

rain; and, although aquatic birds, they should not be permitted to frequent any pond, or to more than dabble a little in a pan of water, until they have reached that age at which they may be left wholly to the care of the goose and gander. Though naturally fond of the water, they may, indeed, be reared to maturity without having any access to a pond or stream; which, although useful as well as pleasant to them, when kept as *stores*, yet, when they are *intended to be fattened*, rather impedes the process.

They grow with great rapidity, and are fattened at a very few weeks old by the dealers, who sell them throughout the summer as green geese, at very high prices, being generally considered seasonable delicacies. They, however, occasion considerable trouble in their fattening at that early age, as they must be crammed in the same manner as young turkeys; and when this is regularly done by professional breeders, it will occupy an expert woman full an hour to perform it on ten geese. Though, indeed, an instrument was lately put into our hand, the inventor of which professes to enable any one

to cram with it one hundred fowls in an hour ! besides a great saving of food, and fattening the bird completely within ten days or a fortnight. To all which assertions we pay not the least credit ; for a fowl cannot be properly crammed in little more than half a minute, and any saving of food will necessarily delay, instead of anticipating, its fattening.

When turned out along with the goose, at a month old, and not intended to be fattened for the table as green geese, they require no particular species of food, and many are killed, after harvest, as stubble-geese ; some of which, if they happen to have picked up a good quantity of corn, and thus to have become partly fat, may merit the esteem in which they are by many persons held ; but, generally speaking, we view them of very ordinary quality, as being neither firm in flesh, nor having the rich flavour of the full-grown well-fed bird. Farmers are, however, evidently the only persons who can have stubble-geese, and a Michaelmas goose is not worth eating if it be not quite fat ; which cannot be done without plenty of corn.

## CHAPTER XII.

Feeding and fattening of full-grown geese—Cooping—Weight—Cobbett's plan—quality at different stages of growth—Pâté de foie gras—Mode of enlarging the liver—Prejudices—Plucking of the feathers—Age and character of the goose.

GEESE, although very voracious, are yet, in point of economy, the most valuable birds in our poultry-yards; for, if turned upon a common, or into a field, either with or without a pond, they will graze upon the pasture like sheep, wanting nothing more for nourishment than the herbage and what food they may find in the pools and surrounding ditches. They cannot, however, be fattened upon such food; but should have chopped roots, or garden-stuff with boiled potatoes and some corn, every night, in order to attach them to their home, and induce them to return to it regularly. Were an abundant feed given to them also in the morning, it would not be thrown away; for if not kept in

good condition, they will neither grow to a large size nor be easily rendered fat. There are, however, not many persons who have the advantage of a common; and even those who have paddocks attached to their houses are frequently deterred from feeding geese, under a very universally entertained apprehension that the ordure of the bird is so offensive as to prevent cows from eating any grass which is near it. Though certainly their droppings will not be found to injure the future crop of hay, and all objection may be avoided by merely hurdling off a portion of a field for the use of the geese.

In the *process of fattening*, barley and oats are both generally employed, partly in meal, made into paste either with milk, or more frequently with pot-liquor, to which most breeders add a little suet, and some a good quantity of chandlers' greaves. This, although it will fatten them quickly, yet, if much grease be used, renders the flesh rather oily; and the better mode, if you wish to have it of firm texture and good flavour, is to feed them solely upon oats in the natural state, of which a bushel will usually be more

than sufficient; though one feed of warm potatoes, mixed up with a little fat and pot-liquor, every day until the last week, will assist the process, which commonly occupies a month or six weeks, *if they be left at large*. This, indeed, saves trouble; yet, both from that motive, as well as from a prejudice entertained by many people who consider it cruel to confine a bird, it is only customary among professional breeders. The geese, however, should not have more liberty than the use of a small yard; for if permitted to roam about, their flesh will become tough, even if allowed corn at discretion: indeed, a far better mode is to put two or three in a small, quiet, dark room, littered with straw, and furnished with a tub of water and another of oats, to use as they please. Observing that if you adopt this plan, you should take, of the three, the fattest and the leanest which you have, *so as to fatten them in succession*; and when one is killed, then add another of the leanest, to make up the number.

When *put up to be fattened* in the way usually practised by professional breeders, they should be closely cooped in a dark-

ened place; for although they may be sulky for a day or two, yet, being great gluttons, they will soon reconcile themselves to confinement if supplied with plenty of food. The plan is also accompanied with the advantage of putting up a single goose at a time; so that any number may be brought into high order in succession as wanted; whereas if a goose be put up *alone*, without being cooped, she will be restless, and pine away for want of society. Cooping is, therefore, the most expeditious as well as the most economical manner of feeding, though we admit that it is the most troublesome, and the bird must, when thoroughly fatted, be killed immediately; for, if kept much longer, their fat will drip away in roasting, and the flesh acquire a disagreeable flavour.

The following experiments upon three geese, cooped and fed by Parkinson upon oats and water, will show the effects of that mode of management. One, a gander, weighed 11 lbs. when put up: weight on the eighth day following, 13 lbs. 2 oz.; after the lapse of seven days weighed again, weight 14 lbs. 2 oz.; the next seventh day, 14lbs. 12 oz.;

then killed, the weight divided being as under:—

Carcase	.	.	.	8 lbs.	12 oz.
Giblets	.	.	.	3 „	9 „
Feathers	.	.	.	1 „	0 „
Blood	.	.	.	0 „	9 „
Waste	.	.	.	0 „	14 „

Another, a gander and a goose, of the following weights, when trussed, were—

Carcase	.	.	.	7 lbs.	0 oz.	6 lbs.	10 oz.
Giblets	.	.	.	3 „	0 „	2 „	11 „
Blood and feathers	1 „	12 „				1 „	4 „
Waste	.	.	.	0 „	4 „	0 „	5 „

From which it would appear that there is little advantage in keeping them in confinement longer than about three weeks or a month.

Having thus shown the advantages and disadvantages of cooping, we shall now state, for the information of those who object to the trouble attendant on that mode of feeding, the plan adopted by the late Mr. Cobbett; which avoids all care of breeding, and, in our opinion, should be followed by every one who wishes to feed geese without having either a common or a paddock on which to graze them; it is thus:—

“I buy them off the common late in June, or very early in July. They have cost me from 2*s.* to 3*s.* each, first purchase. I bring the flock home, and put them in a pen, about 20 feet square, where I keep them well littered with straw, so as for them not to get filthy. They have one trough in which I give them dried oats, and they have another trough where they have constantly clean water. Besides these, we give them, two or three times a day, a parcel of lettuces out of the garden. We give them such as are going to seed generally, but the better the lettuces are, the better the geese. If we have no lettuces to spare, we give them cabbages, either loaved or not loaved, though observe, the white cabbage, as well as the white lettuce, that is to say the loaved cabbage and lettuce, are a great deal better than those that are not loaved. This is the food of my geese: they thrive exceedingly upon this food. After we have had the flock about ten days we begin to kill, and we proceed once or twice a week till about the middle of October, sometimes later. A great number of persons who have eaten of these geese

have all declared that they did not imagine a goose could be brought to be so good a bird. These geese are altogether different from the hard, strong things that come out of the stubble-fields, and equally different from the flabby thing called a green goose. I should think that the cabbages or lettuces perform half the work of keeping and fattening my geese, and these are things that really cost nothing. I should think that the geese upon an average do not consume more than a shilling's worth of oats each; so that we have these beautiful geese for about 4s. each. No money will buy me such a goose in London, but the thing that I can get nearest to it will cost me *seven* shillings.

“Every gentleman has a garden. That garden has in the month of July a waggon-load, at least, of cabbages and lettuces to throw away. Nothing is attended with so little trouble as these geese; there is hardly anybody near London that has not room for the purposes here mentioned. The reader may be apt to exclaim, as my friends very often do, ‘Cobbett’s geese are all swans!’

Well, better that way than not be pleased with what one has. However, let gentlemen try this method of fattening geese. It saves money, mind, at the same time. Let them try it; and if any one who shall try it, shall find the effect not to be that which I say it is, let him reproach me publicly with being a deceiver."\*

On this, however, we object to the use of cabbages, or much use of any green food, as tending to reduce the firmness of fibre in the flesh, and would substitute potatoes; which Cobbett would, we doubt not, have himself recommended, were it not for the whimsical prejudice which he entertained against them. In point of fattening, nothing is, in fact, equal to corn. We have fed poultry of all sorts, and on all kinds of grain, for our own use, both in this country and abroad, without either cooping or cramming, and without any other especial care than cleanliness, dryness, and full feeding, and have always found them of excellent quality.

It is amusing to see the variety of opinions

\* Cottage Economy, p. 129.

entertained in different publications on poultry, respecting the quality of geese, at the different stages of their growth. Cobbett calls green geese "tasteless squabs, loose flabby things," and insists that "stubble-geese are hard and strong;" while Moubray and Martin Doyle prefer a goose fattened entirely on the stubbles. Dr. Kitchener—who ought, one should suppose, to know something of the matter—looks upon a Michaelmas-geese as rank; yet it is evident that Parkinson could not have killed those geese which he so praises until late in December; and a writer in the Quarterly Journal of Agriculture declares that "nothing is more delicate than a well-fed goose from September till January; and it is quite a mistake to suppose that a Christmas-geese must be coarse and strong."

Tastes differ: what one considers delicate, another dislikes as wanting richness of flavour. Chickens, green geese, and ducklings, are esteemed by most people as dainties, but it is certain that the flesh of all full-grown animals is more nutritive than that of those which are killed when very young. In Dr. Stark's experiments on diet, it appears that, when fed on.

roasted goose, he was more vigorous both in body and mind, than with any other kind of food ; but much both of flavour and nutriment must depend on the mode in which the creature has been nurtured. In some parts of Germany and France geese are fattened to great weights, chiefly for the purpose of enlarging their livers, which are made into *pâtés de foie gras*, and sent all over Europe for the tables of the rich. Toulouse and Strasbourg are celebrated for them, and one of a moderate size, fatted and seasoned as they are in those towns, is not to be had in London for less than ten to fifteen shillings, or a guinea. They are, indeed, considered as epicurean delicacies of the highest order ; though we must frankly confess that there are persons so wanting in taste as to consider them—

“ Too dear to buy, too fat to eat.”

The mode there usually adopted is to confine the goose in a dark coop of such narrow dimensions that she can neither turn round, nor stand up quite upright ; and being thus both deprived of light and motion, and abundantly fed, she is necessarily induced to sleep, which is considered a main point in the pro-

duction of fat ; the want of motion also enlarging the liver. The bottom of the coop is warmly bedded with straw, but the back part is made with a grating to allow for the passage of the excrement, and in the fore-part a hole is left for the head to communicate with troughs, one of which is always kept full of grain, and the other of water, in which charcoal is usually left to steep.

The food is chiefly Indian corn, of which a bushel is generally necessary to complete the process. The daily portion is steeped overnight during the first week, and the corn is left for the goose to use at her discretion ; but, after that, it is made into a paste mixed with a little poppy-oil, which is known to be both sedative and very fattening, and with this the bird is crammed, in the same manner as fowls, both night and morning. Within about three weeks more, she finds a difficulty of breathing, occasioned by the increase of the liver ; a lump of fat is also found growing under each wing, and she must then be killed, or she would die of suffocation. The liver then generally weighs from one to sometimes nearly two pounds, and the carcase yields, in

roasting, from three to five pounds of fat, which is used in cooking, as being superior for that purpose to either lard or butter.

One would imagine that this process of enlarging the liver would render the goose so diseased as to make her lean, and injure the flavour of the flesh ; but this is so far from the fact, that both fat and flesh increase with wonderful rapidity, and are of first-rate quality. We can speak of this from our own knowledge ; for having been some years ago on a visit to a relation at Toulouse, we have there eaten of geese fattened in that manner, and certainly finer meat, of that description, we never tasted. The practice is so old, that it was, ages ago, common to the ancient Romans, who prized the livers as highly as any modern civic alderman ; but all that has been said and written respecting its cruelty only betrays a want of practical acquaintance with the subject, for the animal very soon submits contentedly to a plan that gorges it with food which it loves.

Another absurd prejudice regarding the treatment of geese is the idea so generally entertained of the cruelty of plucking their

feathers when alive ; whereas they naturally shed their feathers about three times in the year, and the quills twice, and if not plucked, they drop them. In the fens of Lincolnshire, and in Pomerania, vast numbers are therefore reared merely for that purpose, and there the breeders generally pluck them *five, and even six times*, between Lady-day and Martinmas, which is a practice that cannot be too much reprobated, as not unfrequently exposing the poor creatures to death, from cold, in an inclement season ; but those who feed them merely for their flesh should never neglect to pluck them at proper times, as the feathers are valuable, and if allowed to drop, would become pure waste.

The feathers are worth saving ; and as we make it a maxim, in household economy, that “nothing should be thrown away,” they should be put aside in any box or bag until sufficient are collected to have them properly dried : which is done by putting them, at two or three different times, for a few hours in the oven, after baking ; for, if the quill part of the feathers be not completely dried of its sap, it will be decomposed and become putrid.

The goose is supposed to be as long-lived as the swan, and numberless instances have been recorded of their having outlived the age of man. Moubray, indeed, mentions, as an authenticated fact, that there was, in 1824, a goose living in the possession of a Mr. Hewson, of Glenham, in Lincolnshire, which was then upwards of a century old. It had been throughout that term, in the constant possession of Mr. Hewson's forefathers and himself; and, on quitting his farm, he, with a feeling which does him credit, would not suffer it to be sold with his other stock, but made a present of it to the incoming tenant—"that the venerable fowl might terminate its career on the spot where its useful life had been spent such a length of days."

Though stigmatised as being silly and stupid, the reproach is unmerited. We once had four for our own use, which were constantly turned upon a neighbouring common, at the distance of full a quarter of a mile, to which they regularly walked through the village, headed by the gander, calling at every house, from which the servants sometimes

threw them bread, and returning at the usual hour in the evening. Though also accused of dirty habits, because they grope for food in any pond or ditch to which they may have access, yet no bird is more careful of its plumage, or fonder of a clean and dry bed. They are very capable of attachment to those who treat them with kindness; extremely quiet in their habits, and peaceable towards all the other poultry, but courageous in defence of their young, and the hiss of the gander in their protection is full of menace. When riding some time ago, rather sharply, across a common, our mare unheedingly trod upon a gosling; when instantaneously both goose and gander flew upon her with such violence that it was difficult to either restrain her from running away, or to beat them off; and for a long time afterwards the mare, upon seeing a flock of geese, snorted and started off with affright. Nor should we—

“Rob Rome’s ancient geese of all their glories,”

by forgetfulness of their use as watchful nightly guards to a lonesome country-dwelling.

## CHAPTER XIII.

Wild ducks: their nature and habits—Decoys—The domestic duck—Description and choice of breed—Muscovy duck—Nests—Hatching—Eggs—Rearing and fattening of ducklings—Feeding of store ducks—Cost of fattening—Weight—Fish-ponds and pike—Anecdote respecting crows—Oily glands.

ALTHOUGH the name of WILD DUCK is applied as a generic term to the whole species of this bird, yet the tribes are more numerous than any other kind of water-fowl, for naturalists enumerate more than fifty different breeds, among which are included the widgeon and the teal, which are common on our tables; the eider-duck, so valuable for its down; and the canvas-bag-duck, so highly prized in the United States of America, as a luxury surpassing in richness of flavour any known bird of the species. Indeed the flesh of the whole race, when not fishy, is more highly esteemed than that of the domesticated sort; but its quality depends much on the nature of the food on which they find support.

Though gregarious in their general habits, and migrating in large flocks from the countries in which they are bred, to those to which they resort for food during the winter, yet, when breeding-time arrives, the “mallard”—as the male is called—pairs with a single duck, and wing their way to some lonely spot, where they dwell apart, until they again assemble for migration. They breed but once a year, forming their nest on the ground in brakes of fern, or tufts of reeds and rushes, lining it with the warm down of their bosoms; the mallard all the while keeping watch when the duck is occasionally absent from their charge in search of food. When the hatching is completed, and the ducklings have broken their shell, they are within a few hours carried by the old birds to the water, where they at once begin to feed and swim, the parent-bird sheltering them under her wing when gathered on the land, or crouching around her for warmth, as they do not return to the nest; and, when feathered, they float the whole night long upon the water. In three months, they are able to fly; and, in three months more, their growth and

plumage are perfect. When quite young, sportsmen call them “flappers;” and a brood, when flying, is termed “a team.”

When fledged, and grouped together for migration, they fly very high, and may be known by the inclined triangular lines in which their flight is conducted; and when they alight, they cautiously make several circuits over the spot which they have chosen, as if to ascertain its security from an enemy. They repose on the water, but are always guarded by some of the flock to watch for their safety, and give an alarm when danger is approaching. They are, indeed, at all times so shy, that a shot is very difficult to be got at them; wild-duck shooting, therefore, demands as much patience as any other sport, and, as they are much sought after for the table, means have been adopted on many parts of our coasts—more with a view to pecuniary profit than amusement—for taking them in large snares, or “decoys,” where great numbers are annually killed for our markets.

The *domestic duck*, though evidently a descendant of the wild stock from which it

sprung, is yet essentially different in the flavour of its flesh when brought to the tamed state. It is, however, still governed by nearly the same natural propensities; except that in one particular—we blush to say—the “drake”—as the male is termed when tame—forgetful of those connubial ties which bind the mallard to his mate, bestows his libertine caresses on half a dozen at a time.

The plumage of the mallard is usually of a brownish, or rather dingy black colour, with a broad white patch on the wings; that of the “duck”—as the females of both the wild and tame breeds are distinctively called—being of a more clouded hue, and the bird is of a smaller size, whilst those of the common domestic kind are of every variety of colour. When dark coloured, they are, however, thought better flavoured than the white; but the latter—or “Aylesbury ducks”—grow to a larger size, and, being also found to be rather easier fattened, they are generally preferred by dealers who wish to bring them early to market. The sexual distinction of voice is remarkable; for, while the quack of the female is loud and sonorous,

that of the drake is inward, harsh, and feeble.

Although naturalists enumerate so many different families of the wild duck, yet the domestic breeds commonly reared in our poultry-yards seldom exceed two or three; of which one is a fine dark species, frequently imported from Rouen and the coasts of Normandy, and vulgarly known in this country as the "Rhone duck." The grey duck and the Rouen drake are, in our opinion, the best sort to breed from, as they will produce the finest flesh; or, if a drake of that kind cannot be had, then, that of the darkest plumage should be chosen.

The "Muscovy duck" is a distinct species. Although not long introduced into this country, it was, however, known on the continent in the sixteenth century; but with its origin we are not acquainted, for it is called in some places by different names; and in France it is universally termed the "Barbary duck." It is larger than our common duck, and, though it fattens easily, requires more food: neither is its flesh in quite so much esteem; but its size renders it valuable, and therefore

crosses are frequently made between them. The cross is, however, a hybrid, or mongrel breed, which are incapable of breeding with each other; though, if paired with any of the common species, they will produce a good stock.

The *domesticated duck* sits during the same time as that of the wild species, but is not so assiduous a nurse as the goose. She, however, lays more eggs; though it must be admitted that they are of only half the size, and equally strong in flavour; but they are held in good repute for pastry; and we can aver, that their mixture with those of the hen improves the flavour and lightness of that homely, though delicate dish—an omelet. The eggs, it may be observed, are not always of the same colour; for although generally of a blueish tinge, some ducks lay them speckled; and it is said that if different sorts are put into the same nest, the duck will throw out those which do not belong to her. Although we doubt the fact, yet it may be as well to keep them separate.

The duck is very careless in the laying of her eggs, which she deposits, when

nature calls, in any spot whatever—even in the water—without reference to the nest which may have been prepared for her; though there can be little doubt that, were she not confined, she would make a nest for herself, and hatch her ducklings. We have indeed witnessed a stray duck, with a brood of twelve only recently hatched, which came sailing down a small rivulet which bounded our late father's garden, and, being probably attracted by the cries of the poultry in the stable-yard, very composedly landed with her young family, and there took up her future residence; nor, although inquiries were made, could her owner be discovered. She, however, usually lays during the night, or very early in the morning of every second day; and, by not allowing her to go out until she has layed her egg, these accidents may be guarded against. A nest should, however, be made for her in the same manner as for the goose; and, if any shed be appropriated to her use, and that of her companions, it should be well littered with straw, which should be weekly removed to the dung-heap.

If the weather be fine, she naturally *begins*

*to lay* early in February. Many of the breeders about Oakingham, Aylesbury, and other parts of Berks and Buckinghamshire, who fat young ducklings for the London market, bring the old ones to lay sooner, by keeping them in their cottages, and feeding them chiefly upon raw flesh: then getting the eggs hatched by hens or turkeys, which must also have similar food to stimulate them for incubation. These ducklings, when hatched, are kept warm, without any mother, by the fire-side, or under the bed of the peasant who breeds them, and fed at first upon the flour of malt, mixed up with new milk and curds, but afterwards upon barley-meal and mutton suet made into a paste with broth or treacle, with which they are crammed in the same manner as chickens; some also give them minced meat, and it is astonishing to what weight and fatness they are brought at six weeks old. It may, indeed, be imagined that it occasions not a little trouble, and that the odour of the room in which they are reared is not very agreeable; but the birds are sold at large prices, which pay well for the inconvenience.

When the duck, herself, sits upon her eggs, and *the ducklings are hatched*, they should be kept in the house until ten days or a fortnight old, or more, according to the weather, and only allowed to go out for two or three hours, about noontide, along with the mother, upon some dry piece of sward, unconnected with any water to which they might have access ; for, although they may have a shallow pan to dabble in, they should not be permitted to approach any pond or rivulet until they acquire a warmer plumage than the down with which they are covered, and they should be guarded from rain and cold in the most careful manner. The duck would no doubt take her brood to the water—as the wild duck does—as soon as they are born ; and theorists reason from this—“ that nature teaches her the duty of a mother, and, as the species are the same, we should not debar the tame duck from managing her brood in the manner dictated to her by instinct.” We admit the justice of this remark, and should not recommend any interference, were the birds not rendered delicate by domestication ; but experienced breeders

know that, if governed by that advice, they would frequently lose more than half their ducklings. These may be fed, until about a month old, with the same food as any other young chicks; after which they should be committed entirely to the mother, and brought up as store fowls until they are to be fattened.

We have already seen that ducklings, for very early use, are generally *hatched by hens*—although it compels them to sit ten days longer than for the production of their own chicks—and it has long been the practice to adopt that plan at a more advanced season; both because the hen will cover as many as twenty eggs—while the duck covers only twelve to fourteen—and that she is a more careful nurse. It is, however, not a little singular, that writers, who vehemently protest against the “barbarity”—as they term it—of plucking and cramming geese and turkeys, are so inconsistent as not only to see nothing cruel in employing a hen in a way that is opposed to her instinct, but even uphold the practice by sneering at “the folly of pitying a hen, when she sees her brood

of ducklings plunge into the water ;” though it is pitiable to perceive the agony with which she witnesses an act which, in her apprehension, exposes them to instant death. But, putting aside all question of *feeling*, and merely viewing it as a matter of *management*, we deem it injudicious ; for the ducklings pay no attention to the signals of the poor hen, which in vain calls them from the brink of the pond, and frequently continue swimming until they become cramped with cold, whereas the real mother draws them from the water whenever nature tells her that a longer stay would be injurious. Hens should not, therefore, in our opinion, be used, unless when the ducks are to be brought up without having the advantage of a stream or pond ; and—to use the appropriate language of a recent anonymous writer on the subject—“we cannot help thinking it more in unison with God’s intentions that each species should be nursed by a mother of its own kind.”

In White’s ‘History of Selborne,’ a hen is, however, told of, which had, for three successive seasons, been occupied in rearing broods of ducks, and became so habituated to their

taking the water, that she would fly to a large stone which lay in the middle of a pond to which the ducklings resorted, and patiently await the brood, as they swam around it. On the fourth year, she sat on her own eggs; and, expecting her chickens to take to the water, as on former occasions, she flew to the stone in the middle of the pond, and called them to her with much earnestness; but they, as may be supposed, did not feel inclined to follow her dictates.

Ducks may, indeed, be grown and fattened in a yard, without either pond or rivulet: but their element is water; nature prompts them to indulge in it, and we may rest assured that both the habit thus dictated to them, and the kind of food which they obtain there and in the ditches, are essential to their health, while it affords a great portion of that nourishment which they most love. When grown to the age of being feathered, they should, therefore, have free access to a stream or pond, and to the fields and ditches surrounding the house; for, although they may be raised without it, they will be fattened with more difficulty, and their flesh will be

found less savoury. Cobbett, indeed, who fed them in a pen, in the same manner as his geese, says that—"his ducks are, in consequence of this, a great deal more fine and *delicate* than any others;" but that "*delicacy*," which is prized in the white-meated poultry, is not so much wanted in the dark flesh of ducks and geese—which are usually roasted—as that savouriness of flavour which gives a relish to the palate, and which is much lessened by over-nicety of feeding. In this we must, however, admit, that if the duck be *boiled* with onion-sauce (which is a common dish in Ireland), the whiteness of the flesh is then rather an improvement than an objection.

Some over-delicate folks object to the ducks being fed upon the slugs and garbage which they fish up from the mire: but those fastidious persons should recollect, that whatever goes into the stomach is converted into wholesome flesh; and, so greedy are the ducks, that, were they not allowed to seek for a maintenance, they would, when full grown, consume so much corn before being ready for the table, as to be rendered far from profitable. They should not, however,

be left entirely to their own efforts; but—*while stores*—should always have a full morning meal of chopped lettuces, half-ripe buckwheat, with any garden-stuff, or kitchen-offal, and at night, boiled potatoes with some corn; for, if their flesh is intended to be firm and well flavoured, care should be taken to keep them always in good condition.

At a more advanced season, acorns are very fattening, and impart a high flavour to the flesh. They have, indeed, been recommended to be given in a pounded state to *ducklings*: those persons forgetting, at the same time, that acorns are not then ripe, nor perhaps until six months afterwards; but when *grown ducks are to be fattened*, both the morning and evening meal should, during a fortnight or three weeks, consist of *oats*; for barley—which some people recommend, in consequence of its being more nutritive—renders the flesh insipid, or what the poulterers term “chickeny,” and should never be used in the fattening of either geese or ducks.

In giving oats, it is a good plan to put them, whole and unbroken, into a shallow pan of clear water; as, this being their natural

mode of feeding, they will in this manner eagerly seek for the food, which the formation of their bill allows them to retain, while the water passes through its edges ; and also enables them to sift the mud from any prey which they may find when groping in the pools and ditches. Or else, a small tub of oats may be given to them to use at discretion ; but if you see no dislike to the use or trouble of also giving them some raw minced meat, it will be found to improve both the weight and flavour of the flesh. Indeed, we have no hesitation in saying, that the guts of any animals, either raw or boiled, and minced—though better raw—are even superior for the purpose, to corn alone, and should ever be used in the process of fattening, as being more suited to their natural taste and habits. Mr. Patterson tried it upon several ducks, fed upon what butchers call “ middle guts,”—which are the small guts of sheep,—along with oats and barley, of which they seldom ate when gut was offered to them.

On making experiments on feeding, that gentleman found that fourteen ducks ate half a peck of oats a day ; which, supposing them

to be fed solely upon oats worth 30s. per quarter, would, within three weeks, bring their cost of fattening to about ninepence each. He then fed two other ducks on the middle guts boiled, with a very little barley meal put into the water, to form a sort of paste. This they ate very greedily, and each increased in weight at the rate of more than half a pound a week: the cost being one penny each. When killed, at the end of fourteen days, their live and dead weight was—

	Live weight when put up.	Do. before killed.
	lbs. oz.	lbs. oz.
Drake . . . .	3 0 . . . .	4 2
Duck . . . .	2 10 . . . .	3 13
	Dead weight.	lbs. oz.
Drake . . . .	. . . . .	2 10
Duck . . . .	. . . . .	2 1
Giblets . . . .	. . . . .	1 9
Blood, feathers, and waste . . . .	. . . . .	1 11

The entire of the bone in the pair was together 10¼ oz.: which bears nearly the same proportion with other fowls when made moderately fat.

As general observations, it may be truly said that both geese and ducks are the most profitable sorts of poultry, as well as the least troublesome in point of management,

for their maintenance costs very little to those who have a garden and a field, and they seek for support with little care or attendance. Ducks may indeed be justly entitled “omnivorous,” for no edible substance, of whatever nature, whether animal or vegetable, comes amiss to them: fish, flesh, and roots, frogs, tadpoles, and worms of all sorts, are eagerly devoured, and a few of them will, in a short time, clear a garden of slugs.

The objections to the use of a pond are, that, if it be stored with fish, the ducks will commit great havoc on the larvæ and small fry of the finny inhabitants; and, if the water contains any large pike, one of them will sometimes drag down a duckling to feast upon it. The old ones are also powerless in defence of their young; and when attacked by an enemy, the mother, instead of acting as a dung-hill fowl would, uselessly shoots through water, while her ducklings are being carried off not only by hawks, but occasionally even by crows.

Of this Mr. Waterton relates—as a trial of the fact—his having put an old duck, with a brood of ten ducklings of a fortnight

old, into a pond, nearly three hundred yards from a high fir-tree, in which a carrion crow had built her nest, containing five young ones almost fledged. He took his station, unobserved, at about a hundred yards from the tree, and nine times the parent crows flew to the pond, each time bringing back a duckling to their young.

Aquatic birds have a gland adjoining that part which uncourteous people sneeringly term "the parson's nose," in which there is supposed to be secreted an oil, or mucus, which can be pressed out by the bill, and used for the purpose of anointing their plumage, to guard it from the wet. Whenever, therefore, the feathers are either ruffled or exposed to rain, the bird turns its head backwards, catches hold of the gland with its bill, and forces out the oil, with which it replaces them in due order. Thomson alludes to it in the 'Seasons,' as if were a settled fact—

" Hush'd, in short suspense,  
The plummy people streak their wings with oil,  
To throw the lucid moisture trickling off:"

and the act is common to constant observation. All fowls are indeed possessed of a

similar gland, except that species ludicrously called "the rumpkin," which is entirely deficient of both tail and rump; yet, both the substance which it contains, and the object to which it is applied, are disputed, and it is somewhat singular that naturalists have not been able to set the point at rest.

Both geese and ducks are indeed peculiarly valuable to the farmer, and profitable to the cottager, or to any person living by the side of a common, as well as desirable to all country families, both for their excellence when brought to table, and for their hardihood of constitution, and the ease with which they may be maintained. They are also more easily managed than chickens and fowls; for they are less quarrelsome, and unless the garden be well fenced off from the poultry-yard, either by a very close hedge or by high paling, the fowls will assuredly effect an entrance, and commit great injury by scratching up the beds in search of seeds and insects; while, if ducks be admitted, they will only seek for those slugs and worms which are to be found above ground.

## CHAPTER XIV.

Diseases: regimen and remedies—The roup, and its causes—Notion of its being infectious—The pip and gapes: symptoms and manner of treatment—Fever—Crop-sick, and means of cure—Moulting—Old age and death—Mode of killing—General treatment—Poultry-maid.

POULTRY are liable to various diseases, and were we to enumerate all the farrago of ailments, including even asthma, gout, and rheumatism, and their remedies plausibly detailed in publications on the subject, we should have to copy a list which would deter any one from keeping them. We can however safely affirm, that if proper care be taken, health may be easily maintained among them; and we agree with a sensible writer in the 'Quarterly Journal of Agriculture,' that "those who listen to the advice of the ignorant and prejudiced, nay they who seek from books remedies for disorders which may appear among their live-stock, will have to contend with monstrous absurdities, excessive ignorance, and barbarous cruelty in the quack-

eries recommended ; and nature will generally effect a cure if her efforts are seconded by simple means on our own part.”

DISEASE is most frequently the effect of some error in diet or management, and may generally be cured by immediately adopting a different course of regimen : as to *remedies*, they are within your own power ; for if the few rational rules of strict attention to *cleanliness, dryness, warmth, and good feeding*, be acted upon, fowls will very rarely become sick ; nor is there anything more simple than the successful rearing of all sorts of poultry. We shall therefore only give a succinct account of the chief maladies to which they are exposed ; of which the roup, the pip, and fever, are the most prominent ; for moulting, as being natural to the constitution, cannot properly be called “disease,” and accidents cannot be guarded against. As to any chronic disease, the surest remedy is to wring their neck.

The *roup*, although commonly applied to several of those ailments which sometimes attack every species of fowl, in consequence of improper management, may be more justly

described as an *influenza*, caused in most cases by the effect of cold and moisture, arising either from the dampness of the yard and poultry-house, to which they are of course more exposed during their moulting than at any other season, though frequently caused by a humid change in the temperature.

The roup is so generally considered to be infectious, that when fowls are attacked by it, they are almost always removed from the poultry-yard to prevent contagion; but the disease is so far from being infectious, that the fowls may roost with others in perfect health without exposing them to danger: the idea of contagion arises no doubt from the disorder spreading among the stock in consequence of the want of warmth and proper food, which, if removed, the malady will cease. Its most usual symptom is difficulty of breathing, which occasions the fowls to gape, and the eyes become swollen, accompanied by a watery running. The plumage is ruffled, and deprived of that pearly gloss which it usually bears, and the bird sits moping in much apparent pain. It affects fowls of all ages, and when neglected, has

been known to become a chronic complaint. The remedies usually indicated are nostrums compounded of calomel, sulphur, and drugs which we do not deem it necessary to transcribe, for the malady is nothing more than a *catarrh*, which may be cured by warm lodging and nourishing food; but if so serious as to occasion a purulent discharge from the eyes and nostrils, the poultry-maid should, every morning and night, gently wipe the head with a towel wetted with warm water.

The *pip*, also called the *gapes*, in consequence of the creature's appearing to yawn—is a disease which chiefly afflicts the chickens of fowls and turkeys, although all domestic fowls are liable to it, and is of so dangerous a nature as to frequently carry off whole broods. The origin of its cause is unknown; but it forms itself in a thickened covering of the tongue, which shows itself when the chicken is about three or four weeks old, by its scratching at the roots of the bill, as well as by raising up its head and gaping, as if for want of breath, and increases in size until the windpipe becomes so completely filled up as finally to suffocate the chick, which, if not

promptly attended to, dies in the course of a week or ten days: the common remedy being to peel off the membrane with the nails of the forefinger and thumb, and afterwards rub the tongue with butter and honey.

Upon dissection, after death, there have however been found in the windpipe several small red worms, varying in size; some half an inch and more in length: but they can be removed with safety and facility in the following manner:—

Let some one take the chicken, holding it in one hand and placing the other over its back, so as to hold it firm; and then let the operator take a small but firm feather from a hen or pigeon, and strip it from the stem, excepting about an inch and a half from the tip end, according to the size of the chicken; wetting it a little, except at the extreme point. The operator should then take the head of the chicken in the left hand, placing his thumb and forefinger on each side of the bill, in such a manner as to hold the mouth open, the neck being gently but firmly drawn out in a straight line. Then observe the opening back in the tongue; place the feather as near to it as possible, and when the chicken breathes, the windpipe will be open; at which moment, enter the feather quickly, and push it down gently, but not in a hurry, from two to three inches; then draw it out, and in doing so, turn the feather round, by which means some of the worms will adhere to the feather, and others will be so loosened that the chicken will sneeze them up, and throw them from its mouth. As many as eleven have been got out at one haul, and it is not advisable

to do it more than twice at the same time ; but if the chicken gapes the day after, you may be sure there are some still remaining, and the operation must be repeated.

We have thus copied the minutiae of these details from the gentleman who furnished them, as he states that the operation is a sure cure for this fatal disorder ; he having the last year had the greatest part of his chickens—more than a hundred in number—very severely attacked, and having only lost one ; while the rest, after having been treated in this manner, recovered to perfect health.

We should also add, that if a lump of salt butter be mixed with some soft-soap, or strong Scotch snuff, and pushed gently down the throat, it is said by many persons to have the effect of destroying the worms ; but we imagine that, even in this case, it is necessary to strip the thickened membrane from the tongue.

*Fever* is a common attendant upon this malady, and, in such young creatures, admits of no peculiar remedy, for they cannot be removed from the fostering care of the parent hen ; but, when older fowls are thus afflicted, the better way is to remove the patient to a

cooler place than the fowl-house—an open-railed basket, left under cover in the poultry-yard, being as good as any—and feed it upon chopped lettuce, parsley, sorrel, or any green vegetable, with a very small supply of corn. This mode of management will sufficiently relieve the degree of costiveness with which the disease is generally accompanied, and the opposite malady may be remedied by pursuing the contrary system of warmth and nourishing food.

Among those accidents to which poultry are subject, we shall only mention that occasioned by their sometimes gorging themselves either with too much food, or of some indigestible kind, which remains in their craw, or first stomach, in the same state in which it was when eaten, and causes them, when this happens, to become *crop-sick*. It more frequently occurs to chickens than to older fowls, and pigeons are peculiarly exposed to it, from the eagerness with which they devour their favourite beans.

Should time not afford the bird ease, medicine cannot, and an endeavour should be made by the poultry-maid to relieve it of its

burden, by keeping it fast between her knees, holding up the head with one hand, and stroking the throat with the other from the crop upwards; by continuing which process for a considerable time, the greater part of the food will, probably, be discharged; but, if not, the only effectual remedy is then to make a longitudinal incision in the throat near to the crop, and pick out from it the objectionable matter. This can be done with a sharp penknife at one cut, if the fowl be firmly held and the operator have a steady hand, and if the wound be neatly sown up, and covered with adhesive plaster, it will soon be healed. The fowl should, however, be kept quiet for a few days, and fed either upon boiled bread and milk, or other soft food.

Of *moulting*, we have already said all that is necessary, and the plague of *hen-lice* can be prevented by proper attention to cleanliness. We shall, therefore, conclude this chapter by alluding to that universal malady, if indeed it can be so called—*old age*—which admits of no other cure than death; and is the only remedy to be recommended, in every case of serious accident or troublesome disease.

The common mode of *killing fowls* is to cut the throat across, and hold the bird by its legs—thus allowing it to bleed to death, from an idea that if the blood be not discharged, it will discolour the flesh, and render it less easy to keep in warm weather. We must admit that there may be much truth in this notion; but others assert that the discharge of the blood occasions the meat to become dry, and partly deprive it of flavour; and the poulterer—who ought, we imagine, to be the best judge—performs the operation by holding the bird, with the left hand, by the legs and wings, whilst with the right, he, with a stroke or two, breaks the neck, and then hangs it up by the legs, *without cutting it*. This mode is certainly the most humane, as well as the easiest, of the two, and is founded upon the principle—as stated by the poulterer—that the blood descends to the head without injuring the meat, while partly preserving its juiciness; but, although we have frequently eaten of fowls when killed in both ways, we could never perceive any difference in the flavour of either: as a medium between the two, we should, therefore, recommend that

the neck should always be broken to deprive the animal of life; and then, the throat may either be cut or not. Turkeys, pea-hens, pigeons, and ducklings, are all killed in the poulterer's manner, but grown ducks and geese in the common mode of cutting the throat.

Although fowls are frequently left in their feathers for days together, yet the better mode is to strip them while yet warm; singe and truss them immediately; and place a board with a weight upon the breast-bone, to add to its appearance of plumpness; or this may be better done by putting a doubled napkin upon the bone and striking it with one blow of a wooden mallet to break it; but the blow must not be repeated, or it may break the skin. If the bird is to be dressed immediately—as in urgent cases it is sometimes necessary—it is thought that by opening the bill and pouring a table-spoonful of vinegar down its throat the meat will not be tough. The better mode to make the fowl tender is we imagine to put it to the fire before it becomes cold: for we have often noticed, when travelling in Portugal—where fowls are never

killed by the innkeepers until the arrival of a passenger--that, although pulled from their perch and put upon the table within an hour, they are never tough. Poulterers always dust the fowl with flour when it is trussed, in order to make it appear more delicate; and although a mere trick of the trade, yet, if the bird is to be roasted, it rather improves its appearance when brought to table.

One word on the essential point of treatment. If the poultry-maid be a kindly-hearted, quiet creature, it is inconceivable how soon the fowls will acquire confidence in her: they will come to her at her call, if that be done in a tone of good-nature, but, if not, they will cower from its harshness. The disposition of the servant is, indeed, in every case in which animals are put under their care, of far greater consequence than the master or mistress may always imagine; and, if more carefully inquired into on being hired, there would, perhaps, be fewer changes than we at present see in most families: but we must admit that there may be faults on both sides.

## CHAPTER XV.

Breeds of pigeons—The stock-dove, the wood-pigeon, and the cushat—Migratory flights—The turtle-dove—The carrier, and its speed—English species—The domestic dove-house pigeon—Pairing and breeding—Nests and hatching—Dove-cotes: building and arrangement of different sorts—Her Majesty's—Flesh and flavour of the pigeon—Food—Cost—Appetite for salt—Attachment to home—Anecdote—Salt-cat—Diseases.

PIGEONS are of various orders—*croppers*, *carriers*, *pouters*, *runts*, and *tumblers*, of the domestic sort; but these, as well as the wild tribes of the wood-pigeon—known as the *ring-dove*, the *turtle-dove*, the *rock*, and the *stock-dove*—are all of the same species, and too well-known to need particular description, though, of the two latter, which are very nearly allied, the ring-dove is much larger than any of the others. Naturalists, indeed, enumerate more than thirty different kinds; which, although nearly resembling each other in graceful elegance of appearance, yet differ

essentially in some of their habits. This may, however, in some cases, be attributed to the regions of which they are indigenous, or generated by crosses with some foreign race, which, among all animals, we constantly see created with such strange deviation from rule, as to seem a new kind of being: the tumbler, for instance, exercising itself continually while in the air, by rolling over and over without intermission; while the powder, on the contrary, remains stationary, contenting itself with puffing out its crop to a ridiculous extent; and the runt has the advantage of a larger size; but, although all this may have been occasioned by accidental causes, or by the efforts of breeders to improve their stock, the extraordinary instinct of the carrier-pigeon can only be ascribed to nature.

Buffon views the whole of our domestic race as arising from the common origin of the stock-dove; but this is disputed by many, who rather suppose it to have originated from the blue rock-pigeon, or "rockier," which is a native inhabitant of this country. The stock-dove is of a deep bluish ash-colour; the breast dashed with a fine changeable

green and purple, and the sides of the neck with strong copper-colour; the wings are marked with two black bars over the quill feathers, and the tail is also barred with black near its end, but the back is generally white. From this, the art of man has, however, created such numerous varieties, by coupling the different sorts, that it would be a vain attempt to describe their peculiarities: it is, however, —like most such inquiries—a mere matter of curiosity, and only interesting to the scientific physiologist.

The *wood-pigeon*—which is also in Scotland called the “cushat”—is much larger than the tame species, and cannot be domesticated; for, although many persons have been at great pains to attain that object, all their efforts have been unsuccessful. The eggs have been frequently placed under the tame pigeon, but the young birds, when able to fly and feed themselves, invariably go off to their natural haunts, and are seen no more. Neither do they breed in confinement: for although they have been bred in the aviary of the Earl of Derby, at Knowsley, and a few summers ago a pair of them built a nest in

the dove-cote of the Zoological Gardens, in the Regent's Park; yet these are unusual instances, and the eggs were broken by other birds of the same species which were inhabiting it.

They are birds of passage, of different size and plumage, found in almost every part of the known world, except the more northern latitudes, and the multitudes which inhabit the forests of North America are so extraordinary that a flight of them which was witnessed by Audubon, the naturalist, when they were migrating from one district to another in search of food, was such as literally to fill the whole air, for leagues together, with so dense a mass of pigeons, that the light of noonday was obscured as by an eclipse. In their roosting-places, they settle down upon the trees in such vast numbers that, although not large in size, the branches break down under their weight; and not only do wolves, foxes, and birds of prey follow them, but farmers fatten hogs upon their flesh.

The *turtle-dove* is also a migratory bird, usually arriving in this country some time in the month of April, and leaving it in the

close of autumn. Poets, when describing those haunts—

“Where love-sick turtles breathe their amorous pain,”  
celebrate the music of their melancholy cooing; but, although persons of sensibility may find a charm in the notes of a few, yet when many of them inhabit the woods surrounding a mansion—as multitudes do in back groves—their harmony is not very agreeable.

The property of the *carrier-pigeon*, in finding its way home from places far distant from that in which it was bred, has always excited much interest, and lately more than ever, in consequence of the use which has been made of them in conveying particular intelligence from any given spot with much greater speed than if sent by post: from which it has been thought to be more the effect of training than real instinct. The mode of teaching them for that purpose, is to breed them in the loft of some elevated building from whence they learn to distinguish the roof: they are then carried in a bag to a short distance, and turned loose; daily increasing the distance, until at length they are brought out of sight of their habitation. But,

when there, it can be instinct alone which makes them turn to the point of their dwelling, and their education we imagine to be only of use in ascertaining those birds which are the most active and discriminating.

The manner in which the pigeon is employed, is to carry it to the spot from which information is to be sent to that where it was bred—being all the time kept in the dark, and sparingly fed for several hours previous to its being dispatched. The news to be forwarded is inscribed upon a slip of parchment, fastened round the neck, or under a wing; and the bird, when let loose, makes a spiral flight of observation to a considerable height, after which it darts off in the direction of its home, which it generally reaches with incredible swiftness. Numerous instances have been recorded of their travelling hundreds of miles at the rate of ninety miles an hour. Among which a flight, consisting of three hundred birds, was despatched, on the 12th of July, 1842, from Birmingham, to decide a bet among parties at Antwerp, where they all arrived in safety, the first bird having reached its destination

in three hours and a half; the distance, in a straight line, being estimated at three hundred miles. The power thus possessed by the pigeon, has, by an interchange of birds, been made available in secret correspondence both in war and commercial speculation; as well, it may be supposed, as between anxious lovers who wish to waft their sighs "from Indus to the Pole:" an employment more in character with so gentle a messenger.

It has, indeed, been asserted that they are also known to make daily marauding excursions, in harvest time, from the Netherlands to the opposite coast of Norfolk, there to feed on what they can pick up: returning within a few hours, although the distance is not less than forty leagues.

The real *English dove-cote pigeon* breeds but twice a year, generally in the months of April or May, which is called their "spring-flight;" and again in September or October, as their "harvest-flight;" when they pick up such plenty of food in the fields as to become independent of that which they ought to receive at home. They are a hardy

species, and, when young ones are wanted to increase a stock, those of the harvest-flight should be preferred; for, being usually of a stronger nature than those hatched in the spring, and having the advantage of a long winter before them ere they begin to breed, their age fits them better for their parental duties than the younger birds. They are known to live twenty years; but ten or twelve are more common, and they are seldom prolific after five years of age.

The tame, domestic, *blue dove-house pigeon*, commonly bred in our dove-cotes, is supposed to have either originated from a cross formerly made between our native species and birds introduced from France, or, more probably, the French breed was gradually adopted, and finally perpetuated in this country as a new or indigenous race; for, as they lay nearly every month, they are far more profitable than the old stock. Of whatever species, however—whether tame or wild—pigeons produce only two birds at a time; but, if well supplied with corn during the winter and spring, it has been calculated that from the progeny of a single pair breed-

ing at this rate, without accident, there would, in the space of four years, be produced upwards of fourteen thousand birds! Eight or nine broods of this race may be counted upon in the course of the year.

Such frequent changes are made by pigeon fanciers in the plumage, size, and apparent species, that, as we have already remarked, it would be an endless task to enter upon a description of the different sorts; for there are various clubs established, both in England and on the continent, of persons associated for the purpose of improving the present breeds, and large sums, so much as five to five-and-twenty guineas, are sometimes given for pairs of those of a new or superior appearance. We however consider the ordinary kind to be the best, both as breeders and nurses; and in the purchase of a stock, we should recommend this class of constant breeders, whether hybrids or of a pure race, of a good sort, but without paying any large price for the fancy.

In making the purchase you must, however, be careful to buy only squabs before they are fledged; for if they have been once

abroad upon the wing, they will assuredly return to their original home. We, ourself, indeed, many years ago, lost a considerable number of young pigeons, which we incautiously bought of a poulterer in Leadenhall Market, for the purpose of stocking a dove-cote at a farm in Surrey, about thirty miles from London. They were sent down in a closely covered cart; kept for several days within the cote, and fed upon all sorts of dainties, until they were presumed to be reconciled to the change; yet no sooner were they let out, than they, one and all, flew off: no doubt to their breeder; but the poulterer either knew not, or would not tell his residence; and of the birds we heard no more.

They are gentle little creatures, of very engaging manners, doing no mischief in a garden, either by scratching it or eating the fruit, and are models of mutual affection; for when paired, they pass the remainder of their harmless lives in aiding each other to bring up their offspring. "Constancy" is, indeed, the proverbial motto of the dove: and, as Addison says—

"Chaste are their instincts, faithful is their fire;  
No foreign beauty tempts to false desire."

It is therefore cruel to separate them; and when this happens, either through accident or design, should the cock be deprived of his mate, he forsakes the cote in despair for her loss; but truth compels us to acknowledge that the widowed hen soon seeks a paramour to console her, and adopts him as the future companion of her nest.

Both cock and hen are so much alike, that it is difficult to distinguish the sex: the cock is however somewhat larger, has a bolder strut, and altogether a more masculine air and appearance; and his "coo" is both longer and louder than that of the hen. They feel an inclination to mate when from six to nine months old, according to the season, and the means which they have had for support.

When *old enough to breed*, it has been thought better to match the pair than to allow them to choose their own mate, as you will thus be enabled to cross them according to your fancy; and if shut up together in any quiet place for a couple of days, the object will generally be accomplished. Sometimes, however, this occasions a quarrel, which ends in irreconcilable

hatred, for the cock, however attentive to his mate, yet expects her to yield to his authority, and perhaps the most prudent way of pairing them is to place them in separate coops, adjoining each other, when by leaving them alone, and feeding them with hempseed, they will soon display an inclination for each other; but unless you have an object in view beyond the mere fancy of the cross, the better way is to leave the birds to act for themselves as dictated by nature. If left to seek abroad, the courtship is commenced by the attractive "cooing" of the dove, which calls the male in her softest tone of love to the spot where she lies hid. He then assumes a pompous strut, his head elevated and his throat swelled; he every now and then rises on the wing, hovering in circles around her, until at length he approaches her, and they caress each other by crossing their beaks, in "billing:" which preliminaries being soon adjusted to mutual satisfaction, they immediately commence domestic operations.

In *building their nests*, the female is the architect: the male gallantly performing the

laborious work of collecting and carrying to the spot all the materials of which it is composed ; consisting chiefly of dry twigs and straws crossed together. The task is, indeed, not very burdensome ; being commenced at sun-rise and completed in the evening, and an egg is laid on the following day. In the tame, domestic state, nests are however frequently provided for them, either in small wicker baskets, or in shallow, sloping, earthen pans, partly filled with hay ; or, indeed, hay alone, with a small ledge to prevent the eggs from rolling on the floor, will answer the purpose.

The pan is the easiest cleaned, and the least subject to the shelter of insects ; but baskets are the most usual, and may be found, together with feeding-boxes and water-bottles, at most of the makers, of sizes appropriate to the breed which you may have in your possession, and with compartments for the different purposes of carriage and putting up to fatten : or, if left to themselves, with room enough for their habitation, they will bring up their little family without requiring any further care ; and, except for the use of those

who are nicely curious in such matters, the cost may be spared.

The *eggs* are only two in number, of a small elliptical form, and of pure white. During incubation the male supplies the female with food; and both the male and female afterwards feed their young brood for some days after they are hatched from a secretion of a whitish, milky, fluid nature, extracted from their food and contained in their crop, which they disgorge and inject with their bills into those of their young, until, by degrees, they give them grain: a circumstance which has perhaps given rise to the common solecism of "pigeons' milk."

The *process of hatching* lasts from eighteen to twenty days from the laying of the first to the last egg, and neither during the process, nor at its completion, should either the old or young birds be meddled with, or the eggs be handled. So tenderly attentive, indeed, are the old ones to their little brood, that it requires no other care. They divide, nearly equally, between each other, the tedious solicitude of incubation, each alternately sitting upon the eggs by turns, regulated

with great punctuality: from three or four o'clock in the evening till nine the next day, the female continues to sit, and is then relieved by the male, while she is seeking her food abroad; but should she not return at the appointed time, the cock seeks her out and drives her to the nest; she also retaliating in like manner upon him, if guilty of similar neglect. When the nestlings are about a fortnight or three weeks old, the female not unfrequently begins to sit again; leaving her "squabs"—as those young things are then called—to the care of her mate, who provides them with food until able to leave their nest and feed themselves, when they are termed "squeakers;" which name they retain until they begin to coo, soon after which they are strong enough to fly, and begin to breed when about six months old.

*Dove-cotes* were anciently attached as a manorial right to the dwellings of great landed proprietors, and cotes large enough to contain several hundred pigeons may still be seen adjoining many of the old mansions of country gentlemen. Even now, a cote can only be erected by a freeholder, or by permission

of the lord of the manor; but those upon a large scale have, of late years, been much disused; and for our present purpose, those of a smaller size will be found sufficient.\*

Presuming, as we have already said, that eight or nine broods, of two each, will be annually produced, and feeling assured that, if the birds are properly fed and taken care of, at least that number will be bred, it must be apparent that a very few couples of old pigeons will be sufficient to supply a moderate family. We, therefore, deem it unnecessary to enter upon the details of the erection and management of a spacious dove-cote; for any space partitioned from the loft of a stable; a box of sufficient size nailed against the wall of a house; or even a few shelves placed in an out-house, or cow-shed, will answer every necessary purpose. Indeed, the cote so commonly to be seen erected upon a high pole in

\* By act of parliament, any person unlawfully killing, wounding, or taking alive, any house-dove, or pigeon, being convicted thereof before a justice of the peace, is liable to forfeit forty shillings, besides the value of the bird: but holders of land, whether tenants or landlords, may lawfully kill pigeons, when found destroying corn. 7 & 8 Geo. iv. cap. 29, sect. 33.

a circular shape, divided into three floors for separate nests, and which may be conveniently made out of a beer-hogshead, is as good as any for a small number; besides offering a pleasing object from the garden, and an excellent *point-de-vue* for the pigeons: or those erected over the Queen's poultry-house at Windsor, and the rabbitry at Swanscombe, as depicted in the following Chapter. We, however, prefer them to be somewhat more roomy, as affording more convenience for cleaning them: the pigeons, though disliking foul air, being yet far from cleanly in their nests. We are, indeed, aware that many of those small pigeon-houses which do not admit of personal inspection, are only occasionally cleaned, perhaps once in three months, by having the floor scraped with a hoe which is thrust through the hole, and that nests are in these seldom provided, and yet that the birds are there generally healthy.

In putting up the dove-cot, it should be observed that, if of a square form, the southwest aspect is the best front; but, whether round or square, it should have a pent-house roof, to guard it from the rain, and a broad

ledge, or a platform at the bottom, for the pigeons to alight and walk upon. A perching-rod projecting from each hole will be likewise convenient. The *outside* should also be painted white, both as the pigeons are very fond of that colour, and that it forms a mark for them when roaming at a distance from home; and the *inside* lime-washed. If built over a stable, or against a house, care should be taken to prevent the access of cats, as well as rats, weasels, or such vermin; all of which are destructive to the broods.

That inauspicious foreteller of domestic calamity—

“The hateful messenger of heavy things,  
Of death and dolour telling—”

the owl, although chiefly living upon field-mice, will also sometimes get into the cote at night and carry off a nestling, and this cannot be guarded against without shutting up the cote every evening; which is not only inconvenient, but would prevent the pigeons from going out as they otherwise would, at the break of day.

If a dove-cote be fixed over a stable, it has the advantage of being partitioned off the loft

of whatever size you please, at the mere expense of putting up the boarding, and may be provided with a door, communicating with the loft, for the convenience of cleansing; which is of such importance that whole coveys have deserted their cotes where that has been neglected. This can also be more easily attended to when thus placed, than in any small cote which can only be reached by a ladder. If large and lofty enough, it is a good plan to place a sort of table in the centre of the cote for the young squeakers to fly upon; and underneath, on both sides, nests may be made of laths, allowing room enough for the stock to run about: the nests being in every case large enough to admit of two rooms—one for the young squabs, and the other for the old hen; as she makes preparation for a new brood before the last are fledged.

The loft may also be provided with a small trap—moved by a pivot to open and shut at will—in the roof of the cote, over which an enclosure may be made with laths for airing the squeakers before they are properly able to fly, as well as for confining pigeons which

cannot be trusted abroad, and for catching them when wanted: for, if you have not the convenience of such a cage, you will find it difficult to catch the squeakers when they begin to fly. The pigeons may thus either enjoy a healthful recreation or retire to their cote at pleasure; and, as the space can be enclosed with very little cost, some of these “dormers,” as they are technically termed, are made of very large dimensions. The larger and the more lofty the cote, the better indeed will the stock prosper, and the finer will be the flavour of the flesh.

*With respect to the flesh*—that of an old pigeon has been decried as “tough, bitter, and unwholesome.” Now, without being an epicure, we deem the flavour of all our food as being well worthy of attention, and, although “tastes differ,” we yet imagine that no person, according to their palate, is indifferent to what they eat. We also readily admit, that any bird, if very old, will be very tough; but, with reference to the present instance, the “bitterness,” as it is called, of a full-grown pigeon, we consider as an improvement of flavour. Although the food

may be found somewhat heating if often used, we yet insist that it is anything but “unwholesome,” if indeed it be not, to many stomachs, more healthfully nutritive, and far preferable to those young squabs which we so frequently see upon the table; fattened, by the dealers, with peas, blown by the mouth through a pipe into their bills. A squeaker of three months old may be eatable, but much better at four, and not in prime order until two or three months older.

The meat of dark-fleshed birds, if also of dark plumage, is browner than that of those which are white, and the latter are preferred by many persons, as being more delicate; but those who appreciate the savour of game will ever esteem the former to be superior; and that of the wood-pigeon is far preferable to any of the tame species.

*In regard to food*, the pigeon is so thoroughly granivorous, as to feed entirely upon grain, when it can be got, or on the seeds of any kind of grass or weeds which it can pick up—though tares, hemp, rape, and canary, or those of any common spice, are its favourites; but no sort of corn comes amiss, and when fed at

home, the stock get little else than barley and oats, along with the fowls in the poultry-yard, with perhaps a few tares,—of which they are very fond—or those small beans which are sold in the markets as “pigeon-beans.” Squabs are fed by the old birds; but squeakers, when about the period of being able to feed themselves, should have some coarse meal, or small seeds, thrown to them at night and morning.

If thus regularly fed at home, and kept until they become old, they consume so much as probably to cost more than they are worth. Dealers, however, who keep pigeons for sale, make them profitable, by maintaining them chiefly at the public expense, through the depredations which they commit on the corn of the farmers during harvest and seed time: for they roam far and wide for their livelihood; and, when pressed by hunger, they unhesitatingly attack the growing turnips, which they bore with their bills, and also root up the sets that are planted for potatoes. They are not, therefore, usually in very high esteem among the neighbours; for, notwithstanding all the care which persons of

proper consideration take in feeding them, they will necessarily pick up something from the surrounding grounds of those who are not their owners.

They are, indeed, great devourers of grain: though not to the extent of the statement in the survey of Devon, and copied by many of the writers on poultry, in which it is said, “that, with what they carry home to their young, each pair will daily consume one pint of corn; and, as it is supposed there are in England and Wales 20,000 dove-houses, averaging each 100 pair of old pigeons, these—taking the estimate at only 1,125,000 pair, and assuming them only to subsist upon corn for 140 days in the year—will amount to 157,500,000 pints, or 4,921,875 Winchester bushels: equal, at the price of six shillings per bushel, to 1,476,562*l.* 10*s.*, which would bring the cost of each pair for their feeding during twenty weeks, to no less than *twenty-six shillings and sixpence!*

Now, Moubray, who first copied this absurd account, ought to have known better; for he states, in his memoranda, “that 15 pairs of old pigeons, and 140 squeakers,

of all sizes, regularly fed by himself, consumed, in one week, five pecks of the smallest beans and ten quarts of seeds; the old stock consuming about half the quantity:" which shows the consumption of a pair to be only the ninth part of a pint; and the cost of feeding, for the time and at the price of corn above stated, to be not more than *one shilling and five pence*. It is, indeed, not a little singular as displaying the incaution of Moubray and his copiers: for Vancouver, the author of the 'Devon Survey,' has actually doubled the amount of his estimate; but this, although evidently an error in calculation, they have transcribed without examination. We should not, however, have alluded to the subject, were it not proper to disabuse the public respecting a prejudice against these birds which has been put forth without contradiction, and very generally adopted.

We must, however, confess that, were pigeons to be kept the whole year round upon grain, let its price be what it may, they certainly would not pay for their keep, for they may be generally bought in the markets of London at from *9d.* to *14d.* according to the

season, and for even less in most parts of the country ; but they are commonly killed when not more, or indeed much less, than six months old : squabs and squeakers are therefore the only sorts that pay for their breeding.

So extraordinary is their *appetite for salt*, that if it be spread upon land, they will seek it, or if even sown in drills, they will pick it out ; and if a lump of saltpetre be placed in the pigeon-house, they will be constantly pecking at it. They are also very fond of dried mortar, with which if not supplied, or with some such sort of rubbish, they will commit considerable damage to roofs of houses, by picking it from between the tiles. Another of their inclinations is for the odour of strong aromatics ; among which *asafoetida* stands so prominently, that if smeared both inside and outside, it will not only retain the inhabitants, but attract many strangers.

The practice of giving salt and mortar to pigeons is indeed so common, that it is by no means unusual to make up a substance consisting of some of the rubbish of an old wall, mixed up with equal quantities of carraway

and cummin-seed, allspice, and bay-salt, moistened with stale chamber-ley : which thus hardening into a cake, is placed either in the pigeon-house with a board over it, to guard it from being soiled by dung, or left within their reach outside the house, and put into a corked jar perforated with holes large enough to allow the beaks of the pigeon to enter. The mixture is well known under the title of "salt-cat," and is not unfrequently employed as a decoy to entrap pigeons by dishonest persons who gain their livelihood by such petty frauds. It is, indeed, not improbable that, although not used with any improper intent, it may have the effect of attracting the pigeons of the neighbours ; but, as they are not, in that case, detained, they will in all likelihood return to their home, or, if not, we must rest contented under the assurance that our own stock will be occasionally retaliated upon by the shot of a farmer who finds them pilfering his crops.

Pigeons are so attached to their home, that those of the wild species, which live in the woods, will breed for years in the same tree ;

and even the migratory sorts which annually quit this country have been marked, and found on their return to inhabit their old nest. Our domestic breeds will, therefore, never desert their cote, unless driven away by want of common attention to its cleanliness; and when many are kept together, this should be carefully minded; for, if neglected, it will sometimes happen that a squab dies in the nest, and if not speedily removed, the old ones will be unable to endure the filth and stench of their dead offspring. The hen will thus be obliged to leave the eggs on which she may be again sitting, or, perhaps, to quit the cote altogether; and, in some cases, the whole stock has flown off in search of another residence.

Pigeons live so much on the wing with pure air and exercise that they are less subject to disease than any of the domestic poultry; and, if furnished with a little salt-cat, or saltpetre and lime, or mortar, which probably acts as a preventive, there will rarely be any occasion for restoratives; we therefore omit all detail of their diseases.

They are, indeed, sometimes afflicted with a disease somewhat similar to that by which fowls are attacked by over-gorging their crop. It is occasioned by the pigeons losing their chicks when very young, and not being able to get rid of the substance which they have collected in the crop for their subsistence; but, if left alone, time will cure it. Some writers, indeed, absurdly recommend that in such case, the old bird should be relieved by being furnished with other young ones; as if those who were thus deprived of their chicks would not be equally inconvenienced.

There is, in fine, nothing either in point of trouble or expense to prevent a few pigeons being kept by any one who has the least out-door convenience: they are, to be sure, not very profitable, but neither are they costly; and whether broiled, stewed, or roasted, and either hot or cold, when made into a pie, they form very nice entremets.

## CHAPTER XVI.

Rabbits: propagation and produce of, in a wild and domestic state — Breeds — Hutches — Warrens — Feeding—Expense and profit—Long-eared breeds—Diseases.

RABBITS are not only kept in a domestic state for the consumption of the table, but are also largely bred wild, as live-stock, in some extensive warrens, which are still maintained in those sandy districts of comparatively worthless land which run through some of our counties; the chief value of the animal being there its fur, which is extensively used in the manufacture of hats, and if white, for the lining of cloaks.

Whether wild or tame, they are at six months old fit to propagate, and will continue to breed for seven or eight years; being also so prolific, that the “doe”—as the female is called—will breed as many as five or six times in the year, and produce from five to eight young ones at each birth. Six is, however, as many as she can pro-

perly rear and fatten; and unless she is particularly strong, the weakest, above that number, should be taken away. She goes with young thirty or thirty-one days, and when near the time of "kindling"—as parturition is technically termed—she makes her nest of hay (if to be had), of straw, or any kind of haulm, which she bites into the requisite lengths, and covers the interior with hair, which she plucks from her breast.

The symptoms of kindling may be known by her biting any litter which she may have, in preparation for the event; and she ought always, at that time, to be kept separate from the other rabbits. She is said to be always ready to receive the buck immediately after kindling; but he is seldom admitted to her until after her young ones have been removed. The buck should also be always kept alone, except when occasionally allowed for two or three days to visit the doe; but the stores, and those intended for fattening, may be put up together when weaned, at six weeks old.

If *wild*, she builds this nest under ground, burrowing into it a long and narrow passage,

at the end of which she forms a chamber for her brood, which she tends and suckles with true parental care, never leaving them, unless for the search of food, during six weeks; at the expiration of which, she usually weans them. When she quits the nest, even for only a momentary absence, she always stops up its outer hole with earth, to prevent the entrance of the "buck," or male: which, obeying, as it would seem, an instinct of his nature, would, if admitted, destroy a considerable portion of the young progeny at that helpless age; though, when older, he will fondle and caress them.

Their form, and many of their habits, so much resemble those of the hare, that they might be supposed to be of the same species, and attempts have been made, by rearing them together, to procure a breed of hybrids; but these trials have not succeeded, for the animals appear to entertain an antipathy to each other, and a rabbit will live upon more friendly terms with a cat than a hare. The failure is, however, not to be regretted, for the cross could not have much improved either stock; and even if it had, as mules

are incapable of procreation, it could not have been carried largely into extent.

Of *breeds*, the wild rabbit is smaller than any variety of the tame species, but the flesh has more of the game flavour than that of the domestic kind, though the latter is whiter and more delicate, as well as more juicy. There are several varieties of fancy rabbits, two or three of which have been brought to the weight of more than a dozen pounds; some being lop-eared—of which anon—and one of a brown colour, like that of a hare in both skin and flesh. Among these, Moubray says, “the large white, and yellow and white species, have so much whiter and more delicate flesh, that, if cooked in the same way, it will rival the turkey:” from which we however beg leave to differ, as no species of sauce, whether celery or oyster, or dressing, can render them similar in flavour. For common use we believe the large grey rabbit to be the best, though the black and white seem to be favourites among amateur breeders; but any sort will do for the hutches, provided they be healthy, of good size, short-legged, and broad in the loin.

They are very playful and amusing to children, but so very mischievous, that when in the *domestic state*, they are generally kept in wooden huts, or "hutches," of a nearly square form and of different sizes, when intended either for breeding or for the care of those reared for fattening. The breeding hutch, as being the lodging of the doe, is always the larger, and contains a double apartment—one for the nest, and the other for the feeding room of the brood when old enough to come into it. The best size is about four feet long by two and a half wide, and eighteen inches to two feet high; but they are often made smaller, and those not meant for breeding are seldom of more than two-thirds that size. They are latticed with wire in the front of each, as, if made of laths, the rabbits would gnaw them; but the division parted off for the reception of the breeding-nest, is closed both at the front and sides, leaving only a small door in the interior for the entrance of the doe: indeed, an inner division with a sliding-door is useful for confining the rabbits while the outer part is cleaned. There should also be a moveable

feeding-trough, which should be regularly taken away after every meal ; for rabbits, like horses, if allowed to blow upon their food, will not afterwards eat it, unless pressed by serious hunger. The troughs should be made of tin or iron, to allow of their being easily cleaned ; and should have separate compartments, of not more than four inches long, both for different sorts of food, as well as to prevent the rabbits from getting their feet into the trough, and throwing out their corn. Some persons even add a small rack at one end of the hutch, for the purpose of containing the hay on which they feed ; but the small quantity usually given is more commonly left upon the floor. The trough should be either inserted as a drawer, or if placed outside the hutch, should be covered by a hinged flap to shut and open, in either the front, or one end. The floor is commonly pierced with holes to allow the escape of the urine ; but, as the greatest attention is necessary to be observed in the cleansing, it is a good plan to have a false bottom, which may be drawn out like that of a bird-cage, for the removal of the excrement, and ought

to be every morning scraped and strewed with a little sand, or, in cold weather, covered slightly with refuse hay; for rabbits will never thrive unless kept dry and clean.

Hutches of this description, well made, and of good material, should not cost more than from eight to ten or twelve shillings, according to their size. Any carpenter or joiner can make them with these directions, and we have lately seen one of the largest size, in every respect well fitted for breeding, the price of which was half a guinea.

The hutches, if numerous, may be placed over each other, and are sometimes ranged round an out-house kept for that purpose; but that is seldom necessary in small families, and the better way is to put them upon a stand in the open air against some sheltered wall, for a too confined temperature is not natural to them, and if kept in a close room, they emit a faint, unpleasant odour. The hutch should, however, be covered at night, as cold will prevent them from breeding in the depth of winter.

Rabbits are, however, sometimes, though very rarely, kept in open *enclosures*, in the

*manner of a warren*, as we lately witnessed when on a visit to a friend at Swanscombe, in Kent, who has, in a paddock adjoining his house, arranged a small rabbitry and pigeon-



*Rabbit Warren.*

house solely for his family use and amusement, and enclosed it with post and chain to prevent the access of his horses. Of which the annexed view was drawn upon the spot.

The enclosure is only about twelve feet in diameter, covering a pit of six feet in depth, in which the rabbits are confined, and through

the sandy sides of which they burrow to the extent of ten to fourteen feet to make their nest. Mr. Young, the proprietor, however intends to fill up three feet of the depth, as he thinks the rabbits should be brought nearer to the air. Those kept in an enclosure of the Zoological Gardens, in the Regent's Park, are, indeed, all maintained upon the surface, and within is a low circular building in a picturesque form, which most of our readers must have seen, both covering their burrows, and forming a nestling place for the young ; but, as the species there kept are only for curiosity, they are so few as not to occasion the damage to which the fences would be exposed if many were bred. The mode of catching those in the pit is with a long stick, forked at the end, which is hooked upon their neck when they come out to feed ; or they may be snared with a bit of wire fastened at the end of the stick.

*In point of food* the rabbit is far from delicate, and consumes, perhaps, more in proportion to its size than most other animals. The feeding should, therefore, be abundant, and regularly given three times a day ; for, if

scanty, both weight and succulence of flesh will suffer, and not unfrequently end in disease and death.

There can be no doubt that in the feeding of all animals "the better the food, the greater will be the weight, and the better the quality;" but, if fed solely upon corn and oatmeal, or only once a day with corn, and at the other times with vegetable food, although the rabbit will become sooner fat upon the former, yet this mode of feeding will not occasion any difference in the flavour of the flesh. Variety of food is, however, very desirable. Many breeders feed their rabbits four times a day upon pollard, grains, and various kinds of greens, and Cobbett recommends, along with carrots and other roots, "all sorts of grasses, strawberry-leaves, ivy, dandelion, and the hogweed, or wild parsnip, in root, stem, or leaves;" though he admits that oats should be given once a day, as too much green food will occasion rot: but Moubray says, "that having left a favourite stock of rabbits under the care of a servant, he found them at the end of a fortnight a "parcel of pot-bellied and scouring creatures, which had lost all the fine solid

flesh put upon them by former high keeping; and on demanding the cause of this unfavourable change, discovered it to be in the quantity of 'hog-weed' with which they had been daily supplied in his absence; and, on this being discontinued, they soon recovered their pristine condition."

Mr. Young, however, thinks that carrots and parsley are what the rabbits are most fond of; but that oats and hay should always be given along with as much green food as they can reasonably consume. The hay is suspended in a rack placed in the centre of his little warren; and, in this manner, he brings them, at five or six months old, to the weight of a full sized hare: or from four to six or seven pounds! We know, however, that those dealers who in London wish to bring them promptly forward, feed them solely upon oats, fine middlings, or meal of wheat and pollard made into paste with chandler's greaves.

Moubray having stated that "he killed a buck, which weighed three pounds, fit for the spit; was put up in good case, and was only one month in feeding; consuming not quite

four quarts of oats, with hay, cabbage, lucerne, and chicory;" and having heard that a full grown rabbit of four or five months old will eat a quart of oats in eight days, we resolved on trying the experiment. We, therefore, purchased a fine buck of that age and had him fed entirely upon oats, with only a little green vegetables, just to improve his appetite, and found that in six weeks he ate six quarts of good oats, weighing at least 40 lbs. per bushel. He was then killed, and dressed in the manner of a brown fricassée; but, though of remarkably fine flavour, he only weighed when trussed 3 lbs. 2 oz.

Now, coming to the *expense of feeding*, and assuming that a rabbit is to be fed with both garden stuff and corn after being weaned, little more than the half of the above quantity of oats will be sufficient; and if continued at that rate for four months from his being weaned, the quantity of oats which he will consume will, perhaps, not exceed ten pounds, the cost of which, if bought at 3s. 6d. the bushel, will be only 1s. 1d.; and, as the garden stuff will be merely refuse, the only additional expense will be a trifle for hay: so

that the whole amount may probably be about 1s. 4d. ; and a well-fed rabbit will generally weigh from 2 to 3 lbs. when trussed for the table, for which the poulterer will charge at least 2s., besides keeping the skin, which, if in season—that is to say, in winter—is usually worth a few pence. This, to be sure, is the perquisite of the cook ; but that must not be considered as thrown away, for cooks love perquisites of office so much as to pocket them with even more zest than their wages : nor ought the mistress to begrudge the gains of that one in her service, as it will tend to render the servant more careful of the broods.

*Respecting their value*, notwithstanding their fruitfulness, we do not instance them as a very profitable stock, unless when killed very young, for we well recollect having, many years ago, kept several for the amusement of our boys, but whether through the mismanagement of the urchins, or the nature of the animal, so many died that those brought to table used to cost at least double what they might have been bought for. They are, however, very convenient in a lone country-house ;

as they may, on any emergency, be killed, dressed, and served up in little more than half an hour; and that without being tough.

Although rabbits may be grown after a few months' good fattening to the weight which we stated, they are yet usually killed at a month or five weeks old, while sucking at the teat, though not weighing more than a pound or a pound and a half. They are, however, at that age extremely delicate, either for boiling, or in a curry: which latter an eminent physician looks upon, "when moderately seasoned, as one of the most useful dishes for dyspeptic stomachs with which we are acquainted;"\* and is therefore equally desirable for the invalid as for those in health.

It should however be observed, that the rabbit, if not killed immediately after being taken from the teat, will, even in the course of a few hours, lose a portion of its fat, and the flesh will become stringy; in consequence, it is supposed, of the fright thus occasioned. If

\* "The spices contained in curries communicate a most beneficial stimulus to the digestive organs, which frequently causes them to perform their functions in a healthy manner when nothing else will."—Truman, on Food and its Influence on Health and Disease, p. 71.

weaned, it will also pine after separation, and fall off so much in condition, as to be hardly eatable until recovered by a few weeks' good feeding.

Adverting to *fancy breeds*, we lately attended an evening exhibition of rabbits, all under six months old, instituted for prizes given by several amateur breeders, who have formed themselves into an association under the high-sounding title of METROPOLITAN FANCY RABBIT CLUB; of whom perhaps fifty or sixty members were present.

The president, in an able speech warmly eulogistic of the importance of the institution—which he insisted was to outrival the far-famed Smithfield Club, and which, indeed, he looked upon with no little contempt—launched forth in praise of the committee and the efforts of the breeders, as evidenced by the superiority of the stock to be exhibited; and, after proposing the health of the founder, which was drunk by acclamation, with the barbaric honours of “three times three!” the animals were placed upon the table, with a handsome silver goblet for the first prize.

Many rabbits of large size, and spoken of

in admiration of their form and colour, were then produced ; but, to our astonishment, the only point to which attention was called was the *length of the ears!* which were in most cases so long as to trail upon the ground, and being measured across the head, from the tip of one ear to the outer edge of the other, that which gained the prize was  $20\frac{1}{4}$  inches. Nothing was, however, said of *weight*; and being ourself—as an old member of the Smithfield Club, as well as somewhat of a gourmand—rather more interested in the size of the carcass than the length of the ears, we ventured to ask how much it weighed; but was met by the indignant reply, that “*brute weight* formed no consideration with the club.” On pointing out, however, in their regulations an offer of prizes for weight, it was found that a doe—of course alive—of six months old, weighed just nine pounds; and in the former show there was a prize-doe weighing 10 lb. 14 oz. They have, indeed, been brought, at a year or two old, to the weight of twelve and even twenty pounds. Bucks, it should, however, be observed, always weigh heavier than does.

Looking, as we ever do, in estimating comparative value, to the *cost* of producing any thing, we then inquired of a gentleman who exhibited some fine specimens, what might be their value ; and learned that he had, the day before, sold a very young pair to a friend, as a favour, for five pounds ; but, on expressing our surprise, he introduced the gainer of the prize, who, it seems, purchased the rabbit, some time before, at the price of eighteen guineas ! It has been said of the Smithfield Club, that the beasts there exhibited cost more in the feeding than they are worth, and we think the observation may, with at least equal truth, be applied to the breeds of long-eared rabbits.

The rabbit is liable to very few diseases except the dropsy and rot of the liver ; both not improbably occasioned by too much watery green food, in which case they become pot-bellied, and can seldom be cured ; though the malady may be remedied if taken in time, or altogether prevented by giving the creature plenty of hay, corn, boiled potatoes, or substantial dry food. The animal is, however, of too little value to be worth the trouble

of a regular cure ; and, if seriously attacked, should be knocked on the head.

The most usual mode of killing it—as being the most sudden and the least painful—is by a blow upon the neck ; which, thus breaking it, deprives it of life, and the throat is immediately deeply cut with a pen-knife, either across the throat, or upwards to the jaws : though some persons omit the blow, as it in a slight degree checks the free discharge of blood.

If not instantly dressed, it should be hung up by the fore feet ; and not, as commonly done, by the hind legs, which—as stated in Chapter XIV.—drains the flesh of its juice : an observation which may also be applied to the hare.

## CHAPTER XVII.

The Goat : its mode of life and yield of milk—Goat's whey  
—Flesh : and delicacy of that of the kid—Habits : constitution and disposition.

GOLDSMITH has observed, in his 'Natural History,' that "there are some domestic animals which seem as auxiliaries to the more useful sorts ; and that, by ceasing to be the first, are considered as nothing. We have seen the services of the ass slighted, because inferior to those of the horse ; and, in the same manner, those of the goat are held cheap, because the sheep so far exceeds it. Were the horse or the sheep removed from nature, the inferior kinds would then be invaluable ; and the same arts would, probably, be bestowed in perfecting their kinds, that the higher order of animals have experienced. But, in their present neglected state, they vary but little from the wild animals of the same kind. Man has left them their primitive habits and forms, and the less they owe to

his assiduity, the more they receive from nature."

The GOAT seems to be the connecting link between the sheep and the deer; but although more accordant in habits with the latter, yet, in form and internal structure, it differs so little from the sheep, that hybrids have been produced between them: the continuance of which, to form a mule breed, nature has, however, wisely interdicted. There are several different foreign species of the goat, but all nearly resembling the sort commonly bred in this country. It is formed by nature to be the inhabitant of a mountainous district, for it climbs with ease the steepest precipices, and clings without difficulty to the sharpest pinnacles of rock. It browses also upon heath, wild herbs, and shrubs, and is, therefore, better adapted to a hilly than to a lowland country; but it readily accustoms itself to the plains, and feeds there upon thistles, whins, and plants, rejected by other animals, or upon the very refuse of the garden. To those, therefore, who, either from locality, or want of means to keep a cow, are deprived of milk, a goat may be found a real

treasure, as cheaply furnishing a sufficiency of the best quality for the supply of a small family; for the female will yield on an average from three pints to two quarts, for at least six months after parturition, and half that quantity for nearly the remainder of the entire year, even if fed upon a common. The milk, or "goat's whey," as it is in many places called, is, indeed, eminently light, rich, and nutritive, with the peculiar quality of not curdling upon the stomach, as does that of the cow, and is, therefore, much sought for by persons of weak digestion or consumptive habits; though in taste, or appearance, it would be difficult to discover any difference. In Lisbon, where we resided during some years, it is almost the only milk in use; and we have had a goat, at sea, which, during a long voyage, gave full two quarts a day, though fed more upon broken, and frequently mouldy, biscuits, and the remains of pea-soup, than upon any fresh vegetable food, except perhaps the peelings of potatoes: but she was of the Portuguese breed, and they are remarkably fine.

The goat is rather longer lived than the

sheep, which lose their teeth when about six years old, and, of course, die soon after ; but the “buck”—which is the name given to the male—continues in health for two or three years longer, and the female, or “she-goat,” and “nanny-goat”—by which she is commonly designated,—is capable of bearing young for full seven years, and even longer, after giving birth to her first progeny, which she generally produces soon after twelve months old. She usually brings forth two, and sometimes, though very rarely, three “kids.” She goes with young about eighteen weeks, and her usual time of breeding is from the beginning of February to the end of May.

The flesh of the goat so much resembles that of the sheep, that, although much inferior, it is not uncommonly sold as mutton, and the legs are, in Wales, often salted, and used as ham. That of the kid is, however, far superior to lamb: so much so, that it is astonishing it has not been brought to the London market ; for we are persuaded that it would be there considered a great delicacy, and as much difference found between the two as between mutton and venison. The

skin is also valuable for gloves and ladies' shoes, and that of the old goat for the manufacture of Morocco leather and soldiers' knapsacks. Even the very hair is of use, for it makes excellent linsey; and Martin Doyle vows, in his 'Hints to Small Holders,' that "if he ever puts on a wig, it must be made of it, as being the whitest and most comfortable thatch for the head."

The animal, although thus useful, is, however, not a little mischievous, since—such is its activity and reluctance to restraint—no fence of common height can confine it; and if it gains access to a shrubbery, it will gnaw the plants and bark the trees with great avidity. It should, therefore, be tethered with a light chain, attached to a collar fastened round the neck: the chain being hooked to a swivel, fixed in the head of an iron spike, which is driven into the ground by a mallet, and is removable at pleasure, affords the goat a circular range of pasture, without allowing it to do injury to the pleasure-ground. If, however, allowed to have the range of a common, it will not stray far from home, and will regularly return for its evening meal.

An objection to its being kept about a house arises from a strong and disagreeable smell which comes from its body, but which is said not to be without its use; for, if kept in a stable of horses, it is supposed to be an effectual preventive of the staggers: in which—as remarked by a writer on the subject—“there may be some truth, as the disorder is nervous, and strong odours are known to operate in many cases beneficially upon the human nerves.”

Regarding the nature of the goat, it is of very hardy constitution, and extremely healthy, thriving upon the poorest food, patient of both heat and cold, and requiring but little care or shelter; though it loves a dry, warm corner, with a comfortable bed. In point of disposition, though not wanting in courage when angered, and butting forcibly with its head, the animal is mild and friendly both to each other and to man. Domestic as a dog, it will stand and watch for a crust of bread, which it will eat out of the hand, and it gives no trouble in milking. It is, indeed, a pleasing creature, and the graceful playfulness of the kid is very

amusing. It forms, therefore, an interesting pet for children, who should be early taught to practise tenderness towards every domestic animal; and to a cottage, or any one having a residence adjoining a common, it will be a source of both comfort and profit.

From the pleasure of rearing all these domestic inmates, there is, however, the drawback to every feeling of a sensitive mind, arising from the necessity imposed on us by nature of killing them for our sustenance; to the pain of which the heart can only be reconciled by the recollection that the little being is unconscious of its approaching fate; as beautifully expressed in the well known lines of Pope—

“The lamb thy riot dooms to bleed to-day,  
Had he thy reason, would he skip and play?  
Pleased to the last he crops the flow'ry food,  
And licks the hand just raised to shed his blood.”

## CHAPTER XVIII.

Establishment of a dairy—Purchase and choice of cows—  
Long and short horns—Ayrshires—Suffolk polled—Welsh  
—Alderney, with portrait—Kerry cows and produce—  
Stall-feeding, and general management.

ALTHOUGH the DAIRY may not afford so much amusement to a lady and her children as the poultry-yard, it will yet not yield to it in point of profit, nor be found deficient in that pleasure which a sensible woman must ever derive from having around her the homely essentials of family comforts; amongst which the produce of a dairy may perhaps rank as high as most, for no one can be insensible to the value of pure milk and cream, with delicately made fresh butter; and if to these be added comparative cheapness, it can hardly be denied that, where there is pasture and convenience for a cow, so useful an animal should ever be made part of the domestic establishment.

This little treatise, being solely intended

for the use of private families, is confined to those small dairies where *butter only* is made, without adverting to those of a larger description employed for the manufacture of cheese. Whether for one or more cows, the chief considerations in the formation of a dairy are—

First, To be provided with a good sort of cow ; in choosing which the quality of the cream produced from the milk in a given time, ought rather to be regarded, than the quantity of the milk itself.

Secondly, To possess an airy and convenient building for the purpose, and furnished with a sufficiency of proper implements.

Thirdly, Either to have a good dairy-maid, or to be yourself so well acquainted with the management as to be able to direct her.

One great point in the *purchase of a cow* is the breed from which she has sprung ; for, extraordinary as it may appear, the various breeds, although of the same age and fed upon the same pasture, will not yield the same quality of milk : thus affording different

quantities of butter from the same number of quarts.

The cows kept for the supply of the Metropolis are mostly of the Yorkshire *short-horns*, or Teeswater and Holderness, which have the double advantage of affording a large quantity of milk and of being easily fattened for the butcher. The latter object cannot, however, be of any moment in a private family, by whom such a source of profit is not contemplated, and with whom *quality* is generally of more consequence than *quantity* of milk; while that of the cow to which we have alluded is not of the richest nature.

The *long-horns* of Lancashire are also of a large size, rare milkers, of more hardy constitution than the short-horns, and, if the land be wet or the situation cold, are preferred by many farmers. Gentlemen, who only want a cow or two, find it, however, usually more convenient, if living far from the metropolis, to take them from a neighbour, of the sort commonly bred in the county; or, if resident near London, as they seldom have much land belonging to their villas, and that frequently of a poor kind, both they and their ladies

mostly prefer having in their paddocks some smaller breed—either the Ayrshire, Welsh, Suffolk, or Alderney; of which the latter is in the highest estimation.

The largest cows, if of a proper make, generally give the most milk; but the quantity which they yield varies greatly, not only in their breeds, but in their constitution, treatment, and the nature of the land on which they are fed. It is also generally admitted that great milkers seldom produce milk of such fine quality as cows which give only a moderate quantity. Although the Yorkshire sort are not, for the reason already stated, to be recommended, and those from Lancashire are rarely brought to London, yet the *Ayrshires* are frequently to be met with, and are celebrated milkers. Though not nearly so large as the Teeswater, they are heavier than either the Welsh or Alderney, but their size varies considerably, as necessarily also does their price, which at present is, in Smithfield market, from 15*l.* to 18*l.*, when not more than four years old, and ready to calve. Their colours are red and white, like the short-horns, though not so rich, and mixed in some

instances with black ; they are tame, and quiet feeders, of peaceable habits and hardy constitution ; they also combine the essential qualities of both fattening readily when intended for the shambles, and, more especially, of yielding copious draughts of milk. It is, indeed, not uncommon in Scotland to hear that “they are the best milkers in the kingdom :” but, although this may be doubted, we are inclined to think that, taking into consideration all things comparatively, both as to quality and quantity of milk, there is no cow superior to her for a small dairy ; and, if kept upon good pasture during the summer, and well fed during the winter, may be fairly calculated to produce from 700 to 800 gallons of milk in the course of the year.

The *Suffolk-dun*, or “polled cow”—as being hornless—is supposed to have been originally produced from a cross with the polled breed of Galloway ; and their being without horns may be so far considered an advantage as depriving them of the means—so common among many cows—of goring each other. They are mostly of one colour, between a faint yellow and a mouse-grey, from which the name of

“dun” is taken; are of moderate size, with big bellies, prominent hip-bones, and altogether of a form that cannot be called handsome; but of such good constitution, and such excellent milkers, that an instance is mentioned, in the County Agricultural Survey, of one of a small size having, in the height of the season, given the extraordinary quantity of four gallons of milk at each “meal” (or milking), twice a-day; and ten quarts are not uncommon. The butter is also of superior quality; but the cheese is proverbially so bad—probably from bad management in the making—that its having been furnished to the navy was one of the complaints made by the mutineers at the Nore, who are said to have made tobacco-stopples out of it for their pipes.

The *Welsh*, of the *black breed*, are thought more valuable for the dairy than those which are brown and white; and many of those bred in both North and South Wales are good milkers, though those of Pembroke and Glamorganshire bear the highest character. They are small in size, the great majority being entirely black, a few only having white faces

with a little white about the tail or udder; and, being chiefly bred in the mountains, on land much exposed to the weather, they become so hardy as to be distinctively called “the poor man’s cow,” and, therefore, suitable to any one having either poor land or inferior accommodation. Respecting their colour, it is remarkable that there is in this country a strong prejudice against it, and in favour of the red; while in France there is an equal prejudice in favour of the black; and we remember having, many years ago, had a small Welch cow of that colour—a docile little creature—which was as admirable a milker as any of her size.

*The Alderney and Jersey breeds* are very small, mostly of a light brownish red, mixed sometimes with dun and white; their hair short and smooth, and their skin very thin. Their horns are short, and they are small boned, but the animal is anything but what we should call “well-formed;” neither are they hardy, nor are they, therefore, fit for any exposed situation; but they are very gentle, and give both milk and butter of extraordinary richness: so rich indeed in some,

as to seem like what would in London be called cream, when compared with any of the cows bred in England; thus rendering them peculiarly adapted to the situation in which they are in this country usually found.

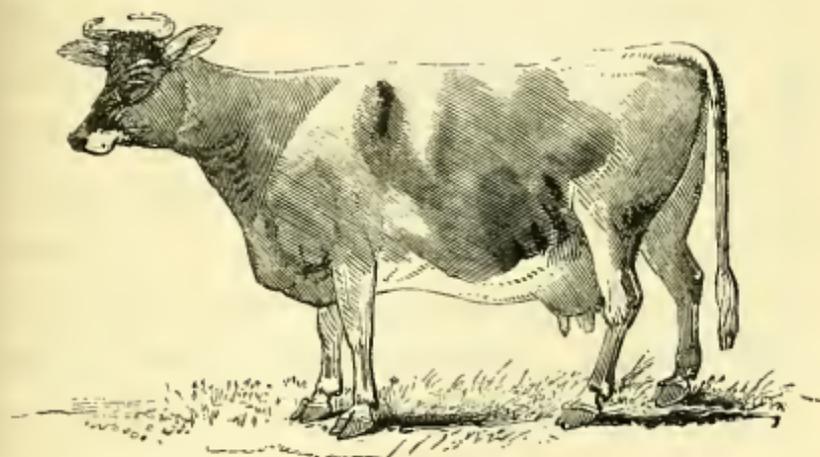
Mr. Malcolm indeed mentions, — in his ‘Compendium of Modern Husbandry,’ — “that he kept an Alderney and a Suffolk cow—the latter the best of the kind he ever saw; while the Alderney, which had dropped her first calf, was purchased out of a drove in a miserable condition. During seven years—the milk and butter being always kept separate—it was found, year after year, that the value of the Alderney exceeded that of the Suffolk, though the latter gave double the quantity of milk at each meal.” He then adds, “that he at that time had a dairy of twelve cows—

Two Devons, — Two Wiltshire long horned,  
 One Derby, — Two Holderness,  
 One Lincoln, — One Suffolk, and  
 Two Sussex, — One Alderney,

and she bore the palm clean away.”

Notwithstanding what we have said of the form of the Alderneys not being generally

good, it has yet been much improved by premiums awarded by the Jersey Agricultural Society, and the present portrait of "Beauty"—bred by that very distinguished amateur agriculturist, Col. Le Couteur, of Belle Vue—will enable most persons to judge how far the appearance of the present breed is entitled to commendation. Of her more essential qualities, the Colonel informs us, "that she is four



years old, having obtained a prize when a two-year old heifer; and that she has produced eleven pounds Jersey—or 11 lbs. 13 oz. imperial—of rich yellow butter, weekly, in May, from nineteen quarts of milk daily:" being, as nearly as possible, eleven quarts to the pound. To which he adds, "that he has, from four cows, produced weekly, during the

month of May and part of June, fifty-one pounds imperial, of similar quality: some of the best cows having given even so much as twenty-six quarts daily; producing weekly fourteen pounds of butter. “The colour of the milk”—he also observes—“denotes the richness of the butter; and the richest milk and cream are produced by cows whose ears have a yellow or orange colour within.”

Notwithstanding the mild temperature of the Channel islands during the winter months, the cows are commonly housed at night; and each fed daily with a certain portion of straw, from ten to twenty pounds of hay, with about ten to twenty pounds of parsnips, white carrots, turnips, or mangold-würzel, and what small portion of grass they may pick up when turned out in fine weather, for a few hours, upon their pasture.

In the summer, they are also usually taken into the house for a few hours during the heat of the day, as the flies would leave them no repose for the chewing of the cud: but this occasions a diminution of milk, and therefore, unless when called for by the state of the weather, should be avoided.

Although small in size, the Alderneys however require good pasture, and it will be seen from the following statement, furnished by Mr. W. Blane, of West Brixton, and Mr. Fowler, of Little Bushy, near Stanmore—both eminent dealers in that stock, and to whose information we refer with confidence, as being practical dairy-men of considerable experience—that, “in England, they in winter consume upon an average as much food as most cows of a larger breed: say about half a truss each daily of hay, with a bushel of carrots, which are preferable to either mangold-würzel or to potatoes (unless they are boiled), and far better than grains; and both turnips and cabbages impart an unpleasant flavour to the milk and butter.

“They should be regularly fed three or four times a day, and the food should be at each time varied as much as possible; hay being always given at night, but not so much as to allow them to blow upon it; and should any food be left in their cribs or troughs, it should be immediately removed.

“Some of the breed, when in full milk, give as much as four gallons per day; but,

generally speaking, a good cow, with her third calf, will yield from ten to twelve quarts daily, and weekly about eight to ten pounds of butter. It should also be observed, that they frequently produce nine or ten calves, and are not considered in their prime until they have had four or five, at which time most other cows are considered old. Their price, of course, varies according to their age and beauty: a heifer, with her first calf, may be had, in London, for twelve to fourteen guineas; whereas a prime cow is worth from eighteen to twenty pounds, deliverable within twenty miles of town." We indeed, know, that a prime cow can seldom be got, even in Jersey, for that money; for prize cows are sometimes sold in the island so high as thirty pounds: but perhaps heifers of the best kind are, in the end, the cheapest to purchase.

There is, however, an *Irish cow*, bred in the mountains of Kerry, from which it takes its name, and is but little known in this country, though well meriting the attention of persons who like the smaller breeds, as being generally, if not more docile than those

of a large kind, yet more convenient and more easily manageable in a small establishment, as well as more appropriate to become the pets of ladies and children. They are very diminutive, even much smaller, and far cheaper than the Alderneys; yet giving such very rich milk, and in such superior quantity in proportion to their size, that in a comparative experiment tried a few years ago, by order of government, on the King William's town estate, between ten heifers bred from a cross between the ordinary long-horns and a Kerry bull, and ten of the pure Ayrshire breed, the produce of the Kerries, both in milk and butter, proved superior: the Kerries having produced within twelve months 13,084, and the Ayrshires only 12,645, quarts of milk; and a pound of salt butter being the average produced from  $8\frac{1}{10}$  quarts of milk of the Kerries, while of the Ayrshires  $9\frac{1}{2}$  quarts were required.\*

In reference to the smallness of the quantity of milk—the ground upon which the cows were fed, it should be observed, is mountain

\* 'Journal of the Royal Society of Agriculture in England:' vol. i., p. 443. The quantity of salt used in the curing of the butter was one-eleventh of the weight.

land of the poorest description; and, if the breed were introduced into England, we are convinced that many of them would be found in the paddocks of gentlemen, as well as in the allotments of the cottager.

Respecting *general management*—it is, in this country, thought better to allow the cows the run of a paddock with an open shed in it, than to keep them housed.

The grass made into hay for the use of all milch-cows should not be allowed to stand till the seedling stems rise, but should be mown three or four weeks sooner than if intended for the support of horses; as they like it to be of a soft, grassy quality, and indeed “rowen-hay”—as the second cut is called—is very generally given to them by the cow-keepers. This, however, occasions no loss; for, although lessening the product of hay, it will increase the value of the pasture when the cows are put to feed upon the after-grass.

Green tares, which are so frequently carried for sale around London, are thought to make the milk ropy; but it improves its richness, and, if used in moderation, a few bundles given occasionally can do no harm. All

the artificial grasses—such as lucerne, sainfoin, and clover—also enrich the milk, if used green, but are not so desirable as meadow-grass when made into hay.

With regard to what has been stated respecting the *winter-feeding* of the Alderneys, we should say, that if roots—always excepting cabbages and turnips—can be procured, they should be given along with hay; but gentlemen seldom have sufficient garden-ground to grow as much as a cow will eat. She is, therefore, generally left to hay alone, and this dry food lessens the *quantity* of the milk: the *quality* is however good; but if carrots and parsnips can be added, both quantity and quality will be improved. As they can, however, be only rarely got from the green grocers at any reasonable price, we should recommend giving every day a copious bran mash, into which should be put a quart of bean or pea meal, or about three pounds of bruised linseed oil-cake, together with a small handful of salt. There is, indeed, a prejudice very generally entertained against the fattening of oxen upon oil-cake, and we admit, that if carried too far it may injure the flavour

of the meat ; but if used for cows, in the small quantity stated, it will much improve the milk.

To this we must add—that, in Holland, it is very customary to mix oatmeal in the water given to cows during the winter, and this drink is found, not only to keep them better in health than when fed upon hay alone, but also to improve the quality and increase the quantity of the milk. Molasses, mixed in their water, is likewise very nutritive : it is, in the West Indies, often thus given to horses, and soon improves the appearance of their coat and condition. It is also frequently given, twice a day, to working oxen and cows, mixed up with any sort of coarsely-ground grain, yams, or roots of any kind, in the proportion of about a pint to a gallon of corn which has been made into a mash with warm water. The negroes call it “Coocoo,” and it is eaten by the cattle with great avidity ; nor can there be any doubt of its nutritive property.

In short, stall-fed cows should be kept in a cool temperature, but quite dry, perfectly clean, and thoroughly well-fed : on which

latter point minute attention should be paid to the appetite of the animal, and no more food should be given than she will eat with a relish. Cows should, indeed, never be surfeited with food at any one meal, and it is better to feed them often, with a little at a time : but if more be given than they can eat at once, then let the remainder be immediately taken away ; as, if allowed to blow upon it, nothing but sheer hunger will afterwards induce them to consume it. When done feeding they should be left undisturbed, for the purpose of chewing the cud in quietude. They should be maintained in good condition, but not be permitted to become fat, for as they get into flesh their milk begins to fail.

## CHAPTER XIX.

Description of a milch-cow—The udder—Name at different periods of life—Age, and mode of ascertaining it—Term of gestation—Symptoms of pregnancy—Parturition—Management at and after calving—Slinking—Beestings—Diseases and means of cure—Reasons for rearing a calf—Time and mode—Process of weaning—Hay-tea and linseed jelly—Method of suckling by hand—Diseases.

WE have only casually adverted to the few breeds of cows usually recommended for the dairies of private families, for we well know that few persons will be at the trouble of seeking out any particular sort, or know how to choose them if found, and thus purchase any which may be offered to them, if vaunted as being of a good kind. Although thus, in most instances, without the choice of any peculiar breed, care should, however, be taken to select A GOOD MILKER; for there is a wide difference betwixt a cow that is of a form which fits her for *fattening* and one that is better adapted for the *dairy*; the aptitude to fattening soon making the former decline in milk, although she may be the handsomer of the two.

Both Parkinson and Youatt nearly agree that a *good milch-cow* should have a long and rather small head, with thin chaps; the horns should also be small; and the eyes should be bright, but denoting quietude of disposition. She should be what is termed “ewe-necked”—that is, very thin, low, and hollow, till it approaches the shoulder; narrow in the breast, as well as at the top of the shoulder, and altogether light in the fore-quarter, but with a good girth behind the shoulder. The ribs should be spread out wide, so as to give as globular a form as possible to the carcase, and each should project farther than the preceding one, to the very loins; the hips should also be wide, and the rump long, but she should not be in any part much inclined to flesh. She should be thin in the thigh, and what is called “sickle-hammed”—or the hind-legs having a slight tendency to crookedness. Her hide should be fine and mellow, with very little coarse hair, her tail small, with very little hair upon it, and the less coarse hair on any part the better.

The following doggrel lines, descriptive of a cow, though of old date, may perhaps not

be unacceptable, as being, so far as they go, strictly correct, and probably not unamusing to young people, nor unassisting to their memory :—

“ If long in the head, and bright in the eye ;  
Short in the leg, and thin in the thigh ;  
Broad in the hips, and full in the chine ;  
Light in the shoulder, and neck rather fine ;  
Round in the carcase, and wide in the pin ;  
Fine in the bone, and silky of skin ;  
Deep in the bosom, and small in her tail ;  
She 'll ne'er be deficient in filling the pail.”

It is, however, possible that a cow thus formed may yet not be a good milker, if the following properties be not attended to in the size and state of that important member—*the udder*. It should hang well down ; and, although appearing sufficiently capacious to hold a good quantity of milk, it should yet not be remarkably large, lest the skin be thickened with fat, instead of being, as it ought to be, very thin, and free of lumps. It should, therefore, be felt all over, and every part should feel alike. It should also be, both before and behind, as nearly as possible of equal size ; or, should there be any difference, the fore-part should be the largest, as showing the milk-veins to be full and strong.

The “teats,” or “paps,” which are four in number, should stand every way at equal distances from each other : they should be of moderate size, nor much larger near the udder than at the end—they being then termed “bell-papped”—but nearly of the same substance throughout, being only at the end brought to a small point ; for if the teats be broad at the extremity, the orifice is sometimes so wide that the cow cannot always retain her milk when the udder begins to fill.

*Neat-cattle*, or *black cattle*—as the breeds of oxen are generally called—attain their maturity at about two years old, and if allowed to live, will commonly arrive at the age of fifteen to twenty years ; or, in many cases, so much longer, that Youatt mentions, in his ‘History of Cattle,’ a healthy cow-calf having been presented to a friend of his, whose dam was in her thirty-second year ; and instances are not uncommon of cows having every year given a calf until full twenty years old. According to usual acceptation, without referring to provincial terms, the calf, if a female, is, while sucking its dam, or until a year old, named a “cow-calf,” then a “yearling,” and

the next and following years, a two and three year old "heifer," until she is four years old, when she becomes a "cow;" after which her age may be generally known, until she is six or seven years old, by the rings or scores upon her horns, one of which is formed at the root when she is four years old, and another every year afterwards.

The more certain mode of ascertaining the age, is, however, by an inspection of the teeth, as we are always subject to imposition by false marks being made on the horns, or those of nature being filed off; and even if this be not practised, the rings become indistinct when the cow is old. Oxen have no teeth in the front of the upper jaw. The teeth of the calf are shed at two years old, but replaced, two at a time, until they are five years of age, and at six, they may be considered quite "full-mouthed." The grinders are a sure indication of age, but they are rather difficult to be got at, and we are sure that neither would ladies inspect the teeth if they could, nor would they read a prolix account of their growth; therefore, should any doubt arise respecting the animal's age, the better

way is to apply to some neighbouring farmer for information.

A *heifer* should not be bred from until she is from two to three years old ; yet, such is the anxiety of many persons to increase their stock, that it is by no means uncommon to see one heavy in calf before she has completed her second year.

The *cow* commonly goes nine calendar months with calf, but this is not always to be exactly counted upon ; for, according to the details of Mons. Teissier—as recorded in the *Académie Royale des Sciences*—at Paris, it was found that, of 1131 cows which he had the opportunity of observing, the shortest period of gestation was 240 days, and the longest 331 ; and in a more recent account, given by Earl Spencer to the Royal Agricultural Society of England, it appears, from a series of observations made during several years upon his Lordship's stock, that of 764 cows, respecting the gestation of which notes have been taken, the shortest and the longest periods have been from 220 to 313 days. These were, however, only single instances, while by far the greater number—to the amount of

600—were between the 279th and the 291st days.

*Symptoms of pregnancy* are, in its early stage, very unsatisfactory, and it is not until an enlargement of the belly takes place, between the third and fourth month after conception, that any common observer can be certain of the fact; but if the calf be come to life, it can be ascertained by pressing with the hand upon the off flank, and the foetus will strike against it. When it has occurred, no alteration need be made in the management of the animal until a month or two before she may be expected to drop her calf. When the time of parturition approaches, it would, however, be well, if she be then in high condition, to have her bled, and slightly physicked with a moderate dose of salts, to prevent febrile excitement; and, two or three days before the time arrives, she should be placed alone, either in a roomy well-littered shed, if the weather be cold, or, if it be summer, in a separate paddock.

The *indications of labour* being about to take place, are accurately described by Youatt to consist in “the springing of the udder,” or

rapid enlargement of it from the renewed secretion of milk, and the evident dropping of the belly, with a degree of uneasiness and fidgetiness ; moaning occasionally, and accelerated respiration ; all announcing that the time of calving is not far off. Her uneasiness will rapidly increase ; she will be continually getting up and lying down ; her tail will become elevated, and the commencement of the labour-pains will soon be evident.

When *parturition* is about to commence, its progress should not be interfered with ; the cow should be frequently looked at, but not disturbed. Nor can it be too deeply impressed on the mind of the attendant that the common practice of driving the poor animal about, to bring on the act of calving, is both unnatural and cruel ; for, if left to herself, “as soon as the hours of calving come on, she immediately retires to some corner of the field, or under a hedge, in order to prevent the other cows, or anything else, coming near that may disturb her in bringing forth her young ; she confines herself to a lying posture, and in this posture she is delivered of her

calf.”\* “While the throes continue tolerably strong, the attendant should have patience until nature accomplishes her object; but if the pains are evidently diminishing, and hour after hour has passed without any appearance of the calf, a pint of sound ale, warmed, should be given in an equal quantity of gruel; warm gruel should also be frequently administered, or at least put within the animal’s reach, and all access to cold water should be carefully prevented. To this, should the difficulty increase, an addition has been recommended by the eminent practitioner just quoted, of a quarter of an ounce of the “ergot of rye,” finely powdered, and this to be repeated every hour until the pains are reproduced in their former strength.† Although not attended with danger, we know, however, of several instances in which it has failed, and we should advise the immediate assistance of the cow-doctor; or, if danger be apprehended, of an able veterinary surgeon.

Whether from fright, or from ill treatment, or from being teased by other animals, the

\* Skellet on ‘The Parturition of the Cow,’ p. 113.

† Youatt on ‘Cattle,’ p. 535.

cow is, more than any other creature, subject to abortion, which takes place at various periods of her pregnancy, and is technically termed "slinking her calf." When this accident approaches, she begins to moan, with all the symptoms of labour-pains; and the same means should then be resorted to as if it were a natural labour.

*When the cow has calved,* she immediately begins to lick the calf, and should be allowed to do so at her leisure, without any interruption. It is, indeed, so dictated to her by nature, that it might be thought unnecessary to give that caution, were it not that ignorant people adopt the practice of taking the calf away without allowing the cow to cleanse it, or to swallow the *placenta*, or "after-birth," which follows parturition. This, besides its being disgusting, arises from an idea that it would be seriously injurious to her health: whereas, the slime of the calf, as well as the after-birth of the cow, probably form the best physic that could be given to her; for cows eat the excrement with avidity, and nature seems to have intended it for them as a medicine, nor has

it ever been known to injure the health. The calf is also invigorated by the cordial warmth imparted to it by the act of licking.

When the calf is so far enlivened by the licking of its dam as to begin sucking, the navel-string should be examined ; and, should it continue to bleed, a ligature should be tied round it at a little distance from the belly. Should the spot where the division of the cord took place be found unusually sore, in that case Mr. Youatt recommends a pledget of tow, well wetted with Friar's Balsam, to be placed over it, confined with a bandage, which should be changed every morning and night : " but the caustic applications that are so frequently resorted to, should be avoided."

The calf, even if intended to be taken from her, should be allowed to suck her for at least two or three days, or even a week or fortnight, so as to draw off all that thick, mucous, species of milk—or " beestings"—which is produced on calving, and seems as if intended for the first aliment of the newly-born creature ; as well, also, as to prevent any tendency to inflammation in the udder, which is much diminished by the frequent sucking of the calf.

Its striking against the udder with its head, in the act of sucking, has likewise a material effect in reducing any hardness or lumps in it. The cow is, besides, not unfrequently feverish after calving, "and nothing"—it has been well observed—"soothes or quiets her so much as the presence of her little one."

The cow produces the greatest quantity of milk for a few months after calving, when it gradually falls off, and at the end of about ten months, or little more than six weeks previous to her next calving, it ceases. She is then technically said to "run dry;" but if she be not again in calf, she will continue to give milk for a much longer time. When dry, it is, however, neither necessary, nor prudent, to feed her so highly as when she is milked; for less nutritious food, of a somewhat opening nature, will facilitate her future calving. The hay on which she is chiefly fed at the season when she usually becomes dry, may therefore, during that time, be diminished, and turnips, brewers'-grains, and bran mashes substituted. It is, indeed, the common custom of dairy-men to then feed their cows only upon straw and Swedish tur-

nips; but when calved, the customary food should be again resorted to, after the beestings have been drawn off.

If the cows be very flush of milk just before calving, there is danger of their being attacked with *milk-fever*, which sometimes occasions them to fall after parturition as if they had lost the use of their limbs; in some cases within a few hours, and in others, some days after. When this happens, surgical assistance should be called for; but, should this not be at hand, profuse bleeding and purging should be resorted to.

It should be observed, that cows in high condition are more subject to this accident than those which are in a lean state; and that when once it occurs, the animal appears to acquire a constitutional tendency to its repetition after future calving. To guard against its recurrence, we therefore recommend her being sold immediately after recovery, or, at the latest, before dropping another calf.

The udder should also be looked to, for *sore teats* are very common after calving; and if gentle friction, with warm water, does not relieve the complaint, the teats should be dressed with the following ointment:—

“Take an ounce of yellow wax, and three of lard; melt them together, and when they begin to get cool, well rub in a quarter of an ounce of sugar of lead and a drachm of alum, finely powdered.”\*

Although the *diseases to which the cow is constitutionally subject* are but few, yet a dissertation upon them would lead too far for this little treatise, nor would our fair readers feel interested in its details; but we should be indiscreet were we not to caution them against any inattention to the very common occurrence of “a cold,” as being the foundation of almost all chronic disorders, and if not speedily heeded with watchful care, may eventually become a confirmed catarrh, or, as country people term it, “the hoose,” which frequently runs on to a fatal malady. So soon, therefore, as the cow is observed to cough frequently, and continue to do so for a day or two, no time should be lost in adopting measures for her recovery; and if this be promptly done, no further danger need be apprehended.

If she be kept abroad, a few nights' housing, with warm mashes and a little gruel, will

\* Youatt 'On Cattle,' p. 552.

probably set all right : but if, on examination, she be found to fall off in her feeding ; that her muzzle is dry ; that the root of her horn is hot ; and that she heaves at the flank ; she should be bled, and have a dose of a few ounces (according to her size) of Epsom salts, with half an ounce of ginger, to prevent griping and to promote perspiration ; to which should be added warmth, warm drinks, and gruels ; but none of the hot, stimulating drinks of the cow-leech should be administered ; nor, indeed, need he be called in, for any country servant can bleed the animal.

Aperients, bleeding and soporifics are the basis of all remedies, and may in most common cases be applied to the animal by any intelligent person ; but, in serious diseases, their application should be confided to an experienced veterinary surgeon.

It is undoubtedly an unnatural and a somewhat cruel practice to deprive the cow of her young one ; for she pines with parental affection for her loss, and the only excuse which can be made for it arises from the selfish convenience of using the milk for ourselves, instead of giving it to the calf. This, however,

is of too much weight to allow of its being altered by those who keep but *one* cow; but to those who keep *two*, of a good breed, and who have spare ground enough around their house for pasture, we strenuously recommend the retention of a COW-CALF, for the continuance of the stock. It is, indeed, always desirable to have a cow bred upon the land on which she is to be maintained; for, independently of the pleasure of nurturing the little animal as a pet, and bringing it up as a sort of playfellow, it is inconceivable how much better she will thrive on the soil on which she was born than upon land of a different nature, and how much more docile she will become and attached to those who are kind to her, than if placed among strangers.

The *rearing of a calf* is an easy matter; and, if properly managed, will not long deprive the family of its owner of the cow's milk. "The cow should calve down by the middle of the month of March or April at the farthest; as a late calf will not be sufficiently grown to hardily stand the winter, and the earlier it is dropped in the spring, the better will it be able to meet the inclemency

of the season. Those, however, which are dropped in the autumn or winter, and housed during the cold weather, will thrive surprisingly by being turned into the succulent pastures of the ensuing spring. There are two modes of rearing them: the one, to allow them to run at large during a year, with their dams; the other, to wean them after a few days old. Of these, when there is sufficient pasture, the first is unquestionably not only the least troublesome, but is generally found to be productive of the best cattle; it is, however, in frequent instances, more convenient to reserve the milk for the dairy, and then the calf must, of course, be weaned."

"The *process of weaning* is variously managed; but whatever may be the plan adopted, the object of bringing the animal to perfection should never be lost sight of:—which can only be done by affording it ample sustenance while it is young. It should be recollected that the cow's milk, which is intended by nature for its support, contains a large quantity of the richest nutriment, and if the calf be deprived of that, it should have an equal amount of other nourishment; for, if

stinted, it will assuredly grow up gaunt and ill-thriven."

"When not let to run with the cow, the most advisable mode—as it regards the calf—is to place it loose in a crib, and to suckle it by hand with the mother's new milk, of which it will consume, for some time, not more than about four quarts a day; the quantity, however, must then be gradually increased, as it will, in the course of a few weeks, require as much as three gallons. If the weather be fine, it should be, within a fortnight or three weeks, turned out daily in the orchard, or some well-sheltered inclosure of sweet herbage; and as it will, in the course of ten or twelve weeks, have acquired some relish for the pasture, it may be regularly weaned by gradually diminishing the quantity of milk, and then substituting the skimmed for the new. The calf may, however, be reared with skimmed milk and meal, without any portion of new milk, except the few days of beestings; and many persons give them nothing but water-gruel, or pot-liquor and hay-tea, within a fortnight after they have been removed from the cow. This, however, is poor diet; but hay-tea and linseed jelly are very nutritious,

and calves may be weaned on them without any other food.”\*

Various schemes have indeed been tried with success for the saving of milk, many of which will be found recorded in the ‘History of British Husbandry,’ from which the foregoing extracts have been taken; but it should be observed, that whatever plan may be adopted, great regularity should be attended to in the feeding of the weaned calf before it may be old enough to feed itself on grass and hay. The common practice is, to give the food only twice a day, morning and evening, and then to allow as much as will satiate the appetite; thus filling the stomach with such a quantity as must in some degree impede digestion. Now, in every case, the closer we adhere to nature, the better will

\* “*Linseed jelly* is made by putting one quart of seed to six quarts of water, and allowing it to boil during ten minutes. *Hay-tea* is made by infusing such a portion of fine sweet hay as will fill an earthen vessel on being slightly pressed with the hand, and boiling water being poured upon it; the vessel is then closed, and in a couple of hours a strong liquor produced, which will keep good for a couple of days: it should be used lukewarm, and, if given without linseed, should be mixed during the first few days with three parts milk, to be afterwards reduced to one-fourth.”—Bath Papers, vol. v. p. 465.

the animal thrive, and, if allowed to remain with the cow, the calf will be seen to suck her frequently; it should, therefore, be fed at least three times a day, at stated hours, by which means, and being allowed room for exercise, it will be greatly improved in health and condition. Many people house the calf during the winter, only allowing it to go out during the day in fine weather: but unless the animal be very delicate, or dropped late in the year, the better plan is to leave it constantly in the open air, only allowing a well-littered shed for it to run under; for, if housed, the creature will become tender, and, if not well looked after, run lousy; whereas if left in a snug paddock, or in a yard with a hay-rick to nibble at, there will be no want of health or strength. The litter should also be frequently removed, as cleanliness should ever be attended to; and the calf itself, if soiled, should be washed.

As weaning calves, whether fed upon milk, hay-tea, or pot-liquor, must be *suckled by hand*, we should state that the mode in which it is performed is this:—the first and second fingers of either hand, being well washed,

are presented to the animal's mouth, and of these it readily takes hold, and sucks as greedily as if they were teats. In the mean time a vessel containing the liquid is placed under the calf's mouth, and while it is sucking, the hand is gradually sunk a little way down into the liquor, so that it may lap without stopping its nostrils. The hand must, therefore, be kept steadily in the liquid; for if too suddenly plunged into it, the calf's nose being also immersed, it will immediately withdraw its head from want of air; and, as the attempt must be repeatedly renewed until the animal is satisfied, it requires much time and patience.

With respect to suckling by hand for the purpose of fattening calves for the market, the mode is so far different from that of rearing them for stock, as to require the animal to be, in that case, closely housed, while in this they are left in the air; and is, besides, a business in itself, which cannot interest our readers; but should any, from a motive of curiosity, wish for information on the subject, ample details may be found in the work from which we have already quoted.

The diseases to which calves are commonly subject are merely those of costiveness and scouring. The former, if they be fed during the winter on hay, can be easily removed by bran mashes, with an ounce or two of Epsom salts, or an ounce of castor oil, repeated until the cause be removed, or even by giving them green food if that be not, as it ought to be, always allowed; and the latter, by the well-known "calves' cordial," accompanied by the frequent use of warm gruel, and small feeds of boiled milk, in which a raw egg together with some starch or arrow-root has been beaten up. A lump of chalk should also be always left in the shed for the calf to lick at—not to make the flesh white; but as being a great corrective of acidity

## CHAPTER XX.

Dairy buildings—Cow-stalls and sheds—Construction of the cow-house—Stalling of cows—The Royal dairy at Windsor—Construction of the dairy-house—Walls, roof, and pavement—Temperature—Utensils.

WITH regard to the BUILDINGS *which are appropriate to the dairy*, the accommodation of the cow is, of course, a primary consideration ; and, although two or three of them may be more easily lodged than a single horse, yet some account will necessarily be required, by those who are commencing a country life, of the manner in which it should be done.

There is much difference of opinion among farmers and dairy-men respecting the expediency of keeping cows during the winter in the stalls of a cow-house, or in open sheds placed in any sheltered spot, with a small court attached, to give the cow the liberty of going in and out as she pleases. There is no doubt a greater degree of warmth and neatness about the cow-house ; and we admit, that if the cow be allowed to go out during the day,

and only housed at night during the winter, and during the day in the heat of summer, she may probably give more milk, and keep it somewhat longer before coming dry ; but, so far as regards her health, and perhaps also the quality of her milk, we much prefer the pure air of the open shed, if it be dry, warmly littered, and kept clean. It may indeed be observed, that, if thus left to herself, she will be frequently found to lie out under the snow, in preference to the cover of a roof, though making use of the shed, for the advantage of shade, in the summer ; or if there be a shallow pond, she will stand in it for hours together. Indeed, some persons keep them out all the year round, and the large number kept in the home-park, at Windsor, for the supply of the Royal Family, are never housed, nor fed upon anything but pure grass and hay, yet are singularly healthy ; though, according to our humble opinion, if occasionally supplied with raw carrots and parsnips, or a little of oil-cake, their milk would probably be increased, without any deterioration, if not improvement, in its quality.

A small shed will accommodate two or

three cows, and should be either erected in a snug corner partly surrounded by other buildings, or, if in a paddock, closed on three sides; very low, and roofed with thatch; a rack for hay, and manger for roots or mashes, being placed in the further end, and a trough in the court for water.

In the *construction of a cow-house*, the chief points are, that it should be dry; for, although a certain degree of warmth is desirable, yet cows, if kept dry, are not very susceptible of cold, and fresh air should never be excluded. If the house be closed, the roof should, therefore, in that case, be lofty; but whether stalls or sheds be adopted, we ever uphold the roofing with thatch, as being far more comfortable to the cattle than either slates or tiles. Lattices of wood, in the form of Venetian blinds, to admit or exclude the wind, should also be fixed in the sides next the heads, or in front of the cows, but their hinder parts should be screened as much as possible from the wind.

Cows are very generally placed two together in double stalls, about nine feet in width, or a foot, or more, less, if the breed

be small ; but, if there be room sufficient, single stalls of five or six feet wide are preferable : a couple of quiet Alderneys may, however, be very conveniently lodged in the former space, or even smaller. Many people, indeed, prefer the double stalls, under an idea that the cows feed better when put together, from their exciting each other to eat ; but even were this an acknowledged fact, still the advantage of keeping the cow alone, and thus having the power of regulating her food, and allowing her to lie down at pleasure without any interference by her companion, is too manifest to need explanation.

If well arranged, a passage should be left between the wall and the heads of the cows, for the purpose of feeding them without going into their stalls ; and the cribs which contain their hay, as well as the manger and trough for other food and water, should be placed so near the ground as to prevent the animals from getting their horns under them when they lie down. The floor should be paved with clinkers, and is usually made slanting to a gutter behind them, about eighteen inches wide by nine deep, communicating with a sink

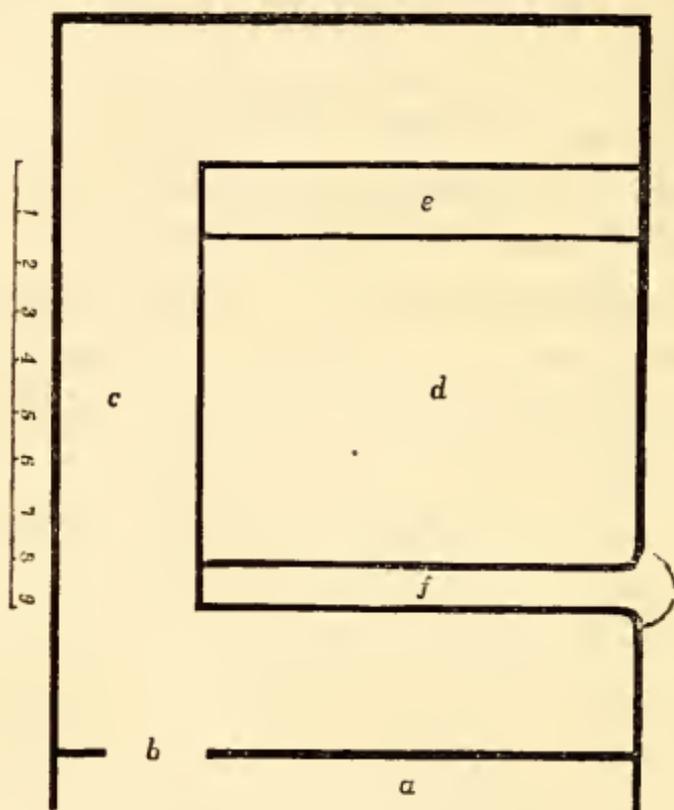
at one end of the building for the reception of their excrements, which should be frequently swept away, and the gutter sluiced with water, in order to secure the great object of cleanliness. So far, indeed, is this carried in Holland, where the dairy forms so prominent an object, that the cow-house is regularly swept and sanded to a state of the most extreme neatness; and the animals are not only wisped and curried like horses, but their tails slung up in pulleys, in the same manner as those of horses after they have been nicked: and this solely to prevent their soiling themselves.

The Dutch have, indeed, some minor arrangements in their cow-houses, which might, we think, be copied in this country with advantage. As, for instance: the sweeping is done chiefly by a square board, the exact size of the gutter, down which the dung is pushed by the cow-herd into the reservoir at its end, and when sluiced with water from the pump, the drain is completely cleansed. The floor, instead of being made slanting to the gutter, is set rather higher under the hind than the fore-feet; both to enable the cow to reach her

meat more easily, and likewise to eject her dung in a more cleanly manner. Under the standing of both the fore and hind feet a broad fir-plank—a foot to a foot and a half wide—is placed; as any harder substance might cause her to founder; and the intermediate space in the floor is filled up with sand which is gradually depressed towards the middle, to receive the belly of the cow.

Cow-keepers, for the sake of economy and looking solely to profit, never allow straw for the bedding of the cows, which are left to rest either upon the bare earth, or upon boards, which soon acquire an unpleasant odour; but those persons who only keep one or two for family use, and cannot, it must be supposed, be actuated by that motive, will no doubt see the propriety of allowing a sufficiency of litter to allow of the animal being made comfortable; for we may rest assured that she is not insensible to the enjoyment of a dry and soft resting place, the more particularly as she lies down frequently, for the purpose of chewing the cud: though there is no necessity for bedding her up so warmly as a horse.

In this way it may be seen by the following plan that a shed of about twelve feet by fifteen may be converted into a very convenient dwelling for a couple of cows; —

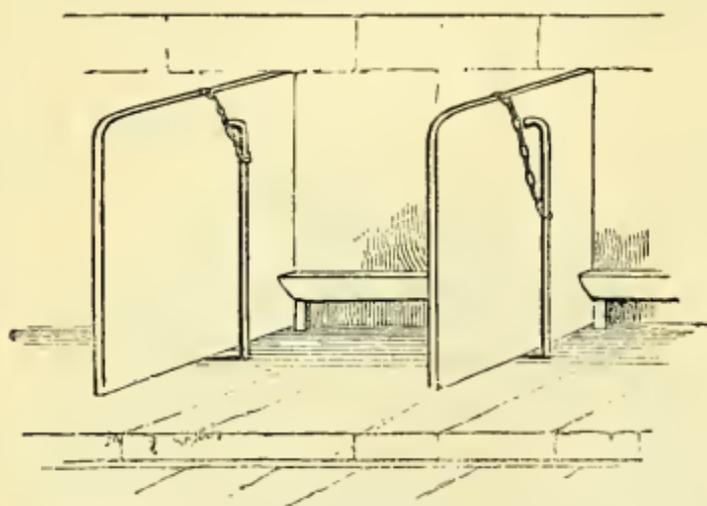


- |                             |                            |
|-----------------------------|----------------------------|
| <i>a.</i> Yard and offices. | <i>d.</i> Cow-stalls.      |
| <i>b.</i> Entrance.         | <i>e.</i> Cribs.           |
| <i>c.</i> Passage.          | <i>f.</i> Gutter and sink. |

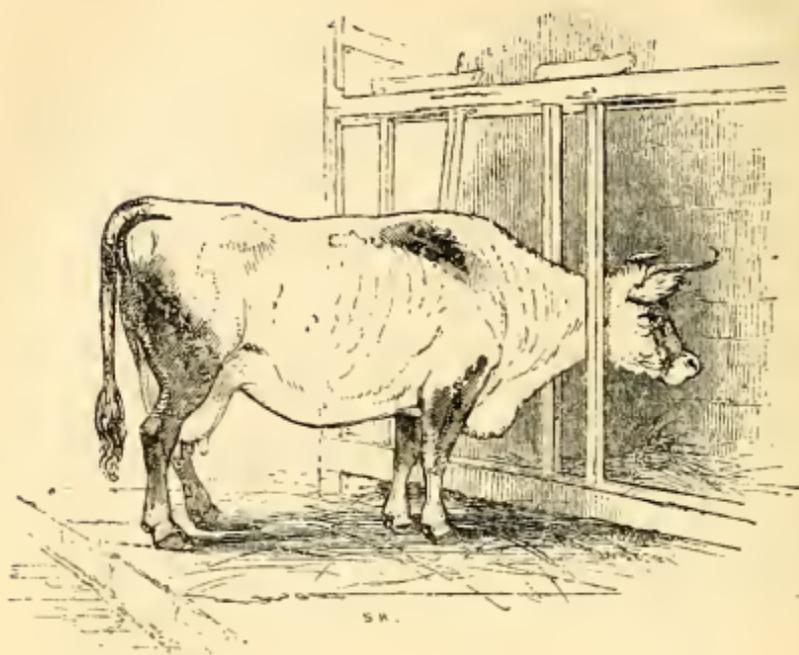
but the passage for the conveyance of food may be saved, as that can be not very inconveniently given in the stalls; and in this manner a snug cow-house, on the same plan as that above, answering all the purposes of

comfort, need not be larger than nine feet by twelve.

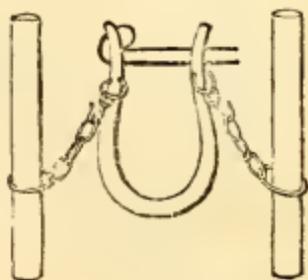
There are various modes of fastening the cows in their stalls. In some, a chain, hooked to the horns, is fastened to an upright iron rod, which is fixed in each side of the stall by a ring which slides up and down as the animal moves its head; and, as the chain is short, it prevents the cows, when stalled together, from interfering with each other though giving them sufficient liberty: as thus—



Others, however, still continue the primitive mode of having a couple of posts in each stall, one of which is moveable to admit the cow's head: thus allowing her to move it up and down at pleasure—

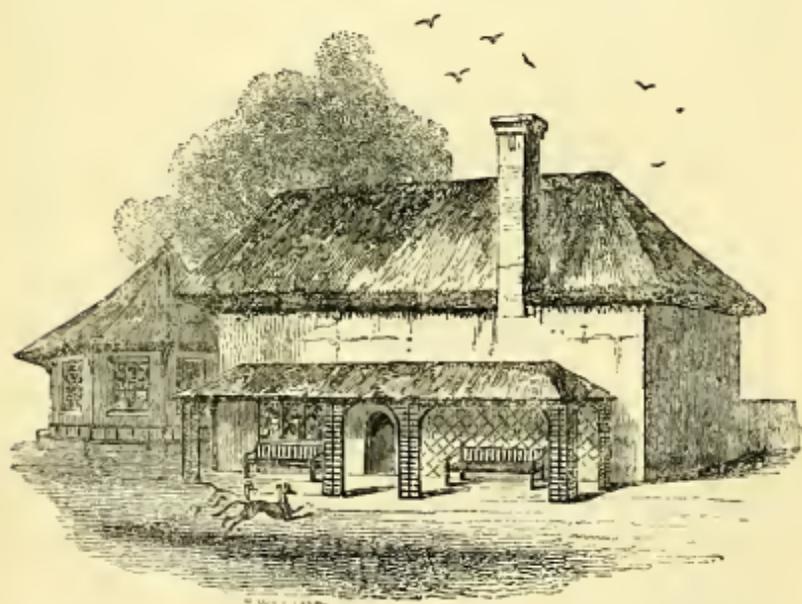


There is, also, a collar much used on the Continent, which is slung between two posts, as here represented ; but many farmers use the simpler mode of using nothing more than a halter buckled round the cow's neck, and hooked to a chain which is mortised into the manger, and is long enough to give her liberty to rub and lick herself, and move about in her stall.



The next point is the *dairy-house*, of which many florid descriptions have been given of

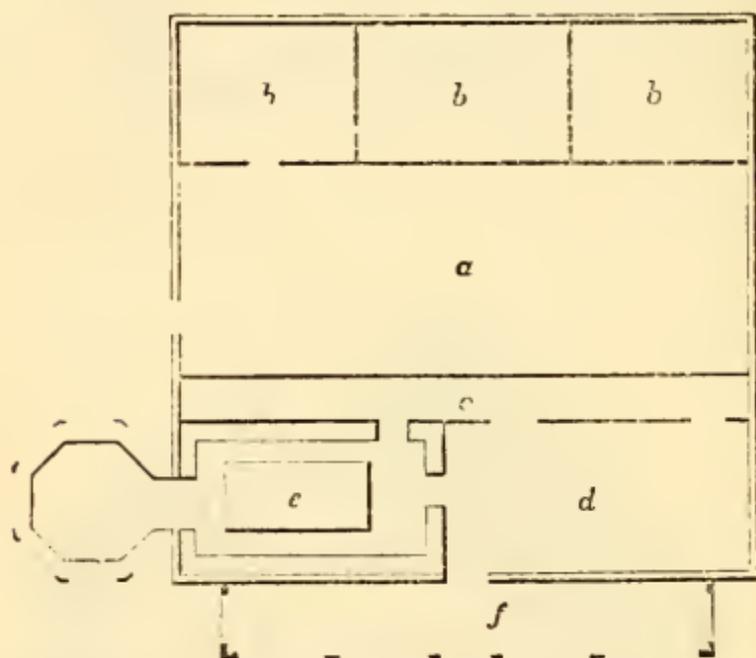
some upon an expensive scale; which, although ill-suited to the views of the generality of our readers, may yet afford a correct idea of the mode in which those of an humbler class should be constructed. Among the former that of the Duke of Northumberland, at Alnwick, is very elegantly arranged; but, perhaps, the most accurate published account is that of the great Harleian public dairy at Glasgow—to which we refer. That erected at Windsor, in the reign of George IV., for a large number of cows—and of which we have here the honour to present a view of the



garden front—is thatched, in the cottage style, with bed-rooms overhead, and will convey a

just notion of the manner in which a dairy of the highest, as well as the most modest pretensions, may be constructed: the small octagon building being merely a fanciful addition to the milk-room.

The plan is also very simple: constructed on two opposite sides of a court, into which the windows look, and built in this manner—



*a.* The court.

*b. b. b.* Rooms for churning,  
keeping and washing utensils.

*c.* Verandah.

*d.* Dairy-maids' kitchen and  
sitting-room.

*e.* Milk-room.

*f.* Garden verandah.

This, it may be imagined, is completely adapted to the purpose; and it has been justly

said, that, "on the proper construction of the dairy-house materially depends the perfect manufacture of cheese and butter." But private families do not make cheese; and, respecting butter, we well know that a large proportion of the best kind is made in the cabins of the Irish cottier. In farm-houses of even the better description, the churning is not unfrequently carried on in the kitchen, and milk, cream, and butter kept either in an adjoining pantry, or in an under-ground cellar; and we have ourself—when many years ago residing in Surrey—had as fine butter as ever was tasted made in that way in our own house. Wherefore, let no one who has an acre of ground, or a right of common, be deterred from keeping a cow, in consequence of not having a regularly built dairy and cow-house; but if they have any shed in an out-house for the cow, with only the kitchen for a dairy, let them contrive to have for themselves the healthful comfort of pure milk and butter.

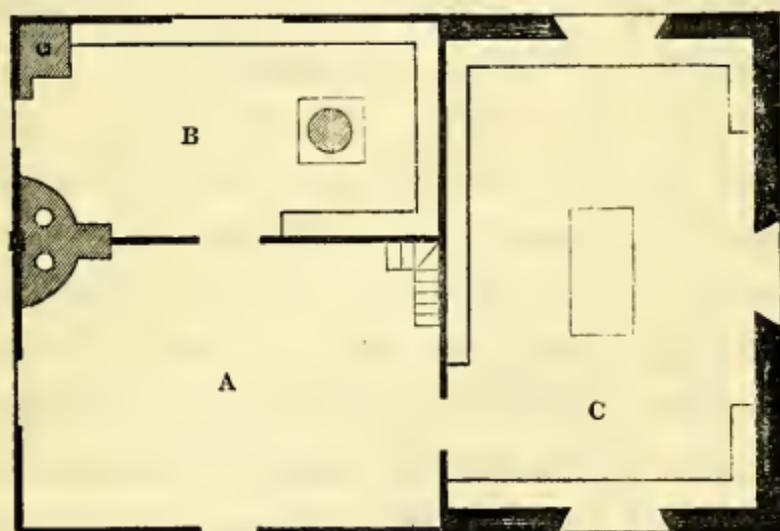
However, as it may, in many gentlemen's houses, be difficult to arrange the proper conveniences within the family dwelling, we shall

describe a separate building which will answer every prudent object, and may be erected at very reasonable cost.

The apartments which are particularly applicable to the business of the dairy, are—one for milk, cream, and butter; another for churning, and a third for implements and their washing; but the churning and implement rooms may be very properly combined, and the subjoined plan may be either upon a small or enlarged scale.

The building, though placed near to the house, yet should be apart from an immediate contact with any odour from the stable, or other impurity, as well as from any pond of stagnant water; as nothing more readily acquires an unpleasant taste or smell than milk and cream. A uniform temperature is also of extreme importance; for although the most experienced dairy-women disagree on the degree of heat most suitable to the production of cream and butter, yet they all admit that the house cannot be kept too cool in the summer: hence the main aspect should be open to the north and east; and the building should, if possible, be shaded

either by walls, or by high trees, from the south and west. The roof should be of a high conical form, rising from the centre, and projecting broadly over the sides, so as to shade the body of the house, which, if it consist of only two small rooms conveniently arranged, will be found sufficient for every necessary purpose, although three are here marked in the annexed plan—



A. is a wash-house, with a pump and cauldron for the cleansing and care of the implements; or it may be used for the joint purposes of that and B. if there be only one apartment: it is, however, better to keep them separate, and to divide the room into two. Here is also the entrance, with a staircase in one corner, leading to a garret; and under the verandah formed by the projection of the roof, are stands for drying all the utensils which have been washed.

B. is the churning-house, with a boiler in the corner, with shelves and large vessels for holding the skim-milk.

c. is the milk-house, with broad shelves all around for the vessels which contain the milk and cream; and in the middle is a table for the preparation of butter. The windows, which, if possible, should be three in number, are to be closed with lattices covered with gauze-wire, to prevent the entry of flies, and shutters of wood to guard against the cold in winter; for if glazed they are subject to duty.

With respect to the *mode and materials of the building*, the walls should be very thick, to render it cool in summer and warm in winter; but they may be made either of common rubble, or even with dried clay. The roof, having the same object as we have already said, should also be of straw, or rushes; but, if of slates, they should be of sufficient thickness; for as to tiles, they, if used, will be found in both cases inefficient, in consequence of their want of warmth in the winter, and of coolness in the summer. The floor should be raised a few inches above the level of the outer ground, and made rather slanting, with gutters to carry off the water used in washing; for if any particle of milk that happens to be spilled upon the pavement be left there, it will soon become sour, and impart an unpleasant flavour to the cream and

butter. The floor should then be well dried, as damp is very prejudicial to the operations of the dairy.

The floors of most dairies are paved either with bricks or tiles, neither of which can be recommended; for brick is rarely laid so level, or so closely cemented, as not to admit of crannies in which the spilled milk remains without a possibility of removing it, and tiles, unless they be glazed, also absorb a great proportion of any moisture to which they may be exposed. Slates are therefore much preferable, as they have been found, on comparative experiments made by the late Bishop of Llandaff, to imbibe only the two-hundredth part of their weight, while tiles absorbed one-seventh; and slates, when afterwards exposed to  $60^{\circ}$  of heat, became dry in a quarter of an hour, while tiles retained some portion of damp during six days.

The temperature of the room in which the milk is kept, when left to stand for cream, is a point of great importance, and should be maintained, as nearly as possible, at  $60^{\circ}$  of Fahrenheit: air should therefore be admitted in every way during the summer and ex-

cluded in winter; indeed, during the latter season, an under-ground cellar will be found no bad substitute.

The *utensils of the dairy* comprise milk-pails, pans, and cooling dishes for holding, and sieves for straining, the milk when taken from the cow; with dishes for skimming the cream, and churns for the making of butter; besides scales, prints, and boards, for weighing, measuring, and ornamenting it; all which we shall describe in the following chapter, though so familiar to every dairy-maid as hardly to need description, and requiring no other instruction for their use than a strict injunction to attend to the most scrupulous cleanliness, not only with regard to her own person, but to the cows, the dairy-house, and the implements.

## CHAPTER XXI.

Qualities of milk—Adulteration—The black cow—Matter of which milk is composed—Cow's udder—Lactometer—Milking syphon—Dairy-maids—Unruly cows, and holding of their milk—Operation of milking and skimming—Cream steens— Implements — Operation of churning—Upright and barrel churns—Metallic churn.

MILK, whether it be that of the cow, or of those other creatures that produce it, is universally admitted to be one of the most nutritive articles of diet, for it is composed of materials containing the most valuable properties of alimentary matter ; which, although varying in their several proportions, according to the nature of the being from which it is obtained, yet exist in the milk of all. It is not only formed into the substantial articles of butter and cheese, but is capable of being converted into innumerable delicacies as food ; and, indeed, the care which our beneficent Creator has taken to provide this delicious nourishment for young creatures during their

helpless period of existence, alone stamps it as an aliment of superior quality. It is, therefore, essential to have it pure : which can only be done when a cow is kept for the use of the family ; for such are the scandalous frauds practised by the retailers who supply it to the citizens, that in no instance is it sold by them in an unadulterated state.

The cow-keeper, indeed, furnishes the dealer with it in its genuine purity ; but the retail dealers—not satisfied with the large profit granted to them by the great difference of measure—instead of carrying it directly to their customers, first take it home, and there “set it” for a few hours, until the cream is taken from it ; after which it is sold as “new milk.” Nor is this all ; for a considerable quantity of water is invariably added to it by these gentry from the pump which stands in the cow-yard, and is significantly known among them as the “black cow.” Then pounded chalk, or flour, with some glutinous substance, are mixed with it, both to improve its colour, and to impart to it some appearance of richness in quality.

But, even should a dealer be found honest

enough to avoid these impositions, the cows are constantly kept in close, unhealthy sheds, of the dirtiest description, and fed almost entirely on brewers' grains, Swedish turnips, and mangold-würzel, which give a great flow of milk of the poorest quality: so that, even if the cow be brought—as in some few instances—to your door, and there milked, the milk will be very little better; as may be seen by the small quantity of cream which it will throw up, if set over-night and skimmed in the morning. Besides, even should the cow be fed in the best manner, the milk which she will give if she be kept in the house, will never be so good as when pastured in the field. You will, perhaps, not perceive any want of richness in either the milk or cream if she be “soiled”—as feeding in the house is called—but, turn her into your paddock, then convert the cream into butter, and you will soon find a marked superiority in the delicacy and flavour of the latter.

Although the milk of the goat and ass is—in consequence of its superior lightness—the most congenial to the stomach of those dyspeptic persons who suffer from indigestion,

yet that of the cow is, perhaps, the most nutritious, and is, at all events, in this country, the only sort in universal use. An analysis of its chemical elements would be of little interest to the generality of readers, but every one should know that its joint properties consist of three distinct substances—scientifically distinguished as the “butyraceous,” or oily body, producing cream and butter; the “caseous,” cheesy matter, or “casein,” of which cheese is formed; and the “serous” compound, or “serum,” known as whey:—

Cream, forming . . .	4.5	}	parts of 100.
Cheesy matter, forming . . .	3.5		
Whey, forming . . .	92		

which, however, can only convey a general idea of the component parts, as they must necessarily differ according to the quality of the milk, which varies with the breed of the cow, the food on which she has been fed, the time which has elapsed since her calving, and the state of the season; but it has been ascertained that in warm weather the milk contains more butter, and more cheese when it is cold.\*

\* Johnston's Elements of Agricultural Chemistry, p. 227.

A mathematical instrument called a “lactometer” has indeed been invented to ascertain the richness of milk, and is so far curious as to determine any difference of quality which may exist between particular cows; but does not show whether the caseous or the butyraceous matter predominates.

With the *form of the udder* every one is acquainted; but though only presenting in its outward appearance a tough species of smooth, glossy skin, its *interior structure* is composed of innumerable glands, closely interwoven with each other, which secrete the milk from the blood, and communicate with the milk-veins which convey it to the bag; the four “teats,” which are pendent from it, and through which it flows, having at each extreme point a very small orifice which is closed and held fast by the natural elasticity of the membrane, in the manner of a sphincter muscle.

In the *making of butter*—as Mrs. Glasse would say—“first milk your cow:” but this, simple as it may appear, is a matter of no small importance; for if not well done, by a good-tempered dairy-maid, who will use the

cow kindly, and coax her to yield her milk, the animal will withhold a large portion of it, and acquire a habit of doing so, until it at last becomes gradually dried up. Good temper, it may be truly said, is the foundation of happiness to us all; and in no servant, out of the nursery, is it more necessary than a *dairy-maid*; for as to a *man* milking a cow, the fellow should be put in petticoats, and, in Ireland, would be hooted by every woman in the village.

There is perhaps no animal more susceptible of kindness, nor more pointedly resentful of ill-treatment, than a cow; for if beaten and driven hastily, or even if spoken to harshly, or scolded at, she will take a dislike to that person, and withhold her milk; though yielding it freely to another who uses her gently, and speaks to her softly. We are unacquainted with the impulse which enables the cow to "hold her milk;" but that she has the power of retaining it, is well known to every one accustomed to the dairy.

If the cow be unruly while being milked, it must be done in the house, for the purpose of having her head secured, and even her

hind legs "hobbled," with a strap twisted round each foot just above the hoof, and buckled together; but if quietly disposed, she may be milked in the field; though the hobble is not a bad precaution, as she sometimes, if teased by a fly or instigated by a freak, will kick down the pail, or put her foot into it: but even should this happen, she should neither be beaten, nor harshly spoken to. Patience and gentleness will overcome the most perverse disposition: the dairy-maid should therefore give the cow a name, and mildly call her by it; pat her, and caress her when about to milk her. Her udder, if at all soiled, or apparently sore, should be gently bathed with lukewarm water, and she should be furnished with some nice hay, or any root or vegetable that may be grateful to her. It is a singular fact, that she is evidently pleased with the melody of music; for, should the dairy-maid sing a ballad while milking, the animal will listen attentively, and yield her milk without reluctance.

In *milking*, considerable strength and steadiness of hand is required to express the

milk gradually and regularly through the teat, and force it from the orifice ; but with a little practice that is easily learned. A metallic syphon was a few years ago invented by a Mr. Blurton, of Uttoxeter, for the purpose of facilitating the process of milking by inserting it in the orifice of the teat, and might—if practically effectual—be useful in large dairies ; but a good milker can extract every drop from the udder of a cow within ten to twenty minutes, according to the quantity of milk which it may contain : in small establishments very little time could, therefore, be saved ; and we have not lately heard anything of the implement.

The *method of milking* is too well known to need any very detailed description, but we may just remark, that the dairy-maid must take a lesson from the calf, if she means to perform it correctly. The teat is a membrane of great elasticity, somewhat resembling a funnel both in shape and office, which she presses between her fingers and thumb until she unloads the udder : most commonly pulling the teats with great force towards the close of the operation, for the purpose of

drawing the whole of the milk, and thus often causing them to become painfully sore. Now, when the dairy-maid begins to milk on one side of the udder, she should continue to draw those teats until they are emptied, without alternately milking those of the other side; and although without improper haste, she should also milk as fast as her strength of hand will allow her, but the pressure of her fingers should yet be equal, and the motion regular. After she has obtained all she can by this mode, she should then press the body of the udder upwards, moderately, but firmly, with the left hand (as the calf may be seen to strike at it when sucking), at the same time squeezing the teats one by one with the right, so as to force down any portion of milk which may still remain in the glands: these "afterings," as they are called, being the richest portion of the milk, and should be extracted, if possible, to the last drop; not alone for their value, but to prevent the cow from acquiring the habit of holding her milk. It should, however, be very carefully done, without any coarse tugging at the teats, though with pressure sufficient on the udder—

as in the sucking of the calf—to cause the cow to yield her milk.

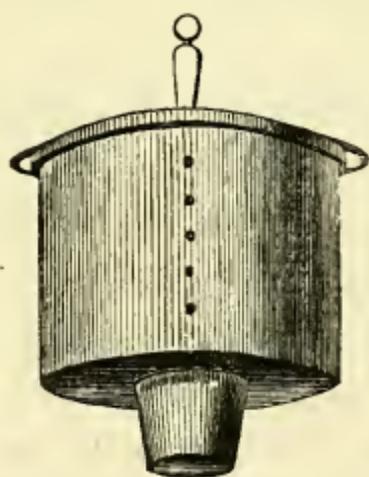
The *operation of milking* is generally performed twice a day; at the earliest hours of the morning, and in the evening about ten or twelve hours afterwards. If, however, the cow be put into very rich pasture, and, having recently calved, should have a superabundant flow of milk, it may be advisable to milk her thrice a day, so long as that flow lasts; dividing the time as equally as the light will admit. If carried on in the field, the cow should be driven, as quietly as possible, rather near to the dairy; for the carrying of the milk any great length of way occasions it to ferment, and proves injurious to its quality.

In Holland, the *pails* into which the cows are milked are almost always of brass, as being easier cleaned than those of wood, which, if not repeatedly rinsed, scalded in boiling water, and then placed in the open air to sweeten, will infallibly impart a sourness to the milk, which will spoil the butter. The pails generally used in this country are mostly made of maple, but they should be strongly coated

with paint and also varnished inside, to prevent any absorption of moisture.

The milk, when taken to the dairy, should be poured, warm from the cow, through a *strainer* of hair or gauze-wire, or simply of strong gauze, as being easier cleaned by removal and washing, as it can be tied over a large round space left vacant in the bottom of a wooden bowl.

Mr. Arkwright, of Sutton Hall, near Chesterfield, has indeed lately brought forward a very simple implement, which at one operation combines the measurement of the milk with straining it into the churn. The vessel, which is of tin, as here described, contains



half-a-dozen gallons—each mark denoting two quarts—and being placed over the mouth of

the churn, the milk is put into it: when measured, the plug in the centre, which closes the strainer, is drawn out, allowing the milk to run through an orifice in the bottom to the strainer. Not being patented, it only costs 4s. 6d., and may be made to any size by a common tinman.

After straining, to divest it of any impurity, the milk should be left to "set,"—for the purpose of raising the cream—in *broad, shallow pans*, which are by some called "Coolers," and by others "Keelers"—formed at one end with a lip, for the more easy pouring out of the milk, and not more than  $3\frac{1}{2}$  inches deep; for more cream will be gathered from these pans than from those which are deeper: though, in the cold of winter, pans of double that depth will throw up a greater proportionate quantity than those which are shallow. If in summer, a little of cold, and in winter of warm water, be put in the bottom of the pan, and the milk poured upon it, the cream will rise quicker than if the milk were put in alone. We much prefer the common pans of earthenware, or, where expense is no object, white wedgewood ware; but many

people use those of lead, as being less subject to breakage, and thought to be cooler, as well as to throw up more cream. The only real advantage, however, which they seem to possess, is their being sometimes made with a plug in the bottom, by means of which the milk can be gradually drawn off into a vessel underneath, without disturbing the cream, which should be removed with as little milk in it as possible; for, if any portion be left, it is apt to render the butter rancid. An experienced dairy-maid can however skim the milk with her finger, and there are also skimmers of wood for the same purpose, though it is often done with a common spoon.

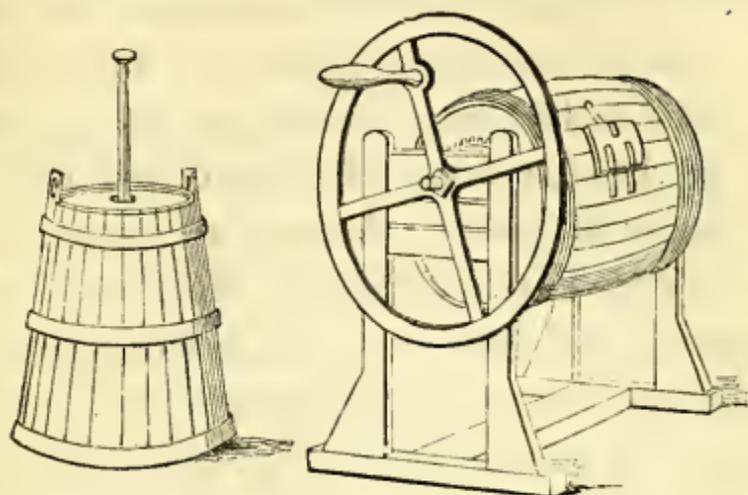
The *milk-pans* may be placed either upon the floor or on the shelves of the milk-house, according to either being cooler or warmer in summer or winter; but if placed upon the floor, it should be dry, and if placed upon the shelves, they should not be put opposite to a window; for, though a perfect circulation of air is desirable *throughout* the room, yet the immediate action of wind upon the surface of the milk is objectionable, as impeding the due rising of the cream, and rendering it rather

tough or stringy. The “steens” in which the cream is kept until churned, are, indeed, not unfrequently exposed to its current, as these vessels are seldom filled, and are too deep to allow the wind to act more than partially upon the surface; but it is better not to expose it to the risk, for, if it renders the cream hard, it will injure the butter.

The *steen* contains from two to four gallons, narrower at the bottom than at the top, and about 12 inches deep. These steens are frequently made of different kinds of metal, but complaints are often made of their imparting an unpleasant flavour to the butter, and we still hold to the use of earthenware, as being easier cleaned and consequently sweeter.

The *churn* is a closed vessel, into which either the cream, or the whole milk, is put; and the vessel being furnished either with a piston, or a revolving fan turned by a wheel, and regularly moved either up or down, or by turning—according to its form—separates from the whey those oily particles of which the butter is to be formed. It is generally made of the best oak, and of various sizes, according to the quantity of milk or

cream to be churned: the common upright, and barrel churns—as here described—being



usually worked by hand, though in some large dairies it is wrought by the aid of machinery.

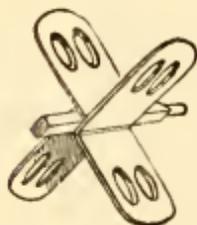
The *upright churn*, also known as the *plunge churn*, is that most anciently and commonly in use: it acts by means of a long handle passing through a moveable lid, and furnished at the lower end with a circular flat bottom, termed the “dash” or “dasher—of this form—which is perforated and worked up and down by the dairy-



maid. The churn, as may be perceived, is broader at the bottom than at top; and, as

the dash must be forced with every stroke to the surface of the milk or cream, it must evidently be less in circumference than the form of the churn. It must also be evident that the more the churn is filled, and the richer or thicker the cream, the greater will be the difficulty of working the dash with equal regularity. The churn should, therefore, never be quite full, nor should more be put into it than the dasher can work with ease. The operation, when well performed, is perfectly efficient, but when there is a large quantity to be acted upon, the work is both tedious and laborious.

The *barrel-churn* has therefore been adopted in consequence of the superior ease with which it can be worked; the internal machinery being simply that of an axle and fans—



like these—fixed horizontally in the barrel, and made to revolve by the action of a toothed wheel at one end, which is worked by another large fly-wheel, turned by the handle fixed on one of its spokes. It can be worked with much greater ease than an upright plunge-churn,

and the work may be done more steadily, as requiring less strength ; for the operation generally requires a full hour, and must be carried on during the whole time without any stoppage or irregularity, as any carelessness in its performance will, to a certain extent, spoil the butter. Experiments have, however, been tried between the upright and barrel churns, with equal quantities of cream, and the results are said to have proved “that the upright churn gave the most butter, being also better in quality, and sooner obtained.”\* There is also a much greater difficulty in keeping the barrel-churn clean ; and the upright form has, also, in our mind, another advantage in the fine exercise which it affords to any healthy young person, whether male or female.

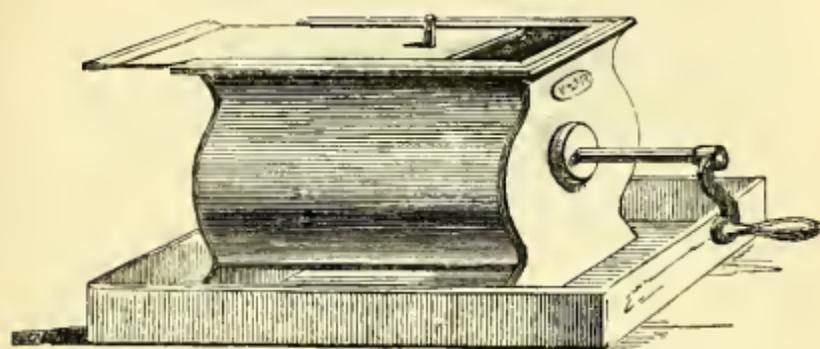
An upright barrel-churn was invented with similar machinery, but to be worked by a person standing on levers, or treadle-boards, who, pressing alternately, first by one foot and then by the other, sets in motion the line connected with the churn-staff, and turns the axle and fans backwards and forwards.

\* Parkinson on Live-stock, vol. i., p. 44.

We have not seen it at work, but it evidently cannot be conveniently managed by a woman; nor, from what we have heard of it, can we speak of it with favour.

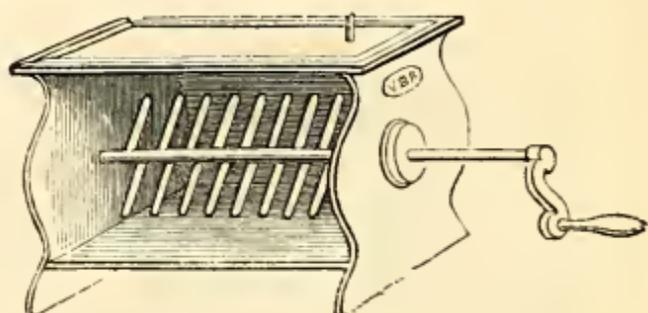
If any faith can be placed in the representation of the seller of an article, a metallic churn has been invented by manufacturers at Lewes, which, "if a brisk, regular, and continuous motion be kept up," promises to ensure the butter "coming" in ten or twelve minutes, at all seasons of the year! whereas, in summer, it usually takes an hour, and in winter an hour and a half. We however, entertaining strong doubts of such extraordinary efficacy, applied to a friend who uses it, and who says, that the operation can be actually performed, with very little trouble, in half an hour to three-quarters, according to the temperature of the weather. It is formed entirely of block-tin, of various sizes, the smallest containing about a couple of gallons of cream; and, as it acts upon half that quantity, may make half a dozen pounds of butter at a time. It should be immersed, in summer, in the accompanying pan of cold, and in winter of warm water; and may be had—as

here described—in London, of various sizes, for about thirty shillings, at Wright's Manufactory, Arthur-street, near the Monument, and Benham's in Wigmore-street.



The small tube in the lid is for the escape of air, and there is another at the bottom with a stopple for removing the buttermilk. The interior machinery consists of a spindle and flyer, worked by the handle; and, as the end of the vessel may be unscrewed, it can be taken out, for the more complete cleansing of the utensil. It is certainly in a very portable compass, and if, on further experiment, it succeeds in making the butter as well and quicker than the churns now in use, there can be little doubt that it will be found useful in small dairies; but most dairy-women never consider the butter so good as it should be,

if the churning be finished in less than an hour; and, if it exceed an hour by twenty to thirty minutes, they think it improved both in quantity and quality.



We have also seen another patent churn, which has only just appeared, made also of metal, and so exactly alike, both in form and machinery, to that which we have just described, that it might be taken for the same; the only difference being that the pan in which it works is enclosed from the air, and thus more effectually retains the heat of any warm water which may be necessary to increase the temperature.

We should, however, observe, that those persons who keep more than one or two cows, ought always to have two churns, of different sizes, for the different quantities of milk produced in summer and winter.

## CHAPTER XXII.

Butter — Milking — Creaming — Churning — Dairy-house — Making of butter from cream — Scotch and Dutch modes — Epping mode, making from whole milk — Manner of curing — Anderson's rules — Clouted cream — Cream cheese, and slip-coat — Product of a cow.

THERE is hardly an article of family consumption more in common use, or more desirable to be of good quality, than BUTTER, nor is there any that can be more easily made, provided it be managed with due care and attention: the main points being extreme purity in all the vessels employed in its formation, and in the place in which it is made, as well as of the person who makes it up after churning.

The milk is left, according to the season, for various periods without skimming, and if perfectly sweet, no harm will arise, but should never be so left until it gets sour; nor should cream be suffered to remain so long upon the milk as to become acid, for it will then be also liable to acquire a bitter taint. Al-

though the cream may be left upon the milk, while sweet, without injury to the butter, yet if sooner skimmed, and the milk continues to throw up cream, that cream, when skimmed, will not make good butter, nor can it be kept for any length of time, even if salted. Cream of that description should not, therefore, be mixed with that of the first skimming.

When strained and deposited in the shallow pans of the milk-room, the cream rises within a few hours, according to the temperature of the air. Those who are particularly fastidious either in the consumption of the raw cream, or for the making of it into butter, skim the milk, at all seasons, every twelve hours, and make the whole of the cream into butter on the same morning. In doing this, they, however, skim the milk a second time; but, although it will throw up a small portion of cream after each skimming, until it becomes curdled, it will yet possess but little richness, and, if fine butter be wanted, should only be used in its raw state.

Inexperienced people, indeed, too generally imagine that, "to make good butter, the

cream should be churned immediately upon its being skimmed." That, however, is a mistake: for although, if thus made, it will certainly be delicate and creamy, or what may be properly called "nice butter," it will not be so rich as that made from cream that has been kept a few days—even until it becomes slightly acid; but it should not be allowed to become quite sour, nor should sweet cream be poured into the same steen over that which has become acid.

The more proper plan, if the weather be cool, is, therefore, to leave the milk unskimmed, while it remains sweet, and to let the cream stand in the steen until it becomes slightly acid: and we repeat, that although the butter made immediately will be "delicate and creamy," yet that made in the latter manner will have a flavour of superior richness; for, in fact, it is not until the cream has stood long enough to attain a slight degree of acidity, that it acquires that quality which is necessary to the formation of really good butter. This acidity should, however, never be carried so far as to occasion any degree of taint or unpleasant taste of any kind, as it

will be communicated to the butter, which it will, to a certain degree, injure.

The time which the cream should be kept before it acquires the proper degree of acidity, must of course depend more upon the season and the state of the weather than upon any fixed rule ; but, generally speaking, it may be assumed that, in the heat of summer, this will take place in a day or two, and perhaps within three or four days during the spring and autumn ; or, in the heart of winter, it may be left an entire week. The cream should not, however, be allowed to stand on the milk when that has become sour.

There is vast difference of practice among dairy-maids respecting the mode of keeping the cream until the churning: the greater number stirring it frequently during the day, or at least every time any cream is added; while others never allow it to be moved, and even when addition is to be made to the cream already in the steen, it is poured upon it gently without breaking the crust of that contained in it. In those dairies which have many cows, it is, indeed, usual to keep the cream of each milking apart from that

which is becoming sour, without mixing the different sorts until the moment of churning; and if this can be conveniently done, it is in our opinion the better practice. Much must, however, depend upon the state of the cream, for, if disposed to become too thick or lumpy, a little stirring may not be improper, as it can do very little, if any, harm; and at all events, if the dairy-maid be not a simpleton, she may, after a few experiments, decide upon which is best.

The *operation of churning*, though very simple, yet demands great steadiness and regularity of motion, and should be continued without intermission until the mass of butter is formed; for if the strokes of the churn be not uniform, and at a proper rate, the butter will not be well made. If too quickly done, it will over-heat; and if too slowly, will not "come," or form into butter, in due time. It should not, therefore, be committed to any one who cannot be depended upon for carrying it through without stopping.

In large dairies the churning requires so much strength, and occasions so much labour if done steadily, that the cow-herd is fre-

quently employed to perform it, though, more commonly, the dairy-maid, if she be a stout girl, goes through the entire work of milking, churning, and making the butter. On this latter point, it is, however, essential that her hand be perfectly cool; for, if heated by an hour's hard work, it will become too warm to make up the butter with due nicety: she should therefore take time to cool herself, and bathe her hands in luke-warm water, afterwards washing them in the refuse milk. In small dairies, however, the work—although it must be carried on without intermission—is so slight, and the exercise so healthful, that any lady, however delicate, may perform it with advantage to her constitution; indeed, any child, if steady, may with ease work one of the metallic churns which we have described.

In the neighbourhood of Epping, and the surrounding districts, which have been so long celebrated for the excellence of their butter, only the first skimmings are used for that of the finest quality. The manner there pursued is as follows:—The milk, after standing twenty-four hours, is then skimmed, or, as

they term it, "fleeted." The skimmed milk is then drawn off from the coolers, and placed in deep pans, where it is left from twelve to twenty-four hours, during which it is again fleeted two or three times: this being called "doubling;" after which it is again put into deeper pans, where it is "threbled," or put into tubs, where it is repeatedly skimmed, so long as any appearance of cream is found to form on the surface: after which it is given to the pigs. In Cheshire the milk is allowed to stand until the cream becomes clotted, or as it is there termed "carved" to a proper degree of acidity, which is forwarded in the winter by putting it near the fire; and in other parts of the north the milk is put into pans which are placed in warm water, to make the cream rise.

The mode of procuring the *clouted cream*, which is so highly prized in the western counties for its richness, is simply thus:—

"The milk while warm from the cow is strained into either large shallow brass pans, well tinned, or into earthen ones, holding from two to five gallons, to which is added a small quantity of cold water; as being thought to separate the cream more completely, and throw it to the top.

"The morning meal of milk stands till about the middle

of the day; the evening meal till the next morning. The pans are now placed over a clear slow fire, and the heat should be so managed as not to suffer the milk to boil—or, as they provincially term it, “to heave,” as that would injure the cream. The criterion of its being sufficiently scalded is, however, a very nice point, requiring much experience, and there is much difference of opinion regarding the several merit of narrow or broad bottomed pans. In summer, it must be observed, the process of scalding ought to be quicker than in winter; as in very hot weather, if the milk be kept over too slow a fire, it would be apt to run or curdle.

“This process being finished, the pans are carefully returned to the dairy; and should it be the summer season, they are placed in the coolest situation; but, should it be in winter, the heat should rather be retained, by putting a slight covering over the pans, as cooling too suddenly causes the cream to be thin, and, consequently, to yield less butter: the mode of making which is this:—The cream should, in hot weather, be made into butter the next day; but, in winter, it is better to let it remain one day longer on the milk. The cream, being collected from the pans, is put into wooden-bowls, and briskly stirred round one way, with a nicely cleaned hand, and being thus agitated, quickly assumes the consistence of butter. The milky part now readily separates, and being poured off, the butter is well pressed upon a wooden trencher, after which it is washed in several cold waters: a little salt being added to season it, before its being formed into prints for the market.”\*

This mode of management occasions the cream to rise in such abundance, that the dairy-maids there say the milk produces one-fourth more than in the common way; but,

\* Survey of Cornwall, p. 141.

although sometimes so thick upon the surface as to be cut into squares with a knife, and very richly flavoured when made into butter, or when used with fruit, or in coffee, it is too oily to be agreeable in tea. It is, indeed, customary with many persons in various parts of the country, to put the milk-pans into vessels filled with warm water, which thus occasions the creamy surface to rise. The remaining milk, however, contains little else than *the watery particles of its original composition*, and thus loses in value for house consumption, or the feeding of pigs, nearly as much as it gains in the increase of cream.

Vessels made of zinc are also, it appears, sometimes used; and, in an article published in the ‘Quarterly Journal of Agriculture,’\* it is said that, “4 gallons of milk”—as there stated—“produced in 24 hours,  $4\frac{3}{4}$  pints of pure clotted cream, which, after churning 12 to 15 minutes, gave 40 ounces of butter. Four gallons of milk, treated in the common manner, with earthenware pans and standing 48 hours, produced 4 pints of thin cream, which after churning from an hour to an

\* New Series, vol. iv. p. 422.

hour and a half gave  $32\frac{1}{2}$  ounces of butter." The increase in quantity of cream and butter, is therefore rather more than one-fifth; but the milk, when subjected to this process, seems to be more or less impregnated with the soluble salts of zinc; and, as these salts communicate an astringent and partly emetic quality, the use of that metal, in dairy implements, should, we think, be avoided.

These different modes, it will be observed, apply solely to the making of butter *from cream alone*; but in many parts of the north of England and Scotland, and throughout the greater part of Ireland, it is made of the *whole milk unskimmed*, without any separation of the milk and cream: but although such different modes of manufacture might seem to cause very different results, they have very little perceptible effect on the quantity or quality, the process of which in the best dairies around Glasgow, in which the consumption of butter-milk is very great, is thus described in Aiton's 'Dairy Husbandry:—

"The milk, when drawn from the cow, is placed in the coolers on the floor of a clean, cool, and well-aired milk-house from twelve to twenty-four hours, till it has cooled to the temperature of the milk-house, and the cream has risen to the

surface. These coolers are next emptied, while the milk is yet free from acidity, into a clean, well-scalded vat, of size to contain the whole milking, or two milkings if both are sufficiently cooled, where it remains till churned. If another milking, or meal of milk, be ready before that which has begun to become sour, that second meal may be put into the same vat; but if the first has soured, or is approaching to acidity, before the second quantity has completely cooled, any further admixture would lead to fermentation, and injure the milk. It is necessary that the whole milk become sour before it be churned; but the whole of it must become so of its own accord, and by no means forced into acidity by any mixture of sour milk with that which is sweet. The utmost care should, however, be taken not to allow the coagulum, or curd, of the milk in the stand-vat to be broken till the milk is about to be churned. If it be not agitated, or the "lapper" (as it is termed in dairy language) broken, till it is turned into the churn, it may stand from a day to a week without injury.

"If these rules be attended to, the butter will be rich, sound, and well-flavoured, and the butter-milk will have a pleasant, palatable, acid taste: but wherever fermentation has been excited, or the lapper broken, and the milk run into curds and whey, the fermentation so begun will continue in the butter-milk after that operation, and will become acrid and unwholesome. When duly prepared and manufactured, the milk will be the better with a fifth or a fourth part of water mixed into it, than milk that has been fermented before being churned would be without a drop of water mixed with it."

Whether the butter be made of cream or whole milk, the churning is done in the same manner; but the latter, from being the so much larger quantity, is of course so much

more laborious. The whole milk, besides, requires more time than that of cream to complete the process;—from two to three hours being considered by Mr. Aiton as necessary to effect it with due deliberation, while that of cream is generally finished within less than an hour and a half. “The operation”—as he states—“should, in warm weather, be very slow; for if it be done too hastily, the butter will be soft and white; the churn should, therefore, be cooled by being previously filled with cold water; but in winter it should, on the contrary, be performed quickly, and the churn should be warmed. The motion of the churn should, however, be, in each case, regular, and whatever may be the degree of velocity, the stroke of the fan or piston ought always to be the same, until the butter is formed, or said “to come.” The air which is generated in the churn should also be occasionally allowed to escape, or it will create froth, which impedes the process; and the whole milk, as well as cream, when churned separately, should become partially sour before it is churned.

In Holland vast quantities of butter are

made from the whole milk. The following is the usual process:—

“Having milked the cow, the milk is not put into the pans until it is quite cold; it is then stirred two or three times a-day, with a wooden spoon, to prevent the cream from separating from the milk, and if it can be stirred till the spoon will almost stand in it, they deem it so much the better; when it is found to be sufficiently thick it is put into the churn and beat for an hour. When the butter begins to form, a pint, or more, of cold water, according to the quantity of milk, is poured in to separate the butter from the milk; when the butter is taken out of the churn, it is washed and kneaded till the last water is perfectly clear of milk. By this method a greater quantity of butter is made from an equal quantity of milk; the butter is firmer and sweeter; it will keep longer than that which is made in the ordinary mode; and the butter-milk is thought preferable.”

On this latter observation it should, however, be observed, that although some English writers have described butter-milk as being only fit for hogs, it yet forms a very material portion of the food of the labouring classes in Scotland and Ireland, being there thought far more palatable, and, whether for pigs or men, more nutritive than skim-milk.

The temperature of the air in the milk-house is of great importance both in the formation of cream and in the operation of churning; for, if too warm, the butter will “come”

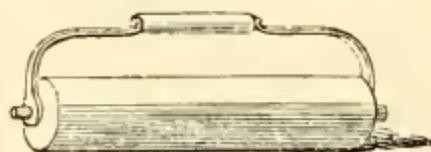
—as its formation is technically called—too soon; and, if intensely cold, it sometimes will not come at all. In cold weather the churn should, therefore, be always scalded with hot water, and in summer rinsed with that which is cold. It is also, in many cases, requisite to add cold or boiling water—as the case may be—either to check, or to facilitate the coming of the butter; but if not absolutely requisite, the churning will be better executed without any mixture of either hot or cold water. The degree of heat at which butter can be made, ranges from about 45 to 76 degrees of Fahrenheit, but it has been found by experience that the best quality is procured at about 51 degrees, and the greatest quantity at 56 degrees, as the process of churning will, in the course of an hour, raise it four or five degrees higher. The temperature in the dairy should, therefore, be kept as nearly as possible to, at first, 50 degrees of Fahrenheit, and not be allowed to go higher than 55 degrees; for, if the churning be begun at the lower degree, it will in all probability arrive at the higher before the operation can be completed: but the better mode, both as to quantity and qua-

lity, is to take a medium heat between the two degrees. In summer, the early part of the morning should be chosen; and, in the winter, the forenoon.

A thermometer should be kept in every dairy to regulate the heat; yet we believe the fact to be, that not in one dairy out of ten is there such an instrument to be found. We, indeed, not long ago, having expressed our surprise to an experienced dairy-wife at her want of it, and pointed out the advantage of its use, received for answer—"that it might be all mighty fine, but, for her part, she found her *thumb*-ometer answer every purpose." On this, there can be little doubt that practice and attention will go far to supply the want of scientific information, but can never arrive to that perfection which may be reached when guided by the accurate principles of science.

After an hour, or more, of churning, small globules of butter begin to appear, which, being gathered together by the working of the machine, a lump of solid butter is formed. This, on its being taken from the churn,

should be placed in a colander, and firmly, though gently, pressed until every drop of butter-milk is drained from it: in doing which, it must, of course, be kneaded by the hand. However, as the butter must, in this operation, pass repeatedly through the fingers of the dairy-woman, some ladies object to that mode of effecting it, and prefer its being done with an instrument like the present, which is merely a roller of about the size of a common rolling-pin, but worked with a handle.



The butter is then usually washed in cold water until the water comes from it perfectly pure; for, if any portion of the milk be allowed to remain, it will soon occasion the butter to become sour and rancid. On this subject there is, however, so much difference of opinion, that many persons consider the rich flavour of the butter to be wasted by its being washed; and in many large dairies it has been relinquished. We know, indeed, that in one upon a

very large scale, conducted with superior management, it is never done; for "it is found by long experience that the butter retains its sweetness much longer when no water is used in making it up. When it is taken from the churn, it is well worked with the hand, which presses out most of the milk; it is then beaten with a cloth, or rather a cloth is repeatedly pressed down upon it to absorb all the remaining milk." A soft cloth will, of course, absorb much of the moisture, and its use is certainly an improvement; but the less the butter is beaten, or worked, the better; for the more it is kneaded, the more tough and gluey it will become, and the moment the milk is extracted, it should be discontinued. If the weather be very hot, we, however, see no objection to its being placed, for a short time, in a large pan of cold water, to harden it; though, if laid upon a marble-slab, in some very cool spot exposed to the air, that will probably effect the purpose.

The *quality of the butter* depends mainly on the care and nicety of management in the making; for if that be not well performed, you may look in vain to have it of fine fla-

your ; but fortunately the process is so simple as to require little more than great attention to cleanliness and common observation. Much also depends on the pasture of the cow during the summer, and her feeding in the winter. The grass, whether poor or rich, you cannot alter ; but if you cut it for hay, see that it be mown when in flower, without waiting for the seeds to form ; and let nothing induce you to follow the advice of those economists who would tell you about the saving of soiling the cow upon cut grass in the house during the summer. If you must purchase hay, buy it of the very greenest upland meadow ; for if you have it coarse and rushy, what you may save in price you will assuredly lose in the value and probably the quantity of the butter. In short, if you wish it to be good, let the cow be well fed.

Rich milk throws up rather less cream than that which is thinner, and if a small quantity of water be added to it, the cream will be increased ; but it will be, at the same time, proportionably deficient in richness. In winter, as well as in consequence of any poor mode of feeding, it will also be less rich, and

the butter whitish, with comparative want of flavour; both colour and taste may, however, be much improved if the outer coat of an Altringham carrot be scraped off and the pulp boiled in a little milk, which is then to be strained off, and mixed with that in the churn.

In *making up the butter*, if a very small quantity of finely powdered salt be slightly sprinkled through it, it will improve the flavour; but it should be so small and fine as not to allow the taste of salt to be perceptible. Some dairy-maids, therefore, merely dissolve a little salt in the water in which the butter is washed; and others are content either to put the salt only into the water in which the butter is placed after being made up; while many omit it altogether. We prefer putting the salt, or rather saltpetre, to the cream, when skimmed, as tending to preserve it and rendering the butter firmer: the quantity to be not less than a quarter, nor more than half an ounce, to each quart.

In *curing the butter* for winter consumption, the quality of the salt to be used should be carefully looked to; for if it be of the coarse sort usually sold in the country oil-shops, it

will seriously injure the flavour. In this, indeed, the Dutch dairy-men—who are perhaps the best in Europe—are so guardedly cautious, that they refine all the salt which they import. Indeed, so curious are they in discriminating its properties, that they actually employ a different sort for cheese and butter; and it is much to be deplored that similar attention is not paid to it in the dairies of this country. The finest of our basket-salt should, however, be always used; and if saltpetre and lump-sugar be also employed, they should be pounded together in a mortar, until they become like powder. The quantity must be regulated by the length of time which may probably elapse ere the butter is to be eaten; but from ten to twelve ounces may generally be considered sufficient for a dozen pounds. In the latter case, an excellent combination of materials consists of eight ounces of salt, two of saltpetre, and two of sugar; but many vary the quantities, and double those of the sugar and saltpetre.

The curing is usually done by spreading the butter very thin, when taken from the churn, and sprinkling over it very regularly

some of the powdered materials, which are then worked into the whole body. In some places, however, a sort of brine is formed by dissolving the materials in a small quantity of water, and working it into the butter, with which it incorporates more readily, and in a more cleanly manner; for, if not carefully done, whole grains of salt will sometimes be found sticking in the butter, as frequently may be seen in that made in Ireland.

Some persons prefer honey to sugar; but, although an excellent preservative, its mixture with the butter imparts, in our opinion, a somewhat mawkish taste, and we much prefer the loaf-sugar: honey is, however, an excellent thing to lay over the butter instead of salt, when a jar is filled.

Glazed jars are the best for preserving the butter; and those containing about a dozen pounds are the most convenient. If new, they should be well sweetened by being immersed in hot water, and afterwards exposed to the air before being used. A layer of the materials used in salting should then be put on the bottom, and the butter pressed firmly over it, so as to fill the jar completely, and

not allow the minutest spot to be unoccupied; for, if any vacuum be left, the confined air contained in it will occasion the surrounding portion of the butter to become rancid. Another layer, either of the materials mentioned, or of honey, should then be put over the butter, and the top covered over with double oil-skin, to exclude the air. If salt or pickle be used, a linen cloth should be placed between it and the butter; but with honey it is unnecessary. It should, however, be remarked, that if the cows be soiled in the house, instead of being grass-fed, each jar should have a little more salt, or about an ounce or two more of the materials.

When the *butter is used fresh* for home consumption, it is very commonly put, during warm weather, into pans of cold water, to keep it cool and firm, and is, in the same view, not unfrequently brought to the breakfast-table in a glass bason. The better mode is, however, to use only a porous, unglazed, earthen bason, which should be immersed in cold water, and if allowed to stand in it during the night, it will imbibe so much of the liquid as to render the inside of the

bason much colder than the temperature of the air or water; the butter should therefore be put into it in a dry state, without touching water. The less handling, also, the better: for, although the butter looks very pretty when made up into pats with ornamental devices on the top, it yet will not improve the flavour.

To these observations on the manufacture of butter, we beg leave to add the following remarks, drawn from the late Dr. Anderson, as a summary of its management:—

1. "Of the milk that is drawn from any cow at any one time, that which comes off at the first is always thinner, and of a worse quality, than that which comes afterwards: the richness going on continually increasing to the very last drop that can be drawn from the udder at that time."

2. "If milk be put in a dish and allowed to stand till it throws up cream, that portion of cream which rises first to the surface is richer in quality and greater in quantity than that which rises in a second equal portion of time; the cream that rises in the second interval of time is greater in quantity and richer in quality than that which rises in a third equal space of time; and that of the third than the fourth, and so on: the cream that rises decreasing in quantity, and declining continually in quality, so long as any rises to the surface."

3. "Thick milk always throws up a smaller proportion of the cream it actually contains to the surface than milk which is thinner; but that cream is of a richer quality. If water be added to that thick milk, it will also afford a considerably greater quantity of cream than it would have

done if allowed to remain pure; but its quality is at the same time greatly debased."

4. "Milk which is put into a bucket or other proper vessel, and carried to any considerable distance, so as to be much agitated and in part cold before it is put into the milk-pans to settle for cream, never throws up so much nor so rich cream as if the same milk had been put into the pans directly after it was milked."

5. "If it be intended to make butter of a very superior quality, it will be in such case advisable to separate the milk that is first drawn from that which comes last; and the quality will be improved in proportion to the smallness of the last drawn milk that is obtained. The first skimmed cream should also be used, as it is always richer than that which rises last."

Respecting CHEESE—as distinctively so called—we have already observed that it is never made in private families, as it cannot be done without so many cows as to render it the business of a farmer; but those who keep only a couple of cows may occasionally, when the animals are flush of milk, make a little "cream-cheese," to which they may add some "slip-coat."

The *cream-cheese* is, in fact, little else than thick, sweet cream, dried by being put into a small circular vat, of not more than an inch and a half in depth, perforated with small holes in the bottom, to allow any portion of milk which may be mixed with it to escape. It

is usually covered with rushes or vine-leaves, to guard it from being handled, and should be only gently pressed by the hand between linen cloths. It is thus kept in some rather warm situation to sweat and ripen; for if once chilled by cold, its mellow richness will be irrecoverably lost. The extreme of heat should, however, be equally guarded against, or it will become rank. Some judgment is therefore requisite in bringing it to perfection, and good judges never think it worth eating until it is quite ripe: the time required depends, of course, upon the season; but, in our opinion, should never be less than a fortnight.

The *slip-coat*, or as some call it, "new cheese," is formed entirely of new milk, with a small quantity of water added when the rennet, without which the cheese cannot be made, is added. Rennet may always be found ready-made in country oil-shops, and a small quantity will serve the purpose of turning the milk into curd. The whey is then gently poured off, and the curd carefully kept entire until put into a round vat of not more than about an inch deep, where it is very gently pressed for a few hours; and when removed,

covered with a cloth which is frequently changed. In a few days, or as soon as the skin is formed, it is fit for use.

Regarding the *product of a cow*—in the ‘Agricultural Survey of Suffolk’ four gallons and a half of the milk of grass-fed cows are thought by most farmers to produce, on an average, a quart of cream, which, when made into butter, weighs  $1\frac{3}{4}$  lbs.: though in most cases a dozen quarts of milk are thought requisite for the making of a pound of butter. In the same report, the average quantity of butter made by a cow is calculated at 4 lbs. per week during the summer season, and 156 lbs. during the year, besides the nourishment of three little pigs. This, however, can only be looked upon as a mere average, for the actual produce must, of course, depend on the breed of the cow, as well as the value of her pasture and winter nourishment; and if both be of fine quality, it will—as seen in the Alderneys—be considerably more. Speaking generally, a good cow of most of the small breeds, if well fed, may fairly be supposed to give, after her second calf, 12 quarts of milk a day during three months; 9 to 10 for two

months longer; and after that, a diminution of perhaps a couple of quarts during each two following, and a quart in each of the remaining three, until she runs dry: or, in round numbers:—

3 Months,	or 90 days,	at 12 quarts,	1080
2 Ditto,	or 60 ditto,	at 9 ditto,	540
2 Ditto,	or 60 ditto,	at 7 ditto,	420
1 Ditto,	or 30 ditto,	at 6 ditto,	180
1 Ditto,	or 30 ditto,	at 5 ditto,	150
1 Ditto,	or 40 ditto,	at 4 ditto,	160

thus yielding a yearly product of 2530 quarts, upon which, according to most calculations, 230 lbs. of butter should be made; but, assuming the product to be somewhat less, and a good portion of the cream to be consumed by the family in its raw state, still a couple of such cows would, all the year round, give a pound of butter a day.

## CHAPTER XXIII.

Pigs and pork—Breeds of the hog—Denominations—Breeding sows—Period of gestation—Farrowing—Produce—Weaning—Rearing—Porkers and store-pigs—Feeding—Weight at different ages—Cost and value.

IT is worthy of remark that Divine Providence has taken especial care in the creation of animals, that those which are the most necessary to supply the wants of man, are not only the most easy to rear, but the best for constant consumption; and it is, indeed, a gratifying reflection, that if we look around we shall see that those articles of food which are most easily obtainable, and which the poor consume in common with the rich, are far preferable to those which are termed delicacies. Among the former, perhaps no animal furnishes us with more food, or of a better quality, than THE HOG, for he supplies not only the long list of niceties for the rich, enumerated by our friend Sturgeon, in his 'Essays on Good Living,' but also plain,

substantial pork and bacon for the sustenance of the hearty working man : nor should his value be forgotten, in household economy, as a consumer of those offals of the kitchen and the garden, which would otherwise be wasted.

PORK, both in its fresh and salted state, is, indeed, an article of universal consumption over the whole Christian world ; and the hog is such a profitable consumer of every eatable species of garbage, that pigs are reared not only by every farmer, but by every cottager who can find means to feed him ; for there is no animal which yields so great a quantity of flesh, nor of so nutritious a quality, in return for the food which it consumes. This, together with the fecundity of the sow, which generally produces from seven to ten young ones at a birth, and that not unfrequently twice within the year, tends, notwithstanding the demand, to keep down the price at market to such a rate as would leave but little profit were the hog reared upon purchased food ; but, as he will eat every refuse of either animal or vegetable substance, and is attended with very little trouble, he is fed

at comparatively trifling expense during his growth, and when, at a maturer age, fattened upon corn, to become bacon and ham, he well repays the cost.

The various breeds of this useful animal that are reared in almost every district of the United Kingdom, arising from the crosses which are continually taking place, are so numerous that any detailed description of them would fill a volume; we shall therefore confine ourselves to a very succinct account of a few of those which are still considered pure in race, and more generally bred throughout this country: as for instance the "Berkshire and Hampshire"—the "Suffolk and Norfolk"—the "Essex and Hertford"—the "Dishleys"—the "Chinese"—and the "Neapolitan."

Of the *Berkshire*, which is almost the only breed reared throughout that county and the several surrounding shires, there are two kinds—the "lop-eared" and the "prick-eared;" the one having very large, long ears, coming so forward as sometimes to hang over the eyes; while those of the other are short, small, and stand upright. In other re-

spects they are, however, nearly alike: their colour of a reddish brown with black spots; their form close, round, and thick, with short legs; small boned, and having the distinctive mark of being without bristles; or rather a rough, curly coat, wearing the outward appearance of coarseness; but nothing can be finer than the bacon, and some of the pure breed have reached the weight of more than 100 stone; the size and weight, as stated in Wilson's account of the hog, being—

Height, 4 ft. 9½ in.	Live weight, 12 cwt. 2 qrs.
Length, 9 ,, 8 ,,	Dead do. 10 ,, 3 ,,

but from 40 to 50, when completely fattened as bacon hogs, is the more general average; and even half that weight, or 18 to 25 stone, still more common. The breed is, indeed, so general a favourite among those who wish to improve their stock, that they have been dispersed all over the country, and are now common even in America.

The *Hampshire* hog, though bred in the adjoining county, is, however, of a white colour, and though far from handsome, has been long celebrated for its fine bacon; but

its character has been, perhaps, more acquired from its being fed, when young, upon beech-mast and acorns in the New Forest, and from the mode of curing it, than from any inherent degree of excellence.

The *Suffolk and Norfolk*, together with those breeds of the same sort, reared under different denominations in the midland counties, though rather small in size, have been long in repute for their hardihood of constitution and fruitfulness.

Thus the *Essex half-blacks*, which were introduced some years ago by the late Lord Western, as descendants from a cross with the Berkshires, are now justly considered a very superior stock. They are described in the Survey of that county, as "black and white, short-haired, fine-skinned, with smaller heads and ears than the Berkshires, but feathered with inside hair, which is a distinctive mark of both; have short, snubby noses, very fine bone, broad and deep in the belly, full in the hind quarters, but light in the bone and offal. They feed remarkably quick, grow fast, and are of an excellent quality of meat: the sows are good breeders, and bring litters

of from eight to twelve, but they have the character of being bad nurses.”

A breed partaking of the Essex blood, and generally known as the *Essex and Hertford*, was also, about the same time, brought into notice by a then celebrated breeder—Mr. Dodd, of Chenies, in Buckinghamshire—who frequently exhibited them at the Smithfield Cattle Show, where they were greatly admired.

The *Dishleys*, which are descendants of the Berkshires from some cross made by the late Mr. Bakewell, are remarkably fine-boned, and as handsome as most others of his well-known stock. They are also said to lay on a larger quantity of flesh in proportion to offal than any other known breed, but they are slow of growth, and neither very prolific nor very good nurses, besides requiring more food than usual when being fattened; which objections ought to prevent buyers from choosing them, however caught by the appearance of their beauty—unless, indeed, they be careless of profit: for it must be admitted that lightness of bone always indicates delicacy of flesh; and although this breed will not ar-

rive to such heavy weights as those of coarser bone, yet its meat will be finer.

The *Chinese*—which, as the name imports, was introduced into this country from the Indies—is, however, the favourite breed for household use, as they fatten kindly and the flesh is extremely delicate; but they are small, and so deficient in the size of the hind quarters, that the hams are of very little weight; neither does the flesh produce that firmness of quality which is so much admired in bacon. They are, therefore, usually killed at an early age for roasting and pickled pork; and where one or two can be fattened as porkers upon the milk of a cow, they should always be chosen for those private families who do not feed pigs for bacon: if not of the pure breed, yet some of those crosses which retain its best qualities—among which, those between the Berkshire and the Chinese are the most generally preferred.

Of the pure, original breed, there are two distinct species, the white and the black; the former better shaped than the latter, but less hardy and prolific. Both are, however, round in the carcase, small-limbed, with fine

ears, and head so embedded in the neck that, when quite fat, the end of the snout only can be seen; but they are, for the most part, so much smaller than the common run of European pigs, and the flesh so much more tender, that they are very seldom kept more than a few months old. Indeed, if much longer fed, their flesh runs too much to fat; but, when killed young, the meat is much esteemed for its delicacy.

Another moderately sized breed has also been lately brought from Italy, by Lord Western, and is coming into frequent use, under the title of the *Neapolitan*, as possessing, in many points, very superior qualities for gentlemen's families: being both light of bone and delicate of flesh.

In describing these several breeds, our object was more to guide amateurs in making their choice, than with any idea that those persons who are neither dealers nor breeders, can have the opportunity of making any selection; for we well know that they must, in nine cases out of ten, take what they can get from some neighbouring farmer. Nor is it a matter of much importance in the purchase of

young pigs which are to be killed as porkers, or kept as mere stores for the consumption of garbage; but, if a *breeding sow* is to be maintained, then one of the best kind should be chosen; and we should recommend one of a cross with either the Berkshire, the Essex, or the Suffolk, and a Chinese or Neapolitan: the first with the last of these being, perhaps, the best.

In speaking of them collectively, they are called either *swine*, *pigs*, or *hogs*; but when distinctively named, the male—when not castrated—is styled a “boar,” and the female a “sow.” Their whole progeny when just born, is called a “litter,” or a “far-row;” but are singly—while very young—termed “sucking pigs,” or “roasters;” when a little more advanced, “porkers;” then “stores;” and finally, when put up to be fattened, “bacon-hogs.”

Both male and female show a desire for coition at eight or nine months old; but if this propensity be not indulged until each have completed a year, the sow will generally produce a better litter. The term of gestation is usually calculated at four calen-

dar months, from the time when the sow takes the boar until she farrows, but should be looked for soon after the expiration of sixteen weeks ; at which time she should be put up in a sty kept for her alone, with clean straw for her bed, which she will carefully arrange after her own fashion. Too much litter should not, however, be given to her, as the young pigs are fond of nestling under it, and are sometimes overlaid by the sow and smothered. It is, indeed, a good plan to take them, one by one, from her while farrowing, and put them by the fire-side in a basket of wool, or wrapped up in an old blanket ; giving them at the same time a few spoonful of new milk warmed and slightly sweetened. This will guard against such accidents, and prevent the sow from indulging in an unnatural propensity, which she sometimes evinces, of devouring her own progeny. When done farrowing, the pigs should be taken to her, and those which appear strong may be left with her, but those which are weak may be kept in the same manner for a day or two ; being taken early and late, night and morning, as well as two or three times in the

course of the day, to the sow for sucking. The product is so extremely various that no certain expectation can be formed of the number which may be farrowed: fifteen to twenty are not uncommon; in one instance even thirty-seven have been littered at a birth! and the readers of Dryden and Virgil may call to their recollection the omen offered to Æneas on the foundation of Rome:—

“Wond’rous to tell! she lay along the ground:  
Her well-fed offspring at her udders hung;  
She white herself, and white her thirty young!”

VIRG. ÆN. b. viii.

From seven to ten are, however, a fair average; but a moderate litter is the best, as when a great number are born, several will be found weak and under-sized. Singular as it may appear, the sow is not always furnished with the same number of teats, and only one pig can be supported on each, which they appropriate to themselves separately and retain possession until weaned. Within about eight weeks, or rather less, the sow’s milk begins to fail, and her young ones, if left with her, will fall off in condition; they should therefore be weaned before that time:

but, as she will be ready to receive the boar within a few days afterwards, she will farrow twice within the twelvemonth, and will continue so long, that instances have been known of their continuing to breed till near fifteen years of age.

Pigs are easier reared in a litter than when brought up alone; they should therefore be kept together after being weaned until killed as porkers, or turned out to be kept as stores, and a couple of cows, of any ordinary breed, will bring up a litter without any other assistance than the usual allowance of meal. We have, indeed, seen porkers reared to a complete state of fatness, and producing very fine meat, when fed upon boiled roots of all kinds, mixed with pollard, and made up into a mash with only a very small quantity of skim-milk.

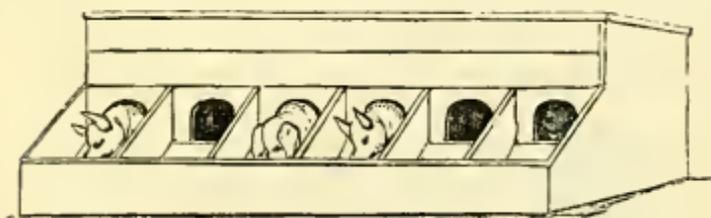
On the *subject of rearing*, it is a bad plan to be too covetous in bringing up a great number of the pigs of each farrow; for they cannot be weaned until six or seven weeks old, and if the sow has during that time many of her young to nourish, she must either be uncommonly well supported, and

herself of strong constitution, or her brood will become weakly. It should also be borne in mind, that if very young animals are suffered to fall off for want of sustenance, no future superiority of feeding will ever make them regain what they have lost. Supposing, therefore, a litter to consist of nine, we should recommend three to be killed at about two or three weeks as roasters; and of the remaining six, four to be killed as porkers, one at three, and the others successively at the distance of a month or six weeks each, while two may be kept as stores, and finally fattened for bacon. In short, never bring up more than six or seven of any brood; and in this way, if a sow farrows twice a-year, or even three times in the course of two years, she will amply supply any moderate family with both fresh and salted pork.

There is, however, such a popular prejudice against the use of fresh pork in any of the summer months, that the times of farrowing should be so arranged as to occur in the months of May and September, so as to bring the pork into season from the beginning or middle of September to that of December;

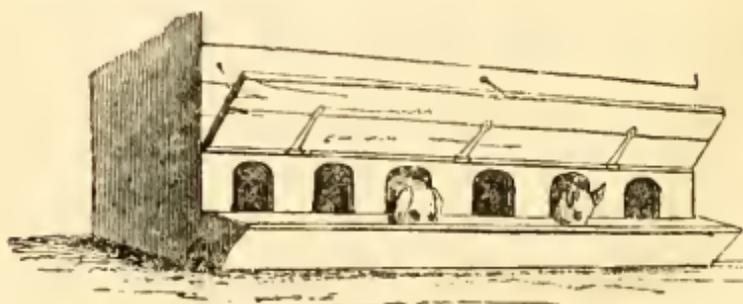
at which times the pigs will be about three to four months old, and continue in fine order if gradually killed at different stated periods during three or four months longer, according to the consumption of the family.

As the pigs are to be consumed at different ages, the litter should not, however, be all fattened together, although they may be fed at the same time, and should be gradually brought to a state of proper fatness by giving more meal to those intended to be first killed. The food must therefore be separately given ; but this is a rather troublesome operation, and, in order to lessen it, a good plan is to make divisions in the trough from which they are fed, with holes sufficiently large to admit a pig's head, as here described :—



Each compartment of the trough may be filled with the same quantity of food, and to this, when the pigs thrust their snouts into

the trough, the attendant may add any increased quantity of milk or flour to the animals to be first fattened. If not used for that purpose, it is notwithstanding a good contrivance for thus forcing each to eat separately, without allowing them to fight with each other, and smear themselves by putting their feet into the trough. Pigs are indeed so greedy, that the strongest will drive the weak ones from their food, in consequence of which they become so stunted as not to be worth rearing ; but with separate snout-holes these master-pigs are deprived of their superiority. It is therefore no bad plan to make similar holes for their heads in the paling of their yard, and place the common trough outside. The holes may be covered by a swing door, to screen the trough, and the food thus presented to them at pleasure.



The following observations, which we know to be practically correct, are those of an ancient dairy-man and farmer who breeds pigs largely, for home use, as well as for the market, and may afford a just notion of the feeding, flesh, weight, and value of porkers.

When weaned from the sow, at towards six weeks old, until they reach the age of about three months older, they each require, for the first month, about two quarts of milk per day, or, in fact, as much as they can consume; but, as this is always skim-milk, and that of the sow is very glutinous, a little meal should be added to enrich it. Of this barley-meal is the sort most usually given; but it is, at that early age, rather too coarse, and either what the corn-chandlers call "fine toppings," or the finest "wheaten pollard"—of which they will consume half a bushel in the month—is better: after which, however, barley-meal should be the only kind used; unless, indeed, such a thing as the flour of Indian-corn, or maize, can be got.

Rice has been also tried; but it must be either ground or boiled, and being thus more troublesome, and fully as dear, without af-

fording any very superior improvement in either the quality of the meat or the fattening of the pig, it is seldom used; though, so far as we are acquainted with its effects, we think it well worth a trial when the same weight is to be had for the price of barley-meal.

The pig will eat, in the second month, half as much again of both milk and meal as in the first; and in the third, as much again as in the second. At three to four months old he is fit to kill, and will, at the former age, eat as tender as chicken, and may weigh about 30 lbs.; at the latter, he ought to weigh from five to six stone of 8 lbs. each, but the flesh will still be extremely delicate; and the carcase is generally worth in the market at least 5s. 6d. per stone. If kept for two or three months longer, although the meat will continue fine, it will yet have acquired so much more strength of fibre as to destroy some portion of its delicacy, and it loses perhaps a penny a pound of its value; it may, therefore, be doubtful whether the increase of weight more than repays the additional cost of food.

On this, however, we shall trespass on our

readers the account of some pigs fed last year by a near relative, who occasionally feeds them at his country residence for the consumption of his family. Of two prick-eared Berkshire pigs, bought out of the same litter, one, killed at six months old, weighed 71 lbs.; the cost altogether, in its purchase and feeding upon milk and barley-meal, being 34s.; and finer pork we have seldom tasted. The other, being kept a month longer, weighed 97 lbs.; but was not, as we learned, nearly so nice, being far too fat and rich.

Another pair, of the same breed, purchased young, and killed when about eight months old, each weighed 140 lbs., exclusive of offal. "These were fed," as the owner states, "at first entirely on skim-milk and house-wash, and for about six weeks on peas, barley-meal, and skim-milk, as well as wash. They also had about a bushel of acorns, gathered in my own fields, before I put them regularly up to fatten: when I began with giving them about a quart of peas a-day between them, and lastly added barley-meal. Of peas they consumed one sack—that is four bushels—and of meal five bushels; so that

together with their cost price, and the skim-milk of a couple of small cows, they stand me, in all, at about 5*d.* per lb."

This our relation calls "no great bargain;" though he had four capital fitches of bacon, and admits that a butcher offered him 7*l.* for the pair, and that he probably could not buy such meat for less than 8*d.* a pound. To which should be added, the value of the head, feet, and entrails, of which country people make so many homely delicacies; besides the pleasure of having pork of one's own feeding. On which, should any one cast a sneer, let it be known that home-fed pork forms a frequent and prominent dish at the Royal Table.

On the subject of bacon we shall speak hereafter: but where a sow is not kept, and that pigs are fed and killed young, as delicacies for the table, they can only be reared for that purpose, when taken from the sow, upon milk and meal alone; which is the mode always employed in producing real "dairy-fed pork;" and if any coarser food be given, it will injure the flesh. In proof of this we, as an experiment, some years ago, took two young pigs of equal weight from the

same brood, when weaned, and fed one upon skim-milk, and the other upon kitchen pot-liquor, in each of which pollard and barley-meal were equally mixed. They were both killed when four months old, being then quite fat, and weighing, when dead, about 40 lbs. each; that fed upon the wash being rather the heavier of the two. Joints of each were then roasted, and the remainder pickled; but the flesh of the latter had, in both cases, a taste of grease which rendered it unpleasant, while that fed upon milk was extremely delicate.

We mention this for the double purpose of cautioning housewives against the too profuse use of any coarse garbage in feeding young pigs for the table; and, at the same time, to remind them, that if it be not used, the offal of the kitchen and the garden will both be thrown away. The most prudent mode is, therefore, always to keep a *store-pig*, of any breed except the Chinese, which you may buy at any age, for the purpose of consuming those offals, on which he may be supported until old enough to be fattened; it being quite immaterial upon what he is fed as a store, provided it be abundant. On this latter

point we must, however, warn the owner that the animal should be kept in good condition ; and, should there not be enough of substantial kitchen and garden refuse, a plentiful meal of some sort, such as bran or pollard boiled up in the pot-liquor, should be given to him every night before shutting him into his sty ; for you may be assured that a half-starved pig will cost more than he is worth in corn to bring him into order for making good bacon.

## CHAPTER XXIV.

Qualities of bacon—Pigs and pig-sties—Prince Albert's piggery—Food of a breeding sow—Age of bacon—Hogs—Guimaræen hams—Rudgewick hogs—Ringing of pigs—Fattening for bacon—Live and dead weight—Caging—Killing and curing—Wiltshire and other modes—Hambro' pickle—Smoking—Diseases of pigs.

IN regard to the flesh of the hog, and more particularly to BACON, the fat differs from that of every other animal, both in its quality and in its mode of distribution over the body. Thus it has been remarked by Buffon, "that the fat of man, and of those animals which have no suet—such, for instance, as the dog and the horse—is pretty equally mixed with the flesh; while the suet of the sheep, the goat, and deer, is found only at the extremities of the flesh: but the fat of the hog is neither mixed with the flesh nor collected at its extremities, but covers the animal all over, and forms a thick, distinct, and continued layer between the flesh and the skin." The substance of the fat is also more dense and transparent than that of other quadrupeds; nor is it soft and oily, like that of grease.

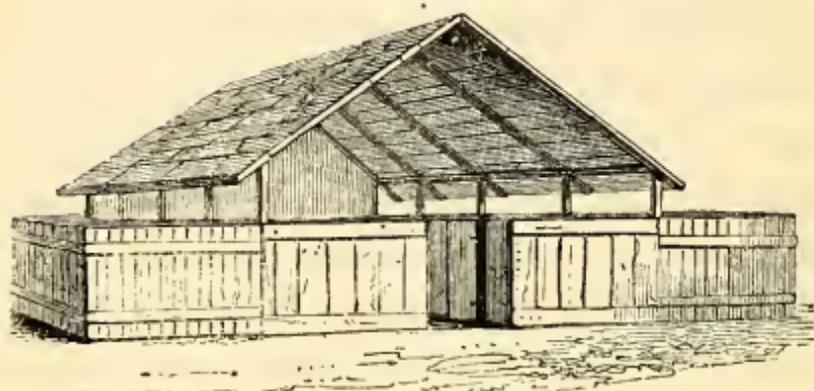
Thus, if the hog be kept to a proper age, well-fed, and made into bacon, the flesh is not only as firm as that of beef or mutton, but so much more nutritive, that ten ounces of it will go further than a pound of any other meat in the support of a working man: to which may be added the united testimony of medical men as to its wholesomeness, and its almost constant use at breakfast by persons of the most delicate appetite.

Before touching on the process of making bacon, we must, however, describe the sties in which the swine ought to be housed. We say "ought to be," for, not uncommonly, they are literally pigged under any kind of shed fixed in some filthy corner of a yard; and that, not only from inattention to their health and comfort, but also from a very prevalent idea that "they love to wallow in the dirt," than which nothing can be more fallacious; for, when wild, they naturally breed in marshy places, and seek the mire rather for the cooling of their skin than for the sake of the mud. No animal is better pleased at being well scrubbed with soap and water—which ought frequently to be done for him—nor more

enjoys a dry and warm bed, which, if not confined, he never soils; the sow, indeed, arranges with peculiar care the litter furnished to her for the occasion of farrowing, and both young pigs and grown hogs nestle in the straw with great complacency.

The sties should, therefore, be frequently swept out and sluiced with water, to keep them as clean as possible; the pigs being, at that time, turned out into another yard, until that which they occupy becomes perfectly dry. The sties, although well ventilated, should also, if possible, have a warm aspect, and be at the same time furnished with sufficient shade to guard them from too much exposure to the sun; for young pigs, particularly of the white, thin-skinned breeds, thus sometimes have their backs scorched and blistered, to the great hindrance of their improvement. Their nearness to the kitchen may be desirable for the opportunity of throwing out refuse vegetables and wash to the sow and store-pigs without encroaching on the servant's time; but should not approach too near the dairy, the air of which should never be contaminated with any foul odour.

The sty, if only intended for the feeding of young pigs, may be proportionally small, and conveniently put in a corner of the cow-yard ; but if meant for the accommodation of a breeding-sow, should be constructed somewhat in this manner—



The drawing was taken from one end of the range of sties contained in the extensive piggery erected at Prince Albert's farm in the Home-park, at Windsor, and represents a double court-yard, the interior of which is covered and separated into two divisions ; one for the dwelling of a sow with her brood, and the other for those young pigs which may be kept either for stores or fattening. Bacon-hogs should, however, be kept separately, and this would occasion an addition to the tenement ; but, with a little contrivance, it may be very

easily managed; a fattening-hog, being always shut up for fattening, requires no yard, nor any building larger than itself.

The covered sties necessary for a sow and her brood, together with a few porkers, and a bacon-hog, may be conveniently arranged under a roof of twelve feet square, one half of which should be allotted to the sow, and the remainder to the hog and porkers. The enclosure should be nearly breast high, so as to guard the pigs from wind, and the roof should be low at the eaves, to secure them from rain; but air should never be excluded. It is very customary to leave one side of the sty open, in order to allow the pigs the free use of both it and the yard; and this, when the sty is completely roofed, may not be wholly objectionable. A better mode, however, is to board up that side nearly to the roof, leaving a door hung with hinges upon a cross-joint, instead of an upright frame, so as to allow it to swing backwards and forwards; by which means the pig—which soon learns the way—opens and shuts the door at pleasure, by merely pushing its snout. The uncovered part, which forms the yard, may be of any

convenient size, and bounded by a low paling. The whole building may be constructed of timber at very trifling cost, but both the yard and the sty should be floored with tiles or slates, with a little declination to carry off the water.

On the feeding of stores and porkers we have said all that we deem necessary; and respecting the sow, we have only to add—that besides the food given to stores, she should, during the whole period of nursing her brood, have an abundant supply of the kitchen and dairy wash, mixed up with pollard or the coarsely ground meal of any kind of grain or pulse; and, in the course of the day, a substantial feed of boiled or steamed potatoes, given dry and warm, together with any sort of refuse roots found in the garden. Such offals will, indeed, go far towards the support of a sow of any small-sized breed with a moderate quantity of meal; as, although having enough of food, she is not intended to be made fat: but it is a very great, though common, mistake, to suppose that she should be sparingly fed, for she has a heavy drain to supply for the nurture of her little ones, and if that be

not sufficiently furnished, they will assuredly suffer in growth.

With respect to the *fattening of a hog for bacon*, many people (as we have seen in the last chapter) put them up for that purpose when less than a twelvemonth old; but, although we admit that what is commonly called "nice streaky bacon" may be thus made, we yet insist that it will be deficient in that transparent firmness by which bacon of prime quality should be distinguished; nor can the hams have the real flavour of those made from a pig of eighteen months to two years of age: in fact, nothing can be finer than the meat of a spayed sow after she has produced four or five litters, after yielding the profit of their production; and the pigs of Westphalia, Spain, and Portugal, which furnish hams of such superior quality, are never killed earlier.

Although fresh pork is not eaten in the summer, yet ham and bacon are more in demand at that season than in winter: wherefore, without adverting to the age at which the animal is to be killed, and supposing two to be slaughtered every year, it should be done at the separate distance of six months

—in March and October—for the consumption of the winter and the summer; the one killed in March to be eaten during the following winter, and the other in the ensuing summer, so as to leave the meat full that time to mature its flavour. It should, indeed, never be consumed earlier, if the pigs have been killed at the proper age; but, if slaughtered younger, they partake more of pickled pork than bacon, and should be eaten sooner, for if kept much longer it will rather deteriorate than improve. For instance, the hams shipped from Europe to the East and West Indies can seldom be brought to table in those countries until near twelve months old, and we can speak with experience to their being generally finer flavoured than in England. We recollect also a present having, some years ago, been sent to us from the north of Portugal, of a dozen of the celebrated Guimarãen hams, which arrived some time in the autumn; and after distributing some to our friends, only one remained when our family went to the country in the following summer. It was hung up during all that time in the kitchen, and when we returned,

late in the winter, appeared so dried up and apparently mouldy that the cook did not deem it worth dressing. Her mistress, however, thought otherwise; and having ordered it to be dressed in the Spanish fashion — first, gently “parboiled,” as cooks call it, with water having in it a large handful of aromatic herbs with a full pound of coarse brown sugar, and then baked in the oven—a more deliciously flavoured ham never was eaten: all that were sent were fine, but this, although not apparently the finest of the lot, was far superior to the rest, and must have been, at the least, nearly two years old.

Farmers who feed pigs for the sake of profit always prefer the large breeds, which can be reared to a great size and become enormously fat. Of these the *Rudgewicks*, which are natives of the borders of Surrey and Sussex, are perhaps the largest, as they commonly arrive without any peculiar care to the weight of 70 stone at two years old. Indeed, some of them are mentioned in the County Reports as having been fed at that age from 60 to 80 score pounds; and one is stated to have reached the immense weight

of 182 stone ! We have ourselves frequently had at our own table, in Germany, Westphalia hams of 40 to 50 pounds, which were very mellow and fine flavoured ; and we recollect having once seen a ham, at a cheesemonger's in London, which weighed 76 lbs., with all the appearance of being very fine meat. There can therefore be no solid objection against rearing a bacon-hog of any breed, and feeding him to any size ; but for the use of a moderate family we think one of 20 to 25 stone dead weight—which gives from 160 to 200 lbs. of meat—will be found sufficiently large.

Of whatever size or age they may be when shut up to be fattened, they are, when stores, usually allowed either the range of the roadside or of the common, instead of keeping them constantly confined in the yard ; and, in order to prevent them from doing mischief by grubbing up the ground with their snouts in search of roots, it is customary to “ring them,” when two or three months old, by inserting a small circular piece of iron into the gristle of the nose, which prevents their using it for that purpose. Sometimes, how-

ever, the cartilage gives way, and the operation must be performed again; in consequence of which either the gristle of the snout is pared, or the two strong tendons which it contains are severed, and this, it has been affirmed, without occasioning the animal any pain; on which, however, a writer in the 'Encyclopædia Britannica' gravely remarks, "that so far as he can credit the testimony of the pig, it seems to think otherwise, and seldom refrains from expressing its dissent in a very unequivocal manner."

It is, as we have already said, quite immaterial upon what pigs may have been fed *as stores*, provided they have been kept in good plight; but when put up to be *fattened for bacon* they must then be fed upon a better sort of food than that already usually given to them: this being for the purpose of hardening the fat and rendering the flesh of that mellow firmness and flavour which constitute the essential properties of fine hams and bacon. Potatoes, therefore, though largely used in Ireland for the sustenance of stores, and frequently employed, when steamed, by farmers in conjunction with tail barley and oats, or

other unmarketable corn, yet should be only used in the commencement of the fattening; the process of which should be completed solely with hard grain, together with skim-milk, if it can be spared.

There are various modes of effecting this object, according to the fancy, judgment, or means of the party pursuing it; but experience shows, that whatever may be the food on which the pig is to be fattened, it should be given regularly, at stated periods, commencing with that of the most inferior quality, and gradually increasing it in nutriment, though not in quantity, as the animal increases in flesh; for not only is change of food desirable, but, as the want of exercise palls the appetite, the most nutritious sort should then be given. Thus, besides steamed potatoes, brewers' grains, bran and pollard, made into mashes with wash, and mixed with increasing quantities of ground oats, tail wheat or barley, and, lastly, barley-meal with bruised beans and peas, are the most common modes. One bushel of peas to four of oats and barley, or three or four bushels of potatoes with two bushels of ground oats

and barley, steamed, are also considered good mixtures; but although these mashes promote the animal's fattening, they yet do not improve the firmness and consistency of the bacon fat. In fact, nothing can be superior to skim-milk thickened with barley-meal, and white peas; the peas being given whole, and, finally, during a fortnight or three weeks' time, quite dry, with pure water, and omitting the meal.

It is a commonly received opinion "that any granivorous animal may be fattened upon any species of corn or pulse;" and this may be true with regard to the amount of flesh, but not so as to its flavour. Thus geese are more properly fed upon oats, and turkeys on barley, while bacon-hogs should ever have peas; for, as to beans, it has been long observed that although they powerfully assist in fattening any animal, they are yet found to harden the flesh, while the pea renders the fat of the bacon firm even to transparency, without causing the lean to become tough. So well known is this to experienced breeders, that they, indeed, make a distinction in favour of the white pea, as the grey sort, in their

opinion, approaches too nearly to the nature of the bean.

The *time requisite for fattening* must, of course, depend on the breed, age, and condition of the animal when put up; but it is generally thought that a bushel of barley-meal will produce a stone weight of flesh, and that a stone weight (of 14 lbs. live weight) of increase may be obtained in a week, if the pig be fed upon skim-milk, peas, and barley. Nor should this be looked upon as extraordinary: for ten pounds per week have been frequently gained, and in several of the 'County Reports,' and other publications, there are instances recorded, without any surprise, of still greater products. Supposing, therefore, a pig of any of the moderately sized breeds, and of a proper age, to be put up when of a dozen or fourteen stone weight, it may within three months be brought, with eight or ten bushels of barley-meal and peas, to from 20 to 25 stone dead weight; the utmost cost being—

6 Bushels of barley-meal at 4s. 6d.	. £1	7s.
4 Ditto peas	5s. 6d.	. 1 2

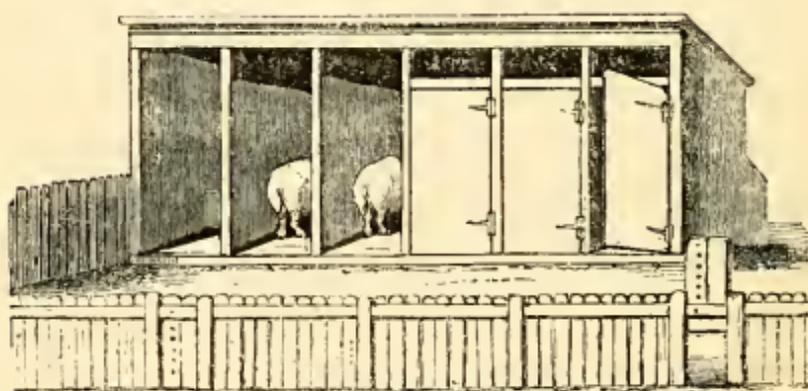
And also supposing the feeding of the animal,

while a store, to have cost thirty shillings, the whole amount will be not quite four pounds—or under five-pence per pound at the dead weight of 25 stone ; while the meat will be of superior quality, besides leaving the chaps, feet, and entrails, without any charge.

The difference between live and dead weights of all animals is six pounds ; the former being 14 and the latter only 8, excluding the offal and kidney lard, which are never calculated in the weight of the slaughtered carcass. If, however, the pig be weighed alive, the fourteen pounds will usually yield about eleven or twelve pounds of solid flesh, according to the mode in which the animal has been fed ; the fattest giving the most.

In the fattening of hogs it is by many persons thought a thriftless plan to allow them to run about—“as thus wasting by exercise that flesh which a state of rest would increase and make a return for food and attendance.” Acting upon that principle, several breeders have indeed adopted a mode of shutting them in a sort of cage just large enough to permit them to lie down, without allowing them to go into

the yard; some even carrying it so far as not to leave them room to turn about. The sty is built of planks, either for an indefinite number, in separate divisions, or for one pig, having a feeding trough at the head, and doors or sliders at foot to enclose the animals. No litter of any kind is permitted, as the stalls are placed upon an inclined plane and swept out every day; and the chewing of the litter is thought to impede their thriving. A front view of the compartments we have already shown, and this cut shows a back range of sties of that description for several pigs.



They are indeed found to fatten more speedily and upon less food when caged in

this manner, than when allowed the use of a yard; as quietude certainly much promotes the increase of flesh. It has been stated in a Report, published by the Board of Agriculture, respecting the husbandry of Essex—"that hogs half fat, weighing 70 lbs., may be brought to double their weight within twenty-eight days; and have been known, when fed upon barley-meal and water, to increase at the rate of 15 lbs. per week."

Had not this been told upon such respectable authority, the statement might be exposed to some doubt; but, according to a comparative experiment recorded in the 'Sussex Report' as having been made by the late Lord Egremont—a porker of 11 stone 11 lbs., which was caged in that manner on the 4th of March, was slaughtered on the 13th of April, at which time he weighed 18 stone 3 lbs., thus having in forty days gained 90 lbs. "He was sulky for the first two days, and would eat nothing; but he then came to his appetite and consumed two bushels of barley-meal with eight bushels of potatoes. When slaughtered his dead weight was 184 lbs., while that of some porkers of the same breed and live weight

was only 170 lbs.; thus showing that the superiority of the caged pig could only have arisen from the mode of feeding."

We have said so much against the feeding of young pigs for making bacon, that we need now only caution our readers against the practice of killing them at any age ere they be completely fat; for the more peas and barley-meal a hog consumes, the better will be the hams and bacon, and nothing will pay better, for the fatter he becomes, the less will he eat. It is well known that nothing is more indigestible than lean bacon; while, if the animal be well fed and thoroughly fattened, the fat is not only one of the most nutritious and easily-digested meats we possess, but aids materially in promoting the digestion of other food. Do not, therefore, give way to the disgust sometimes expressed by over-delicate people at very fat hogs and bacon: if you purchase the meat, never buy it if it is lean; and if you fatten the hog, never kill him until he can no longer walk.

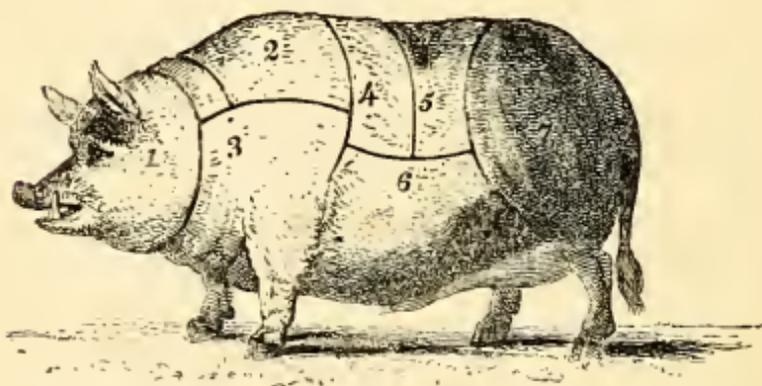
When intended to be killed, the animal should be left fasting for full twenty-four hours, and *when killed*, there are two modes

of treating the carcass : either by taking the bristles out with scalding water, or burning them off with straw. The former may, perhaps, be the best for preparing navy and pickled pork ; but when the meat is to be cured for bacon, the singeing of the bristles is decidedly the best. The first method, by softening the skin, renders it loose and flabby, and injures the consistence of the fat ; while the latter contracts and strengthens it, thereby increasing and guarding the firmness of the fat and imparting a flavour to the meat very far superior to that of the scalded hog. It is, indeed, partly to this method that the Hampshire bacon has acquired its reputation for excellence, which is thus performed :—

The hog being killed, the first process is to “swale” him, or singe off the bristles ; which is done by laying the dead animal on one side and covering it thinly with straw, to be lighted on the windward side, and renewed as it burns away—taking care, however, not to scorch the skin. The other side is then turned, and when the process of singeing is completed, the bristles are scraped off dry.

The carcass is then hung up all night to

drain off the blood, and is the next morning cut up by the butcher in either of two different modes, when intended—as young pigs usually are—for pickled pork; or, as grown hogs, for bacon: the former being done in the manner here represented in the portrait of a Berkshire hog; while in the latter the whole side of the parts there designated, from the head to the ham, is cut into one, and, with the bones taken out, constitutes “the fitch.”



- |                           |                          |
|---------------------------|--------------------------|
| 1. The head and jowl.     | 4. The fore-loin.        |
| 2. The spare-rib.         | 5. The hind-loin.        |
| 3. The hand, or shoulder. | 6. The belly, or spring. |
|                           | 7. The ham.              |

The head, being divided in two, is again separated at the jaw; the upper part being called “the face,” or “cheek,” and the under

part “the chap,” or “jowl”—whence, probably, has arisen the common phrase of “cheek by jowl”—while the joints of the neck-bone, when cut into chops, are termed “griskins;” a “chine” is two necks, and the “spare-rib” is so called when the fat and flesh are cut off for salting.

When *cured for bacon*, the flitches are laid, with the rind undermost, either upon a tray with a gutter round the edges, or upon an inclined board, to allow the brine to run from them. Both the flitches and the hams should first be slightly powdered with saltpetre, which will open the pores of the flesh to receive the salt, and impart both a good colour and a pleasant flavour to the meat; and then the flitches should be well rubbed on the fleshy side with bay-salt, and laid one over the other. The firmer the pork, the better will be the bacon. “The flesh should be of a bright red colour, and the fat also of a reddish tinge; for meat of this description, when made into bacon, is not so liable to rust as that which is pale and of a soft porous nature.” In curing it, much however depends, both as to

colour and sweetness, on the manner of rubbing in the saltpetre; which should be thrust with the fingers among the sinews and about the thick part of the hams, and under the shoulders: in short, in and upon any bone or opening which may admit it.

In performing this operation, the person so employed should be furnished with a strong glove having a piece of rough wood fastened to the palm, for the more effectually rubbing the salt into the grain of the flesh. Many people, indeed, cure it solely with pickle, but dry salt, or rather a pounded mixture of salt, saltpetre, and loaf-sugar, rubbed in dry, is much better; for there is great truth in a remark made by Cobbett—"that to have sweet and fine bacon, the flitches must not lie sopping in brine, which gives it that sort of taste which barrel-pork and sea-junk have: the flavour of dry salt and that in a dissolved state being very different—the one savoury, and the other nauseous." Therefore, change the salt often; at least about once a week; first rubbing the flitches dry, and then putting that at bottom which was first at top.

The *time requisite for the salting* depends

upon various circumstances: the size of the flitch; the manner of curing; the state of the weather; and that of the place in which the process is carried on. It will be sooner done in moist air and in a damp cellar than when both are dry; but will not be so good, as damp air will taint meat even sooner than sunshine. The flitches of a hog of 20 stone will, however, take from a month to six weeks; too much is better than too little; and if the animal has been well fattened, a good salting will do no injury.

There are so many various modes of *pickling and curing hams and bacon*, that we must in a great measure refer to the receipts of Mrs. Rundell, in her well-known and highly approved ‘Domestic Cookery;’ merely adding a few of those which come within our knowledge: of which the following is recommended by Patterson, as being sufficient for a ham of twenty pounds weight. “Take three ounces of saltpetre, and rub it over the ham; letting it lie till the next day. Then take half a pound of bay-salt, the same quantity of common salt, a pint of beer-vinegar, and a pint of old ale; boil all these

together, and pour the mixture, boiling hot, upon the ham : turn it twice a day for three weeks, basting it at the same time with the pickle. Finally, rub it over with barley-meal, and either hang it up to dry or smoke it.

In Spain and Portugal, where the hams are remarkably fine, sugar is very commonly used in the proportion of about one pound to three of salt and two ounces of saltpetre : this is most frequently rubbed in dry, the hams being at the same time exposed to the air ; but if pickle be used, the brine is made with the common wine of the country, instead of water.

In Westphalia, where the hams also bear a high character, the process is much the same ; though juniper-berries are commonly added, and the use of sugar is sometimes omitted. The pickle is also made with strong beer instead of wine. The peculiar flavour of the hams is generally thought to arise from the mode of drying, which is always done by smoking them in the large chimneys of the farm-houses, where oak wood is the only fuel used ; while in this country fir, or any sort of timber, and even charcoal, is not uncommonly employed.

In the curing of the hams of Bayonne and Strasbourg, which are so deservedly celebrated, not only is sugar largely used, but garlic, allspice, cloves, and other spices are also used in different quantities to add to their flavour: nor would English curers do amiss in following the example. Sugar much assists both in preserving the meat and rendering it mellow, as it corrects the pungency which is often occasioned by the too free use of salt, and a slight taste of spice could do no harm. There is indeed, in this country, so strong a prejudice against the use of garlic, that it might not be easily overcome, but there are few condiments which, if delicately employed, will imperceptibly impart such high flavour.

All this, however, merely applies to the curing of hams; for as to bacon, the foreigners know very little about our English modes, though they in many parts have the very best means of feeding and curing. For instance, in Portugal and Spain the pigs are let to run in droves for one or two seasons in the chestnut woods, where they thrive in flesh, and are then fattened off on maize, they being then nearly two years old; but when made into

bacon, the fat alone is cured, or rather salted, and cut off to within an inch of the lean, which is always eaten fresh, and is certainly the finest pork we have ever tasted—white, firm, and having that mellow flavour which belongs to the flesh of all full-grown animals.

The Wiltshire bacon, which is in such high repute, is most generally prepared in that and the adjoining districts from dairy-fed pork, and is cured in the following manner:—The flitches are laid in large wooden troughs, and sprinkled over with bay-salt, after which they are left for twenty-four hours; then wiped thoroughly dry, and some fresh bay-salt, previously heated by the fire, is rubbed into the flesh until it has absorbed a considerable quantity. This process is continued for four or five successive days, during which the flitches are turned every day; and if the hog be large, they should be kept in strong brine for five weeks, turning them every day until they are hung up to dry.

The following receipt has been handed to us by a farmer's wife, in Surrey, for the pickling of a pig weighing 18 stone of 14 lbs. :—  
“ A pound and a half of saltpetre pounded,

divided into equal portions, and rubbed on the flesh sides of each of the hams, shoulders, and flitches, first laying them into the pickling-tub. Then add a good thickness of coarse salt all over the meat; let it lie three or four days, and then change the flitches from the top to the bottom; add a little more salt, repeated two or three times, and let it remain in pickle about three or four weeks; after which it may be hung up in a dry cool place where there is a thorough draft of air, and in about six weeks the bacon will be fit for use: but the hams will be better if kept for two or three months longer." In neither of these modes is sugar mentioned; but were molasses used in the pickling, it would no doubt improve the flavour.

The celebrated Hambro' pickle — which we got from a *bon vivant* of the first order — is equally applicable to beef, pork, tongues, &c., and is as follows:—"To each gallon of water put one pound and a half of common salt, a quarter of a pound of coarse brown sugar, and one ounce of saltpetre; boiled, and to be carefully scummed. After standing in a proper vessel until quite cold, the meat may

be immersed, and will be fit for use in ten days, and improve for months; but it must be carefully kept pressed down by means of a cover and a clean heavy stone. The pickle must be watched, and when any scum begins to rise, the meat must be taken out and the liquor reboiled, and scummed, and cooled, as before; at the same time half a pound more salt must be added, but no raw salt is to be applied at any time. The meat to be returned when the pickle is quite cold, say after ten or twelve hours. Tongues will require a month at least, and are improved by the addition of an ounce of bay-salt added to the above.

“None of these meats require to be pickled separately, but had be better cut into such pieces at first as may be required. One clove of garlic, half an ounce of allspice, and as much whole pepper, boiled with the ingredients, much improves it.”

Many of these articles are dried, as we have seen, in the open air, but with hams and bacon it is more frequently done by the aid of a slow fire: formerly in the huge chimneys of our old fashioned farm-houses

where oak was burned, but latterly in smoke-houses, which are common throughout most parts of the country, and are kept for the purpose by persons who make a livelihood by hanging the joints up to dry. These are in general mere huts, only a few feet high and closed on all sides, so as only to allow the smoke to ascend by a small hole in the roof. The fire is commonly made of sawdust, spread to the depth of five or six inches over the earthen floor, and, when kindled, smoulders without creating flame; but little attention is ever paid to the sort of timber from which the sawdust is taken, though it is a matter of extreme importance to the flavour of the meat, and oak is by far the best.

The loose salt should be wiped from the hams and flitches, and they should be rubbed over with bran, after which they are hung from the joists of the roof, or from timbers fixed across the walls: the flitches are hung with the neck downwards, and the hams suspended by the shank. The flitches will usually be ready in a fortnight, without much loss of weight, but hams require much longer: if thoroughly smoked—the flavour of which

many people prefer—three months will not be too much, and it cannot in any case be perfectly done in less than six weeks; nor will the loss be much less than from one-sixth to one-fifth of the weight, according to the time which has been taken in the process.

Both bacon and ham, when cured and laid by for use, are subject, if exposed to the air, to attacks from flies, which deposit their eggs in the meat, and thus create maggots which spoil it. To avoid this inconvenience it is not uncommon to put the flitches into chests filled with bran, which, as it will keep them from becoming rusty, as well as guard them from the insects, is an excellent plan; and with regard to hams, nothing can be better than either to cover them closely with strong paper, or, still more effectually, to sew them up in a coarse linen bag, and wash it over thickly with lime-water.

Pigs are not very subject to disease: the most common are *surfeit*, occasioned by allowing them to gorge themselves; and eruptions of the skin, called *mange*, which is generally caused by want of air and cleanliness in the sties, though sometimes by food of a heat-

ing nature, and not unfrequently by starvation. The first can easily be cured by abstinence, or a little soap-suds given with their food will operate as physic; and as to the second, soap and water will have great effect if both pigs and the sties be well scrubbed with it. A few doses of an ounce of saltpetre, mixed daily in a mash, with a little nitre, will also soon remove it; but if not, an ointment made of equal parts of sulphur, mutton suet, and tar, rubbed about their neck and ears, where it is most prevalent, will soon effect a cure.

The *measles* is not usually observed to render the pigs sick, nor is it commonly discovered until they are killed; when it may be seen in the grain of the meat, which is punctured, as it were, with small whitish pustules in the flesh. An appearance of languor and failure of appetite, however, generally denote a commencement of the malady, which, it is thought, may be much mitigated, if not removed, by giving small quantities of levigated antimony in their food.

Generally speaking, if the sties in which the pigs are be kept clean, and the animals themselves be occasionally well washed with soap-suds, and small doses of sulphur and nitre sometimes given to them in their wash, disease will seldom take place, and very rarely prove fatal.

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# I N D E X.

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