

UMASS/AMHERST



312066005099779



# FARMING FOR PLEASURE AND PROFIT

---

## POULTRY-KEEPING



~~656-176~~

Hatch Fund

W<sup>c</sup> 6967

LIBRARY

OF THE



MASSACHUSETTS  
AGRICULTURAL  
COLLEGE

NO. 6967 DATE 4-1888

SOURCE Hatch fund.

SF  
487  
R75

This book may be kept out

**TWO WEEKS**

only, and is subject to a fine of TWO  
CENTS a day thereafter. It will be due on  
the day indicated below.

APR 10 1905  
LIBRARY OF THE  
CITY OF BOSTON

**CARD**

2020  
2.11.39

2020  
2.11.39



FARMING  
FOR  
PLEASURE AND PROFIT.

SECOND SECTION.

---

POULTRY-KEEPING.



FARMING  
FOR  
PLEASURE AND PROFIT.

SECOND SECTION.

*Poultry-Keeping.*

BY  
ARTHUR ROLAND.

*EDITED BY WILLIAM H. ABLETT.*

London:  
CHAPMAN AND HALL, 193, PICCADILLY, W.  
1879.  
[*All rights reserved.*]

636.5  
R64

CHARLES DICKENS AND EVANS,  
CRYSTAL PALACE PRESS.



## CONTENTS.

### CHAPTER I.

	PAGE
Ancient domesticated Poultry—Ruffs and Reeves—Poultry in the Nine-acre Field—Egg Importations—Poultry-keeping in Towns and Suburban Residences—Hens eating their Eggs—Laying at the best Season—Construction of the Fowl-house—Perches—White-washing—Sheds—Dust-heaps—Height and Size of Houses—Runs—Pining Fowls ... ..	3

### CHAPTER II.

Choice of Stock—Spanish Fowls—Minorca—Andalusian—Dorking—The Cochin China—The Malay—Brahma-Pootra—Game Fowls—Hamburg Fowls—Silver-pencilled Hamburgs—Golden-pencilled Hamburgs—Silver-spangled Hamburgs—Golden-spangled Hamburgs—Black Hamburgs—Fowls which are good Sitters—Fowls that exhibit a Disinclination to Sit—Polish Fowls—White-crested Black Polands—Golden-spangled Polands—Silver-spangled Polands ... ..	20
---	----

## CHAPTER III.

	PAGE
The Sultan Fowl—The Lark-crested Fowl—French Fowls —The Crève-cœur—La Flèche—La Bresse—The Gueldres—English and French Land Laws—Bantam Fowls—The Booted Bantam—The Sebright Game Bantam—Black Bantams—White Bantams—Pekin, or Cochin Bantams—Japanese Bantams—American Fowls—Plymouth Rocks—Leghorns—Dominiques— Rumpless Fowl—Frizzled Fowls—The Silky Fowl— Japanese Silk Bantams—The Silky Cochin, or Emu— The Russian Fowl—Varna and Cossack Fowls— Japanese White Fowls—The Rangoon—Dumpies, or Bakies     ...     ...     ...     ...     ...     ...	47

## CHAPTER IV.

Feeding Poultry—Wheat—Indian Millet—Buckwheat— Rice—Malt-dust—Peas and Beans as Food—Cooked Vegetables—Greaves—Meat Diet—Milk Curds— Water—Cabbage Plantation—Breeding—Setting a Hen—Artificial Mothers—Rats in Poultry-houses ...	68
--	----

## CHAPTER V.

Diseases of Fowls—Recipe for Vermin in Poultry—The Gapes—Inflammation of the Lungs—Diarrhœa— Apoplexy—Pip, or Thrush—Dysentery—Crop-bound Fowls—Roup—Croup—Diseases of the Egg Organs —Inflammation of the Rump-gland—Rheumatism— Leg Weakness—Inflammation of the Feet—Cramp in young Chickens—Bumblefoot—Elephantiasis—Con- sumption—Catarrh—Skin Diseases     ...     ...     ...	85
---	----



## CHAPTER VI.

	PAGE
The Turkey—Derivation of Name—Tusser—Audubon— Frank Forrester—The Crested Turkey—Variety of Breeds—Management—Pugnacity of the Turkey— Choice of Turkeys for Breeding—The Bronzed Turkey	100

## CHAPTER VII.

Ducks—The Tame Duck—White Aylesbury—Warwick Blues—The Black East Indian Duck—Rouen Ducks— The Hook-billed—Indian Runners—Commencement of Duck-keeping—Duck-breeding	... .. 134
--	------------

## CHAPTER VIII.

The Goose—Pennant—The China Goose—Pea-fowl—The Swan—Guinea-fowl	... .. 152
--	------------



# FARMING FOR PLEASURE & PROFIT.

SECOND SECTION.

---

POULTRY-KEEPING.



# POULTRY-KEEPING.

---

## CHAPTER I.

Ancient domesticated Poultry—Ruffs and Reeves—Poultry in the Nine-acre Field—Egg Importations—Poultry-keeping in Towns and Suburban Residences—Hens eating their Eggs—Laying at the best Season—Construction of the Fowl-house—Perches—Whitewashing—Sheds—Dust-heaps—Height and size of Houses—Runs—Pining Fowls.

*ANCIENT DOMESTICATED POULTRY.*—The practice of poultry-keeping appears to be of great antiquity, and dates from prehistoric times; for no definite period can be assigned when men first turned their attention to the breeding and systematic rearing of poultry in close contiguity to their own dwellings. It has been assumed that the dove which Noah sent out of the Ark, as narrated in Genesis viii., was a tame one; for while the raven “went forth to and fro until the waters were dried up from off the earth,” when the dove could find “no rest for the sole of her foot, he pulled her in unto him into the ark;” while after seven days, she returned with an olive-leaf in her mouth, which Noah was able to recognise as “a sign of the waters abating.” But this would seem to be

doubtful, as upon sending the dove out again in yet another seven days' time, she "returned not again to him any more."

The name of *poultry* is evidently derived from the French word *poule*, a hen ; from which fruitful source so many words have proceeded that describe the dressed meat of animals, while the animals themselves bear the original Saxon patronymic, as mutton, from *mouton*, while the animal is called a sheep.

Upon ancient Egyptian monuments the effigies of what are evidently domestic fowls are often found portrayed ; such as a flock of domestic geese, etc. ; and Captain Cook and other explorers and navigators have found in remote islands in the Pacific a race of poultry that exhibited the same characteristics of tameness as those with which we are all familiar, however their different breeds might vary ; which evidently leads to the conclusion that domestic fowls were amongst the first gifts of the bountiful Creator to man—though some species, as the turkey, have become domesticated since the earliest days of primal poultry-keeping—especially designed for his comfort and convenience.

*Ruffs and Reeves.*—While the rearing and breeding of poultry has considerably increased in modern times, the ancient practice of capturing wild birds, and fattening them for the table, has almost entirely ceased in England ; though there still remains a stray decoy, or two, in some of our eastern counties, a *rara avis* being now and then captured in them.

Ruffs and Reeves used to be captured by boys in the fens of Lincolnshire, who placed snares on their fighting-grounds. Ortolans and quails are sometimes



fatted as a peculiar luxury and uncommon delicacy ; but they are seldom to be had. "Swan-hopping," or "upping," is a term which distinguishes the old custom of capturing the young birds, which has been left as a relic to us of old sports ; and in "Albin's Natural History of Birds (1738)" there occurs a description of the mode of capture, and treatment, adopted by the fowler with ruffs and reeves. "They breed in summer in the fens of Lincolnshire, about Crowland. They are fatted with white bread and milk, being shut up in close dark rooms, for if you let them see the light they presently fall a-fighting, never giving over till the one has killed the other. The *fowlers*, when they see them upon fighting, spread their nets over them, and catch them before they are aware. The hens never have any ruffs, neither have the cocks any immediately after moulting-time. When they begin to moult, white tumours break out about their eyes and head. I had twelve of the cocks brought to me, and every one varied from the other in their colours."

The extreme pugnacity of the Ruff, and their great diversity of colours, has also been mentioned by other authors. The old Roman writers upon agriculture, as Cato and Columella, give directions for the fattening of wild birds, as well as for pigeons and domestic fowls ; which at one time must have been comparatively an extensive business in the luxurious days of the Roman empire.

*Poultry in the Nine-acre Field.*—It has often been pointed out, that poultry are very much overlooked by the English farmer, and this is indeed very true ; but farmers, for all that, are not quite such arrant fools

as enthusiastic poultry-keepers, who live in towns, often try to make them appear, for when kept in great numbers, they often do a considerable amount of damage to the young growing crops, or even grass, which I had an opportunity of verifying in my own experience in the case of a nine-acre field. When I first mowed this meadow, which adjoins the house, I had a capital crop of hay from it. I was then rearing a good lot of poultry, to be ready for the next year, having early directed my attention to the subject; and during the autumn and winter, and in the beginning of the following year, I allowed between a hundred and a hundred and fifty old and young birds to roam at will in this field. When the time came round for shutting it up for hay, I hurdled off a good-sized portion, in one corner, abutting to the garden-wall, where I had constructed a range of fowl-houses and set up poles, and spread netting above the hurdles to keep them from flying over, where we used to feed them while the grass was growing for hay. They were not left in the field long enough to damage the grass by trampling it down, but when we came to cut it, and made the hay, although it was a good season upon the whole, rather better perhaps than the preceding one, we did not have nearly so large a haystack from it as the year before, and this result I attributed to the fact of the fowls picking out and eating the young, tender blades of grass, when they first began to spring up, which diminished our hay-crop to the amount of several tons; a result which proved to me pretty clearly that, if a very large number of fowls are kept upon grass, a diminution in the amount of the hay-crop must naturally be looked for.

That farmers overlook very much the profit to be derived from keeping more poultry than they do, I am quite prepared to admit. Poultry are found more or less upon every farm, and they pick up spilled grain that is dropped by the cattle, and refuse that would otherwise become utterly lost or wasted ; but in general, very little attention is ever paid to them by farmers as a source of profitable stock, upon which any great amount of pains need to be bestowed.

They are, indeed, for the most part left to take care of themselves, beyond a little trouble taken at hatching-time, or to give them an occasional feed now and then. No one can expect to make poultry pay, or become an item of any consequence upon a farm, no more than any other stock that is not regularly looked after, and their welfare sedulously attended to. The high price that is now got for fresh eggs at the scarce seasons of the year, when they are retailed at threepence each, certainly affords a good margin for profit, and there is a growing demand for eggs.

*Egg Importations.*—Eggs are an item which figure very prominently amongst the food supplies of this kingdom, but of the vast number which are annually consumed, comparatively few are raised in Great Britain, which is illustrated by the Customs reports. Those issued in July, 1877, contain the information that no less than seven hundred and fifty-three millions of eggs were imported in the course of one year, the value of which was £2,620,000, being an increase on the like particulars relating to 1875, of twelve millions and £61,000 respectively—the number having increased more than forty-one per cent. since

1872. And since this account was made up, the numbers have doubtless very much increased.

*Poultry-keeping in Towns and Suburban Residences.*  
—Many persons who live in a town or suburban residence have tried their hands at poultry-keeping, but have been very unsuccessful; and this mainly results from the manner in which the fowls are kept. Too many of these poor creatures are huddled together in a confined space, where their excrement is allowed to accumulate, the enclosure in which they are confined seldom being cleaned out, and their food tossed to them on the ground; and filth and food are all mixed up together in the nastiest manner possible, so that it is impossible for them to thrive. Half-a-dozen hens and a cock, where there is but little space for them to be kept in, would be found to supply as many eggs to the household as twice or three times the number, if they are kept clean, warm, and dry, and properly cared for. And no position is so bad that this cannot be properly managed. For if the fowl-house stands upon a naturally damp or wet soil, which will be found to consist almost invariably of clay, the top earth should be dug out to the depth of a foot or a foot and a half, and the space so excavated filled up with brickbats or burnt clay, which the portion that has been excavated will furnish if burnt with a little small coal. This should be first covered over with a coating of lime-rubbish—or if lime-rubbish is not readily procurable, with cinder-ashes, which are to be found in every household—and over this a little dry earth. The surface should be continually pared and scraped, and fresh earth put in its place. That which comes away will be found excellent manure for the garden,

while the fresh will amuse the fowls, which will find amongst its particles they will appropriate with evident relish, and that are also advantageous to their animal economy as shell-forming products.

Cinder-ashes, gravel, and quicklime slaked with water, forms the best compost to spread over the top of the burnt earth, coarse gravel, or whatever may be used to form a dry site for the henhouse ; for boarded floors, although dry, after a time get contaminated by dirt, and if frequently washed or "swilled" down with water will become damp ; while stone or brick floors are not desirable—the first being cold, and the latter objectionable because they imbibe the moisture which is cast upon them, and the interstices also become filled up with the droppings, in course of time—and there is nothing so good as a flooring of dry earth that can be pared and taken away pretty often, as above described. Lime or mortar rubbish should be thrown down in a corner, and a good heap of cinder-dust put in another, so that they may cleanse their feathers in a dust-bath, and keep them clear from vermin. Fowls will never do well unless kept dry ; and a little fine gravel is an excellent adjunct, which, in a state of nature, they are in the habit of picking up to assist in the digestion of their food ; vigorous bodily health being mainly secured by attention to these details ; for, being unable to obtain certain necessary particles themselves when shut up, they must be provided with them by their owners.

Where there is not a good "run" for fowls that are kept shut up in close quarters, they should be let out occasionally. It is a common mistake to suppose that fowls do an immense amount of damage to a

garden by scratching and tearing the place to pieces ; for although an old hen, or two, may make a hole to dust themselves in, any little derangement of this sort is more than counterbalanced by the quantity of grubs and vermin they destroy ; and many gardens in which the fowls are allowed to have a run occasionally, in those seasons in which the “palmer” caterpillar has been very plentiful, have escaped its ravages, and the crop of bush fruit has been very abundant.

*Hens eating their Eggs.*—Some hens acquire the habit of eating their eggs, and various contrivances have been suggested to cure this propensity, as blowing out the contents of an egg and filling it with a mixture of cayenne-pepper and other disagreeable compounds ; providing a nest with a false bottom, containing a hole in the middle to which the bottom slopes all round, so that the egg may fall through on to some soft hay beneath, to prevent it from breaking, but it will be found the best and least troublesome plan to kill the hen at once, and get her out of the way—as she will teach the other fowls the same practice in all probability—unless she happens to be a very valuable one, that may be wanted for breeding purposes ; but in the case of ordinary fowls, it will be found the most satisfactory course to dispose of them summarily, when they have once addicted themselves to this unsatisfactory course of proceeding.

*Laying at the best Season.*—Either with a large or small quantity of hens, by proper management, they may be made to come in to lay when eggs are most wanted, and by sitting early hens, so as to raise



January, February, and March birds, the pullets, if well cared for, and well reared, will commence to lay in August, September, and October, and will continue laying, more or less, till moulting time approaches. Some hens are bad sitters, but continual layers. The Black Spanish will continue to lay for a long time without wanting to sit, while the Dorking, on the contrary, inclines early to incubation.

Whether the production of eggs, or poultry, is aimed at, should become a matter of consideration. If the latter, a large breed should be selected, which make handsome chickens, and these should be hatched in January, so as to be ready for use, or sale, during May or June, or even a little earlier, if particularly wanted. They require a good deal of attention and feeding, to bring them on quickly, and accelerate their growth ; but they *pay* to rear.

Out of a limited number of hens, it is somewhat difficult at all times to obtain those which will sit early, the common time when hens show a disposition to incubate being from March to June ; but the time of the hatching of the birds will influence this greatly, so that for more reasons than one, it is desirable to raise early pullets. Early-bred pullets, which first commence to lay during September and October, will keep on laying, stopping only during the severest weather in winter, if warmly housed, fed properly, and they lack for nothing.

*Construction of the Fowl-house.*—As thorough dryness is one of the first essentials of success in poultry-keeping, a dry situation should be chosen, to begin with, and the aspect should face the south if possible, in which direction the windows, or openings, should be

made, so as to ensure the greatest amount of warmth during the winter months, when the eggs are most valuable. Dryness may always be secured by digging a deep hole, and filling up the bottom of it with coarse rubbish, such as brick-ends, broken crockery, all the old tin pots and cans of preserved meats, milk, fish, and other things which are always such a nuisance about a place, as they cannot be dug in *anywhere*, and it really often becomes a puzzle what to do with them, to those who like to see everything neat and tidy. The excavated soil from such a plot marked out as the site for a hen-house would often come in very useful for some of the gardening operations, in raising shallow beds, where soil may be scarce and somewhat difficult to procure, by those who live in suburban residences. The hole may be filled up this way to within a foot of the surface, if burnt clay is not used, and a coating of earth put on it, and then the mixture of gravel, sand, lime, etc., as before recommended. No water will ever stand in pools above this, but drain off. The writer has often cured damp places by this method, where the surface water could not be got to run off easily ; notably in one instance, where the drippings from two fine elm-trees always caused puddles to stand just before the approach to the house, although the paths were considered well drained. These are not such tough jobs to tackle as they are often supposed, which a little patience and practice will soon exemplify, and the jobs will afford fine exercise for those who often do not take enough.

A sufficient number of openings in the fowl-house should be made, to afford plenty of ventilation ; but all draughts must be avoided that would affect the

fowls as they are roosting ; and these should be allowed to remain open when the fowls have left the hen-house ; and closed early in the afternoon, by the time some of the earliest drop in, to take up their quarters for the night. Where circumstances are arbitrary, and one has to put up with what buildings there may be, and there is no choice in the construction of windows, or openings for ventilation, a perforated piece of zinc will ensure against draught, and bestow ventilation at the same time ; but I am supposing now that an inexpensive structure is being made of boards, with an asphalted felt top—which should be again tarred over—with which one may do pretty well as he chooses. Capital poultry-houses may be thus formed, as a lean-to against a wall ; the sides and front boarded, and the roof formed of boards laid closely together, and covered with felt ; or overlapping each other, and then tarred if the appearance of the felt is objected to, which it is by some persons. If there is an outhouse already standing with a tiled roof, which is generally draughty, some cheap gray calico can be strained inside, and tacked to strips of wood placed for the purpose, and then tarred over, that will at once cause the defect to be remedied. This may be afterwards whitewashed, when the walls and other portions are being done, which is a very valuable adjunct to health and cleanliness. Straw is often resorted to where there are tiles in country situations, supported by laths nailed to the rafters. It makes the house warm certainly, but encourages the harbouring of vermin more, and although insects of all sorts form no inconsiderable portion of the food of fowls, it is better not to supply them in this manner, but to keep

them out of their houses if possible, as they are vouchers for the presence of dust and dirt, which consequently comes under the category described by Lord Palmerston, of being *matter in the wrong place*.

*Perches.*—Perches are generally placed too high, and for heavy birds, should never be fixed more than at two feet distance from the ground. The smaller and lighter birds will always ascend to the higher perches to get out of the way of their more dominating fellows, who often peck at them, as they are adjusting themselves for their night's repose. Round poles of five inches in diameter make the best perches, and the feet of the fowls rest naturally upon them. For Cochins, whose powers of flight are extremely limited, a height of one foot from the ground is often deemed sufficient. Heavy birds falling to the ground from a great height often injure their breast-bones, while the disease called "bumblefoot," which is most common, perhaps, to Houdans and Dorkings, may often be averted by the use of low perches. Accidents are easily to be avoided by poultry-keepers by spreading the floor over with a coating of soft ashes or sand. This is not objectionable if it is often removed, as the dung will be swept away with it, but if allowed to remain too long, it is said to harbour vermin. I never give this a chance of happening, as we always make it a point of having the fowl-houses cleaned out every day, or every other day at farthest, and use sand or light soil for this purpose, which is accumulated in a heap and used for plants afterwards, we choosing the substance so used with a view to future usefulness. If the perches are sufficiently low, however, the chances of

either fractured breast-bone or lameness will be rare. The insides of the houses should be thoroughly lime-washed at least once a year. Just before breeding-time is the most appropriate time for this to be done, when sitting hens are often troubled with vermin. If size is mixed with the whitewash, it will prevent it from rubbing off on the clothes of those who visit the houses, for the purpose of getting the eggs, or seeing to the poultry.

*Whitewashing.*—All the nest-boxes, as well as the perches, coops, pens, roofs, and sides of the houses, should be washed with whitewash in this way; which will amply repay the trouble in the cleanliness and neat appearance of everything which is thus secured, and made to look uniform, while the presence of objectionable matter is at once detected.

*Sheds.*—A shed is a useful adjunct to a fowl-house, to which the stock may run for shelter when showers ensue, without compelling them to adjourn to the fowl-house upon every occasion.

*Dust-heaps.*—Beneath this shelter, heaps of dust should be placed, if the birds have only limited accommodation, together with a supply of mortar-rubbish and gravel. If there is no shed, one may easily be extemporised by using a few poles as uprights, and covering them with hurdles thatched with furze or straw, to which I have made allusion before. Having occasion to keep different breeds from mingling, I have frequently erected these at a trifling expense, and filled them up with what might be required, so as to keep different breeds a long distance off from one another, and where the fowls belonging to each were always fed night and morning, and to which they

invariably confined themselves. Some of these I have made permanent residences, being quite large and lofty edifices, thatched thickly at top with furzes from a neighbouring common, with a sloping roof that no water enters, and there are colonies of black Spanish at one place, Dorkings at another, and so on.

These erections I have found of great convenience where there are a great number of poultry of one sort or another about the place in summer-time, which I thin down to the smallest possible number, commensurate with keeping up the stock for breeding purposes, as winter approaches.

The young cocks are then all disposed of, together with any objectionable hens, retaining all useful ones that it may be considered desirable to keep; but getting rid of all ugly, bad-shaped, long-legged birds, all the bad-tempered ones, the bad or indifferent layers; of these I make a general clearance.

Where a large number of hens are kept, without any special provision on a large scale for ensuring extra warmth through the winter, they will not pay to keep, unless the stock consists of selected pullets bred with this special object in view. The rank and file of average hens will have to be kept perhaps till April before they begin to yield profit again, and a much more paying system of keeping fowls can thus be inaugurated; so that in many cases these sheds may only need to be temporary, where there is not enough space to keep a large number through the *laying* part of the season.

*Height and Size of Houses.*—Houses can of course be built of all sizes and dimensions. Good height is advantageous, as better ventilation is invariably



secured ; but where the accommodation and space is limited, a lean-to structure, made of boards seven feet high at back, and five in front, thus giving a slope of two feet to the roof for carrying off the water, will answer the purpose. The depth should be about six feet, and the length ten or twelve feet. This may be divided, if necessary, into two moieties, which will accommodate half-a-dozen hens and a cock in each ; so that two distinct breeds can be kept, which will be an advantage—the best layers to be made use of for the sake of their eggs, and the best flesh-forming sort for the use of the table. The eggs of either, as desired, may be given for the purpose of hatching as the hens become ready for incubation. The perch should be placed lengthwise, about two feet from the wall, and the nest-boxes placed in a row against the wall, on the ground.

*Runs.*—Where the fowls are intended to be confined, a run must be provided for them, which can be placed sideways, the length of the house ; or at each end, according to the position of the space which can be assigned to them. A gravel path leading to the gates, with grass laid down at one side, and turned-up earth on the other, will be found a good arrangement. The fowls can thus resort to the grass when they are disposed, or exercise their scratching propensities when inclined that way. If the run is made parallel with the house, and is thus divided into gravel path, turned-up earth, and grass, the grass should be next the house, to receive all the rain-droppings from the roof, which will make it grow freely ; and the turned-up earth outside, upon which anything may be tossed from time to time to amuse the fowls with, such as

worms, snails, or any intruders which may be gathered from the garden. By constant digging, this portion will always be kept fresh. The gravel can be swept and renewed from time to time, and the grass will be kept down by the fowls, or only need a little trimming now and then, when an awkward rank patch has time to grow and makes its appearance. The run should be divided by boards, if two distinct sets of birds are kept, to prevent the cocks from fighting with each other, which they will do if the whole is formed of wirework only. Very convenient places may thus be made at a very trifling expense. A small place should be divided off to serve as a hospital.

*Pining Fowls.*—Sick, or pining fowls, should be immediately separated from the rest, and when one appears to ail it should be removed directly, out of consideration to itself as well as to the others. It has often been observed, that when some unlucky hen has met with an accident, and has perhaps bled a little, the others will peck at the place with their bills, as if actuated by a spirit of cannibalism, and allow it to have no rest. When recovered, and put back with the others, it will for a time be hailed as a stranger, and hustled about, and perhaps have to change places, as far as the exercise of dominion and authority are concerned, with fowls over which it before dominated, who have plucked up superior courage, sufficient to dispute the old condition of affairs. A pining fowl is often the subject of dislike to both cock and hens, or sometimes the cause of extra attention on the part of the cock, who cannot make out what is the matter—which attentions are inconvenient, and embarrassing to their subject, which

inclines to peace and solitude, and wants, above all things, to be let alone, and rest in quiet.

I have been supposing, in reference to the preceding, that it is desired to keep the poultry strictly to their own domain, and they are never to be allowed to stray beyond their own limits. The harm that poultry do in a garden is frequently very much exaggerated, and they will often be found to do good in destroying vermin, if they are occasionally turned into one.

There will be many readers who have not the same conveniences which I possess for dealing with poultry, and I have thought it advisable in the foregoing to make allusion to the best methods that are found advantageous to follow, where a few head only can be kept, sometimes in situations where the accommodation is necessarily very limited for them.

## CHAPTER II.

Choice of Stock—Spanish Fowls—Minorca—Andalusian—Dorking—The Cochin China—The Malay—The Brahma-Pootras—Game Fowls—Hamburg Fowls—Silver-pencilled Hamburgs—Golden-pencilled Hamburgs—Silver-spangled Hamburgs—Golden-spangled Hamburgs—Black Hamburg Fowls, which are good Sitters—Fowls that exhibit a Disinclination to Sit—Polish Fowls—White-crested Black Polands—Golden-spangled Polands—Silver-spangled Polands.

*CHOICE OF STOCK.*—Situation has much to do with the breed of fowls that ought to be chosen, as some kinds succeed better than others in different localities. I have been able to keep a large number of fowls, as mine is a dry, sandy situation ; and while keeping a few of several varieties every year, I have bred large numbers of Dorkings and Black Spanish. These require a warm, genial locality, and they have plenty of room to range in, amongst hop-gardens, meadows, and plantations. These two breeds will not, however, succeed so well in a confined space, as Cochins or Brahmas, the latter not reconciling themselves so readily to a limited range, as the former. Hamburgs, also, are capital layers, but these as well require a good range ; they are also hardy. Polands require a dry soil to flourish. In somewhat doubtful situations, Brahma-Pootra and Cochin are, perhaps, the surest to depend upon. The

Malay and Game fowls are hardy, if not kept too confined, and generally do very well.

"Everybody speaks of the fair, as his own market has gone it," and I have always felt most at home with the two breeds previously mentioned, as stock varieties to keep, which I will describe first in detail.

*Spanish*.—There are white-faced and red-faced Spanish fowls, though the true Spanish is generally thought to be identified by its white face, universal black plumage burnished to a green tint, with great development of comb and wattle, and very smooth and white in the face. The cock's comb should be stiff and erect, broad at the base, and tapering towards the points. The hen's comb, though declining well over the eye, should not be soft and flabby, but perfectly firm. The hens lay a large number of very fine eggs, which they seldom attempt to hatch, and when they do, they generally turn out bad sitters and nurses. They are therefore to be considered as a valuable breed as egg-producers, and they contrast very forcibly in this disinclination for incubation with Dorking fowls, which are both good sitters and careful mothers. It will, therefore, be found a good plan, supposing these two breeds to be kept, to give the Spanish eggs to the Dorking fowls to hatch, when Spanish chickens are wanted. These, however, should not be hatched before April, as the early broods are delicate, and die off quickly. This more particularly refers to the white-faced variety, for the Minorcas, or red-faced Spanish, may be hatched early in the year, and will fledge well, and thrive, during cold weather. Their dark legs cause them to be considered inferior as table-fowls to several others, and they take a long

time in moulting, which interferes with the winter laying a good deal.

*Minorcas.*—The Minorcas are shorter in the leg than the white-faced Spanish, the former being a favourite breed in the West of England, where they rank high as profitable layers. Red-faced birds sometimes make their appearance, when both parents have white faces; and for the sake of distinctiveness of breed, these had better not be kept as stock birds, though they will, of course, lay just as well as the others. Those young birds which have long, bluish faces, generally turn to pure white at maturity; while those which display a decided red tinge should be discarded. In raising stock, with the view of breeding choice stock birds, it is considered advisable to allot one two-year old cock to three two-year old hens, the cock to weigh about eight pounds, and the hens six, or as near as may be.

*Andalusians.*—These are often classed with Spanish, which they closely resemble in the most prominent features of comb, shape, weight, ear-lobe, and size; the plumage being of bluish-gray, or deep slate, the feathers darkening at the edges, the face red, and the legs blue—which latter is considered an objection to a table-fowl.

*The Dorking.*—This breed, one of the most widely known and appreciated, appears to have been noticed by the old Grecian and Roman authors. Aristotle mentions that a five-toed breed existed in Greece, and both Pliny and Columella describe a similar one in Rome; and hence the conclusion that Dorking fowls were introduced into Great Britain by the Romans. It has been said that the old pure Dorking is white,

which, in the present day, is not so large as the Sussex or coloured Dorking, as it is now received, which is frequently a cross. Many prefer to keep white fowls for the sake of the feathers, which fetch a higher price than coloured ones. And by these the white breed are appreciated, though they appear to have degenerated in size, probably from being bred in-and-in too much.

The fifth toe is essential for the bird to be styled a true Dorking, though Dorkings are commonly crossed in Sussex by the large Sussex fowls peculiar to the county, the progeny being often five-toed. The rose-combed, white Dorking is, however, the strain so styled by the old breeders.

The coloured Dorking is, however, the bird which is generally looked for under this designation, however the original breed may have become crossed from time to time—of which there is evident proof when the fifth toe is lacking.

The chickens of the Dorking are delicate to rear, and some breeders, with the view of improving and hardening the stock, have crossed them with Brahmas, afterwards returning to, and aiming as much as possible, at the points which constitute the Dorking by subsequent breeding. The dash of foreign blood is said to improve the quality of the strain vastly.

The Dorking is a large, compact bird, with short legs, and is massive in appearance, the breast being broad and the back wide, with tail well expanded; rather small head with broad wattles, and long in the cock, with an even, firm comb. The comb of the hen, if single, should be fully developed, and fall over one side of the face. Her legs, also, should be short and thick.



A good deal of confusion of opinion exists as to the real Dorking, arising from the fact of their being crossed so often ; which, to a certain extent, has been a work of necessity, as no description of fowl deteriorates so much from breeding in-and-in. And where this has been done, the distinguishing characteristics may be restored, by proper selection, and mating birds to restore those points which are lacking, and bring into prominence those which may have become obscured or lost.

To keep this breed really in perfection, the cock should be changed every year, being, in this respect, the opposite to the game fowl, the breed of which may be kept pure, and the birds in full vigour, for a long period without change.

The single comb is said to be the result of this crossing, the double comb, and five toes, belonging to the true Dorking. They are now, however, regularly got to be viewed as single-combed Dorkings and double-combed Dorkings, and when exhibited the rose-combed and the single-combed are allowed to compete together ; but they must be all alike with respect to comb in one pen, and the plumage must match, although every variety of colour is allowed. The grays, silver-gray, and white, are the most difficult to rear as chickens, doubtless from the absence of that stamina which is obtained from judicious crossing in the coloured, which has been done to a considerable extent with the large Sussex fowl—a bird often mistaken for the pure breed of Dorking, when it has been so joined. The four-toed Dorking, so called, is truly only a sub-variety, which is indifferently termed by correct judges, the Surrey, Old Sussex, or Kent ; the



breeds probably being the same. Mr. John Baily, an authority on these points, in his treatise on the "Management and Fattening of the Dorking Fowl," gives the following instructions for selecting a pen of these birds for exhibition : " One of the most popular colours for hens in the present day is that known as Lord Hill's. The body of these birds is of a light slate colour, the quill of each feather being white ; the hackle is that known as silver, being black-and-white striped ; the breast is slightly tinged with salmon colour. The next is a larger one—the grays. These may be of any colour, provided they are not brown ; ash, cobweb with dark hackle, semi-white with dark spots, light gray pencilled with darker shades of the same colour. With all these, the most desirable match for a cock is one with light hackle and saddle, dark breast and tail. I advisedly say dark, in preference to black, because I think servile adherence to any given colour too often necessitates the sacrifice of more valuable qualities. I look on a fine Dorking cock with no less admiration if his breast is speckled and his tail composed of a mixture of black and white feathers. And such a bird is a fit and proper male for any gray hens. But the gray must not be confounded with the speckle. These have a brown ground, with white spots. One of the best judges I know of a Dorking fowl, properly describes them as brown hens, covered with flakes of snow. These speckled hens are of two distinct colours. The first is known as Sir John Cathcart's colour. The pullets are of a rich chocolate, splashed, or spotted with white ; the cocks are either black-breasted, reds without mixture, or spotted like the hens on the breast, and partially

on the body. It is no objection if the tail is partly coloured. Another speckle is of a grayish-brown, spotted with white. These hens should have a cock with dark hackle and saddle, and the wings and back should show some red or chestnut feathers. These last are not essential, but a *light cock* will not match *speckled hens*. Next we have brown hens. These should have a black-breasted red cock ; but a speckled one will pass muster."

As a table-fowl, Dorkings are unequalled. They are cooped up for fattening at the age of three or four months in summer-time, and from five to six in winter ; and as the pullets hatched in April and May will lay about Christmas-time, the young birds may be hatched in February, which will enable them to come in early for use or sale. If well fed from their infancy, they will be ordinarily fat in sixteen to twenty days. In addition to corn, oatmeal mixed with skimmed milk—if such is handy in a farmhouse, or water, if not—is considered good food for them ; and a little mutton-fat which is often cut off from mutton-chops, mutton suet, or any similar stray pieces of fat from the household, may be chopped up in the food with advantage. Their food should be given them fresh, three times a day, and a turf, the same as is given for larks in their cages, affords them amusement ; while a little gravel, to assist their digestion, should be placed within easy reach. In cold weather the coops should be covered over at night, as warmth is a great help in fattening. Both as regards economy of food, and also for the health of the fowl, they should be fatted as quickly as possible, for repletion persevered in for too long a time brings on internal disease.

The Dorking breed, as a rule, will be found the best to fatten, for although not of the handsomest shape, they are the best meat carriers. A good specimen of a young Dorking cock will weigh about eleven pounds when not absolutely fat, and fine young hens nine pounds or so. The pure breed will be one pound to two pounds lighter in white or grays.

When Cochin China fowls were first introduced, many poultry-keepers thought they would, on account of their large size, displace the Dorking in general estimation. The author I have quoted above (Mr. John Baily), says: "In spite of all that may be said, the Cochin China fowl, however desirable as a layer, as a table-fowl produces much offal meat. My experience leads me to think that the Cochin Chinas are very profitable as long as there is a demand for them at large prices for stock; but when that ceases, and they have to compete with other birds as purveyors of the table, they will sink below the Dorkings, and rank with the many other second-class breeds. Remarks have been made in praise of their 'giblets.' But these, properly speaking, belong to a goose; they comprise head and neck, pinions, feet, gizzards, liver, and heart. A *fowl* has none in this country; in Paris the *abatis* comprises the same parts of a turkey or a fowl. Now, the most *recherché* part of a fowl is the breast, and that is the point in which the Cochin China fowl is most deficient; and what she lacks there, she makes up in *giblets*. For instance, in the Dorking you will find great depth, and weight, from the insertion of the neck in the back downwards; in the Cochin China comparatively much less. These

are only poulterers' remarks, but they are not irrelevant to the subject."

Dorkings are not such indefatigable foragers as some of the smaller varieties, and do not make the most of their opportunities, as some of the others will do, therefore they do not answer so well where the range is confined, and in this case their egg-producing powers are limited. This has given them a bad name with many as layers. But they will lay well enough under favourable conditions, while they are unequalled as steady sitters, and prove excellent mothers to other breeds of fowls which are not extremely delicate. They are somewhat too heavy and clumsy to bring up the most delicate breeds, and answer best when fulfilling the office of foster-mothers to breeds equally robust as themselves.

*The Cochín China.*—Cochin Chinas were first introduced into England about the year 1845, and became at once the rage. The ordinary price of their eggs was a pound a dozen, the fowls themselves selling at sums varying from fifteen to thirty shillings each; while exhibitors put a price of fifty pounds upon their pens to keep them, as they sold readily at twenty pounds, and even thirty pounds. First-rate buffs, even now, fetch from ten pounds to twenty pounds per pair. At the Birmingham Show in 1851, one pen sold for thirty pounds, and several others at similar high rates. A perfect *furor* was raised for these. The estimation of their good qualities was of course very much exaggerated; but the fowls, although they have sunk somewhat in general estimation, remain the same as ever, and their good points have not departed from them. They are free layers, their eggs being only of

medium size, but they give them in the winter months when eggs are most valuable. As quite young chickens, they are not first-class for the table, but at seven months old they are a fine fowl for the table.

It is best to raise stock from mature birds, when the chickens will be found hardy; and being of a truly domesticated nature, they do not exhibit that restlessness under partial confinement which is seen in many other breeds, and will reconcile themselves to their position, and may easily be kept within bounds. There are several sub-varieties included under the term Cochin China—such as American, Shanghae, etc.—which have been imported into the United States by the vessels which bring them direct from Shanghae (as well as Chinese labourers, who are now so unwelcome at San Francisco; and about whom there is a difficult nut to crack in the form of a social problem). These American ships bring many large varieties, as well as Malays; and the Americans have, of late years, paid great attention to this branch, and send occasionally to England breeds that are the source of a good deal of speculation, and which it has been found difficult, and even impossible, to reproduce in this country. Those Americans who have interested themselves in this trade, also receive birds from India, which thus sometimes come afterwards to England, so that stock is brought to us by two different routes. American exporters are, indeed, accused at times of *manufacturing* certain species; but I scarcely see how this is possible, unless it is true in the same way as in the instance of hybrids in animals, which will not reproduce the species that has been formed.

The eggs, as I have remarked, are proportionably

smaller than Spanish or Dorking, averaging about two ounces each, while Spanish will weigh two-and-a-half to three ounces and upwards. The wings are small, incapable of flight, and they have a remarkable deficiency of tail. The sickle feathers are absent in the male bird, while the hens only have a kind of downy covering to the hinder parts of the body. Although from the sparse development of wing, which is almost hidden in front by the breast feathers, and behind by the back-hackle, it is a disadvantage to the birds themselves, with respect to rapid locomotion upon urgent occasions, it is a capital defect for those who want to keep poultry within bounds, and from straying; a fence of a yard high being sufficient to keep them safely enclosed. Those who have been annoyed by their fowls flying over walls, and perhaps getting into hot water with their neighbours, whose gardens they have visited, will have no cause to fear this with Cochins.

Although the eggs are small, the young chickens are large, and they grow fast in body, though the plumage is long in making its appearance, the cockerels being more backward than the pullets; this distinctiveness indicating the sex at an early period of growth. They are excellent sitters, and unrivalled as nurses, being remarkable for their singular care, gentleness, and tenderness for their young. This would not be commonly supposed to be the case, judging by the ungainliness of their appearance and their great weight, which would lead to the supposition that they would be apt to trample on their offspring; the fact being, that seldom are any ever lost or crippled from this cause.

Their precocity in laying, and sitting, has been exemplified in a remarkable manner at Birmingham, where Cochin China chickens have been exhibited *whose grandparents had been hatched early the same year*. The inclination to sit, manifested by the hen, is somewhat embarrassing to those who look for an uninterrupted supply of eggs. But this desire is of very great value to the breeder who wants a sitting hen to bring forward any particular sitting of eggs early. Pullets will lay at fourteen weeks old, and some will want to sit under six months from their time of hatching. This precocity interferes with the size of the birds which are hatched, and the chickens bred from immature fowls are always the longest in fledging. A hen will sometimes take to the nest several times in one season, and Cochin breeders, with a view of keeping the birds backward, avoid giving any forcing diet.

There are many varieties of colours amongst Cochin China fowls, the light colours being preferred ; but they may be divided into four principal varieties : the light, dark, black, and white—the light-coloured birds being generally esteemed the handsomest. Of these, the buffs, perhaps, are held in first estimation, and form, as it were, a distinct breed. The light golden buffs are termed lemons. The cocks of this colour are very handsome, being more even in plumage and brighter looking than the ordinary buffs. The silver buff is another division, gay and bright in appearance, the tail of a well-bred bird being bronzed, or of a light chestnut colour. As prize birds, black or white tails are considered objectionable, it being difficult to keep the black entire,



especially white being apt to intrude into it. Partridge are amongst the most admired kinds at the present time, though not attaining the size of the buffs. The tail of the cock should be of a blue-black colour, and free from white.

Cinnamons are now not often met with, though at one time they were a favourite colour. The tail of the cock should be a deep bronze, or deep chocolate and black.

Grouse are another kind of dark colour; Grouse hens being generally matched with Partridge cocks.

Cuckoo Cochins resemble the Cuckoo Dorkings somewhat, and are said to be difficult to breed without the intrusion of yellow feathers, which are held to be objectionable. A good variety of these is somewhat scarce.

White Cochins are aimed at that are free from the yellow tinge which perseveringly makes its appearance, which is also somewhat difficult to obtain.

Black is open to the same objection as the above, inasmuch as the intrusion of other coloured feathers is held to be a disqualification for attaining the highest standard of perfection.

The handsomest of all the dark kinds are, perhaps, the Grouse, which closely resemble the game birds after which they are named; but these are far from common, much more attention having, on the whole, been bestowed upon the rearing of birds of the lighter shades of colour. It is said that breeding to a particular colour has been more attended to in the case of Cochin Chinas than any other point, many others having been very much neglected in order to develop this particular one.



Cochins are not economical fowls to keep, as respects the quantity of food they consume. Their very stay-at-home disposition, which is very desirable with many poultry-keepers, causes them to be less indefatigable seekers of waifs and strays in the shape of worms and insects, which the more active breeds pick up in large quantities, and thus diminish the charges of the commissariat department very materially; and as they grow older, they seem to lose their relish for earth-worms, which are so highly esteemed by all other fowls, and which corresponds to a meat diet; and being blessed with good appetites, it takes more to feed them than most other kinds of poultry. When everything relating to Cochin Chinas was very much coloured, and exaggerated, upon their first introduction, it was said of them that they laid twice in one day. This is, no doubt, true enough in a few exceptional instances, but in those rare examples where it has happened, there has been no egg forthcoming the following day; so that, as it is commonly said, the matter "is as broad as it is long," and the general average would remain undisturbed through the occurrence of this freak. On account of the deficiency of wing, and the great weight of the Cochin China breed, their perches should always be placed extremely low; some, indeed, in order to avoid accidents, provide them with a latticed floor, raised a short distance from the ground, beneath which a movable board is placed to receive the droppings, which are removed daily.

*The Malay.*—The Malay is a fine breed as regards size, the cocks standing three feet in height, some having been found to measure as much as

thirty-eight and a half inches from beak to toe, when laid out at full length. It is close-feathered, and weighs heavier than is generally judged to be the case. The flesh is somewhat coarse, of a brownish-yellow tinge, and is therefore but lightly esteemed for the table. Neither have they good dispositions, being remarkably quarrelsome, and inveterate fighters, though there is a good deal of the bully in their nature, and while they will display the greatest cruelty to vanquished or smaller birds, if they are resolutely met they will often sneak off and decline the combat. The pullets commence to lay early, the eggs being of a medium size, and tinted. The chickens fledge late, and if good specimens of this breed are desired, they should be hatched early, so as to get their feathers on them before the rainy season sets in, which is generally at the end of June, or early in July, notably St. Swithin's.

In Barrow's "Voyage to Cochin China," the following account is given of the rage that exists for cock-fighting amongst the Malays: "So passionately attached is the Malay to every species of gaming, and more particularly so to cock-fighting, that his last morsel, the covering of his body, his wife and children, are frequently staked on the issue of a battle to be fought by his favourite cock. This bird, on the island of Java, grows to a prodigious size, especially about Bantam; where, instead of those little feathery-legged fowls, usually supposed to be natives of the place from whence they take the name, they are nearly as large as the Norfolk bustard. This animal (*sic*) is the inseparable companion of the Malay; but his affection, though apparently approaching to in-

fatuation, does not prevent him from exposing it to the risk of a battle, which, from the nature of the weapons, must prove fatal to one of the combatants. Instead of spurs, or heels, he fixes on the bottom of his foot a piece of sharpened iron, about the size of the blade of a large pen-knife, and of the shape of a scythe. A single stroke of this weapon will sometimes completely lay open the body of his antagonist. But whether thus hacking down with cutlasses, or pricking each other like gentlemen with small swords, will be considered as the more humane, and the more genteel practice, is a point I must leave to be determined by the Malays, and those refined gentlemen of our own country who can derive amusement from the destruction of so noble-spirited an animal. The education of Malay children is not less attended to in their way. While too young to manage so large an animal as the cock, they indulge their propensity to this species of gaming by carrying about in little cages, like the Chinese, quails trained to fight, and different species of grasshoppers."

This abominable practice is now, happily, not only discouraged, but prohibited by law in England; the cruel sport finding only an occasional advocate or two, as in the instance of a late gallant admiral, who was a noted patron of field sports, whose perversity of judgment on this head was much to be regretted. Gambling of all kinds is a fruitful source of vice and crime, but when accompanied by cruelty, as in the case of cock-fighting, it becomes doubly obnoxious; and when cock-pits were patronised and supported by noblemen and gentlemen, it could not be a matter of surprise that the tastes of the lower orders became

brutalised ; and they became indifferent to the sight of pain and suffering ; teaching them to neglect that care and consideration which it is the duty of man to bestow upon the dumb creatures which are instruments to serve their comfort and convenience—" *to be used and not abused.*"

*The Brahma-Pootra.*—Considerable difference of opinion exists as to this being a distinct breed, the fact being disputed by many, who state that the so-called Brahma-Pootras are either gray Cochins, cross-bred Cochin and Dorking, or cross-bred Cochin and Malay, or Chittagong—this view being supported by the fact that, the descendants of gray Cochins have taken prizes as Brahma-Pootras, the original stock of which was imported into England before the name of Brahma-Pootra, as applied to fowls, had ever been heard ; and they argue that there is very insufficient evidence to show that the breed ever came from the district watered by the Brahma-Pootra river, and further, mention that naturalists sent to Assam by the East India Company to report on the objects of natural history comprised in that region, make no mention of such a breed of fowls, which it may well be supposed could hardly have escaped their attention ; and who advance in support of this argument the fact that, if the skull of a Cochin be examined, there will be found in the frontal bone beneath the base of the comb a deep narrow groove from front to back, which is peculiar to them, and is not found in any other variety, and this peculiar feature exists in the so-called Brahma-Pootras. I should have thought the matter one tolerably easy of solution, but whatever they may truly be, their characteristics are—good layers of

fair-sized eggs, seek for their own food with more zest and energy than do Cochins—grow fast when chickens, and are very hardy, so that they may be easily reared, with but little loss to their owners, and fledge better than the Cochins.

Many people think them a most useful variety to keep, and do not trouble themselves to consider whether they are in all probability a cross between Cochins and Dorkings, or if they be a distinct species of themselves; content with the facts that, they are smaller eaters than Cochins, bear confinement as well as any other kinds, sit less frequently than Cochins, are good for the table, put on flesh readily, and are of better form than Cochins.

In contradiction to the doubts expressed as to originality of breed, it has been said that, if they were Cochins, they would not have pea-combs, nor deep breasts. Were they Cochins crossed by Malays, they would have drooping tails, hard plumage, and inherit the cruel look of the Malay. Were they crossed by Dorkings, they would have ample tails, clean legs, and five claws. The latter, according to common acceptance, with even Dorkings does not always follow, though it should do. The peculiarity of the pea-comb, named by American breeders, is that it resembles three combs united in one, the middle division being higher than the two side ones, which causes it to assume a triple character.

According to the American account, the origin of the Brahma-Pootra is very obscure. A certain sailor is said to have informed a working-man named Chamberlain, of Connecticut, that he had seen three pairs of fowls of enormous size in New York, which

had been imported from abroad. The account so inflamed the desire of Chamberlain to possess them, that he gave the sailor money with instructions to go to New York and purchase a pair of the fowls ; which he did at considerable cost, bringing a pair of light-gray ones, and no account was given of them beyond that they had been brought to New York by some sailors from India. The owner named them "Chittagong," from fowls of that description which these were said to resemble.

One poultry-rearer, who ranks high as a judge, sometime back pronounced his opinion that the Brahma-Pootras were simply a good variety of gray Cochin. This was from an admirer of the species, who had been very successful in rearing great numbers, and not from a detraction, opinions respecting them having for a long while been ranged in opposite camps.

To the ordinary poultry-keeper, however, who has the means of identifying the characteristics of the various kinds, which he may select in accordance with his own views and wants, this will be of but secondary importance ; and the obscurity of their origin will be made ample amends for, in the acquisition of really useful fowls, that will generally give satisfaction to those who keep them.

*Game Fowls.*—Game fowls are perhaps the most beautiful of any in appearance, while their undaunted courage has passed into a proverb, and which never deserts them till their last gasp. On this account they were formerly extensively reared for the cock-pit, and large sums used to be lavished upon them. The indulgence of the brutal pastime of cock-fighting



is, as I have before remarked, now happily forbidden ; but, at one time, almost every village in the country had its cock-pit, where all the yelling blackguards of the neighbourhood used at stated times to assemble, to the injury of public morals, and where the exhibition of the brute quality of courage was extolled, and esteemed so highly as to be considered quite an adequate counterpoise to the lessons of cruelty taught to its frequenters, and the contamination of contact with all the ill-conditioned fellows who were brought together upon these occasions.

The breed is a very old-established one in England, and Buffon alludes to it, its lineage being very ancient, if the bird is not absolutely indigenous to Britain, the same breed having been preserved intact for many generations.

The cock has a long head, with a very strong beak, and a single upright comb, which is generally shorn off, close to the head. There have, however, lately been prosecutions by the Society for the Prevention of Cruelty to Animals for "dubbing" cocks, which has to be done after the comb is so much developed that it will not grow again. The operation is a somewhat cruel one, and is performed when the young fowl is about six months old, the deaf ears and wattles being first cut away with a sharp pair of scissors, after which the comb is removed, care being taken not to go too near the skull with the scissors. Unfortunately this practice is confirmed by the conditions of the exhibitions of poultry, where game fowls are concerned, which I believe are not admissible unless this condition be complied with.

The pugnacious disposition of this species is a

great drawback to their being kept generally, for the young broods fight amongst themselves, as soon as they are feathered, in the most desperate manner, tearing and disfiguring one another to such an extent, that frequently after a *mêlée* some are found to be blinded, while others are so much disfigured that it becomes necessary to kill them. The Stafford and Cheshire Piles—white, with patches of red—and the Furness game fowl—all black, with a light-buff saddle—are somewhat celebrated varieties. The black-breasted reds, and the brown-breasted reds, or gingers, are general favourites. The Duckwings are another variety, the head and neck-hackle being of a light-straw colour, quite free from black, with back and wing-bow a rich orange colour; breast, shoulders, thighs, and tail, blue-black; with wing bars steel-blue, and the flight-coverts white.

There are many varieties of pile, or pied-coloured game-birds, as marble-breasted, mottled, chestnut, and white, etc. etc.

The good points of White Game consist of being a clear pure colour, free from yellow tinge, with white or yellow legs, and bright red about the head. Black Game should be entirely free from admixture of any other colour, the plumage having a bright metallic hue, with either black, dark olive, or bronzed black legs. The Wheaten hens, as they are termed, are in requisition for breeding black reds, the head and neck being of golden-yellow, the breast white, or pale-fawn, the back and wings pale-buff, with black tail, and top outer feathers edged with buff, belly and thighs white, and legs light-willow. In gray, or duckwing wheaten, the hackle is white, sometimes



striped with black, otherwise resembling the red wheaten.

The cocks are distinguished by their bold, erect carriage, the chest being prominent and bulky, the whole body being extremely muscular. In the hen, the tail is generally erect and fan-shaped, and their whole appearance is very neat and compact. They fly well, and a good run is indispensable for them. The correct weight for the cock is considered to be about five pounds, though they are seen of six and seven pounds weight very often.

The hens usually lay about five-and-twenty buff-coloured eggs before they want to sit. They are indefatigable incubators, and have been made to sit nine or ten weeks at a stretch, and are unsurpassed as foster-mothers and nurses. For hatching pheasants and partridges, the game hen can be better depended on than any other kind of fowl.

As table-fowls, their comparatively small size renders them less valuable than most other kinds, but their flesh is of superior quality, and they are naturally plump. Game fowls are interesting as a variety, for those who like to possess various breeds, and have definite objects in view; but they are not well suited to keep for ordinary stock purposes in families. Children have been frequently severely injured by them, and cases are known, though of course very rare, where they have actually died from injuries received from a game cock which has become savage, and dangerous.

*Hamburg Fowls.*—There are four leading varieties of these—gold-pencilled, silver-pencilled, gold-spangled, and silver-spangled. The silver and gold pencilled

have been largely imported from Holland, but the spangled varieties are supposed to be natives of Yorkshire and Lancashire, and are said also to be common in northern European countries. The spangled are generally termed pheasant fowls by the north-country breeders. These used commonly to be hen-tailed, but upon the advent of poultry exhibitions, these were not considered satisfactory by the judges, and an improvement in breed was set about, and the "henny" tail done away with, by the northern breeders, by judicious crossing. The spangled variety are more hardy than the pencilled, suffer less from cold, lay better in winter, are less subject to disease, and attain a larger size. The hens may be termed everlasting layers, never wanting to incubate, it having been calculated that they will lay about two hundred eggs in the course of the year; the silver-spangled variety under the best conditions and circumstances, sometimes giving as many as two hundred and fifty, commencing to lay at five months old. When moulting time comes round, they get through this trying interval, and in six weeks from the time they left off will commence laying again. They produce the most eggs, upon the least quantity of food, of any description of fowls that can be kept, but they must have a good run, so as to forage for themselves. It is not that they do not consume a good amount of food, but they do not ask their owners for it as do the Cochins; about a third of what is given to the latter contenting them, for they carry out Napoleon's tactics of always quartering themselves as much as possible upon the enemy—*i.e.* insects, worms, and other garden pests; but they also consider "all is fish which comes to

their net," and will help themselves to flowers, fruit, vegetables, or anything which they can get hold of. Unlike the Cochin, which can be kept within bounds by a fence a yard in height, they will fly like game, which they much resemble, in seeking their own food. They may therefore be considered objectionable by those who fear intrusion into their gardens, but "forewarned is forearmed," and this inclination must be taken into account by those who are unacquainted with their proclivities, and who may be about to essay for the first time keeping Hamburg fowls.

*Silver-pencilled Hamburgs.*—The ground-colour should be pure white, the cock having very little black upon him, the whole of the neck and saddle-hackles, breast and back, being pure white, those marked, or pencilled on the breast, not being considered true specimens, the only parts where black is allowable being the wings and tail. The wings should be barred across with black, and the tail black, the feathers being edged with white, gradually blended into the black. The hens should have pure white necks, the whole of the body, wings, and tail being pencilled with clear black upon a pure white ground. There are generally about five such markings or bars across each feather, the ends being marked most distinctly. The flight feathers of the wings, and the tail feathers, should also be barred.

*Golden-pencilled Hamburgs.*—These, except in the ground-colour, are the same as the silver-pencilled. The cock should not have any marking of black upon him except the wings, otherwise the progeny will be spurious.

*Silver-spangled Hamburgs.*—These are larger than

the silver-pencilled, which they closely resemble. The ground-colour of the cock is clear white, spangled with one spot of clear black on each feather; which is more distinct upon the breast than on any other part. The hackles of the neck and saddle are striped down the centre with black, having a clear margin of white. The hen is very beautiful, being spangled with one spot of black upon each white feather all over her body. Some of the best breeds of the spangled variety produce cocks which have purely white hackles on the neck and saddle.

*The Golden-spangled Hamburgs.*—These, again, are the same as the silver-spangled, except in the ground-colour of the birds. Though not so large as the Dorkings, they are equal in flesh-quality as table poultry, and reach maturity as early.

*Black Hamburgs.*—These are usually larger in size than the variegated varieties, the plumage being of a brilliant black with a metallic lustre. The red of the spiked comb, with the white ear-lobes, contrasts very prettily with the dark plumage of these birds. These are frequently termed black pheasant fowls in the north of England. Like all the others of this family, they are excellent layers. The terms “silver pheasant” and “golden pheasant,” when applied to the spangled variety, are due to the resemblance which the markings bear to the crescent moon, and which are similar to those of the game bird. Another term also, that of “moonies,” is applied for the same reason. The various varieties very much resemble the Spanish in certain characteristics, especially as sitters. Perhaps it would be convenient here to mention, so that it can be seen at a glance,

by those who may not have had much experience with fowls, which are the best sitters, and which not ; to separate the varieties into sitters and non-sitters, thus :

*Fowls which are Good Sitters.*—Cochin Chinas, Brahmas, Malay, Dorking (including the Old Kent, Surrey, Sussex, and Cuckoo fowl), Game fowl and their varieties, Bantams, Lark-crested fowl.

*Fowls that exhibit a Disinclination to Sit, or do so only rarely.*—Spanish, Hamburgs (in their different varieties), Polish (in their varieties).

*Polish Fowls.*—These fowls are distinguished by a tuft of feathers on the top of the head, forming a crest, which is full and round. There are various sub-varieties, one of which—the white Polish with a black top-knot, which is spoken of by some authors—appears to be extinct, or nearly so, amongst us.

*White-crested Black Polands.*—These are very attractive birds, the white crest affording a strong contrast to the black bodies. The great point is to have the tufts perfectly white, as they mostly tend to have a bordering of black, and the crest of the cock is inclined to turn yellow. They should be without comb, but two small points are seen in place of it, just before the tuft. The black Polish sometimes produce white chickens, but they are extremely difficult to rear, and it is seldom that a breed can be raised from them. There should be an entire absence of white, except in the top-knot.

*Golden-spangled Polands.*—These are of a gold colour, spangled with black. The principal aim is to have the tuft resemble the rest of the bird's plumage as much as possible ; but white crests are commonly

seen. The crest of the cock is tipped with black at the end of each feather, the feathers resembling those of the hackle, which assumes a globular form in the hen. These are larger birds than the preceding, and generally weigh about one pound more. They are sometimes described as "golden-bay."

*Silver-spangled Polands* resemble the above, except in the ground-colour, which should be of a clear silvery-white, the markings being of intense black. The plumage is occasionally laced, as well as spangled. Some, which have been considered the best birds at recent exhibitions, have been spangled with moon-like markings, the wing-coverts being laced. There are several varieties of colour, as white, black, blue, yellow, buff, spangled, and laced. The shape of these fowls is good, being generally square, and short-legged; the legs and feet mostly light-blue, or of a dusky colour. They are capital layers, and submit to restraint very resignedly, though not to the same extent as Cochins, which are patterns to be imitated by all fowls, if there were any means of persuading them to do so.

Some of the birds are bearded, having a kind of feathered goitre round the throat; and these bearded birds are said to display a good deal of constitutional vigour. The chickens are rather long in reaching maturity, and the full-grown birds do not attain complete maturity until they are three years old.

### CHAPTER III.

The Sultan Fowls—The Lark-crested Fowl—French Fowls—The Crève-cœurs—La Flèche—La Bresse—The Gueldres—English and French Land Laws—Bantam Fowls—The Booted Bantam—The Sebright Game Bantams—Black Bantams—White Bantams—Pekin, or Cochin Bantams—Japanese Bantams—American Fowls—Plymouth Rocks—Leghorns—Dominiques—Rumpless Fowls—Frizzled Fowls—The Silky Fowl—Japanese Silk Bantams—The Silky Cochin, or Emu—The Russian Fowl—Varna and Cossack Fowls—Japanese White Fowls—The Rangoon—Dumpies, or Bakies.

*THE SULTAN.*—This remarkable and interesting bird has been introduced into England by Miss Watts, who gives the following interesting account of them in her book, "The Poultry Yard": "Serai Tä-ook, or Fowls of the Sultan. This is the last Polish fowl introduced among us. They partake of the character of Polands in their chief characteristics: in compactness of form and good laying qualities. They were sent to us by a friend living at Constantinople, in January, 1854. A year before we had sent him some Cochin China fowls, with which he was very much pleased; and when his son soon after came to England, he said he could send from Turkey some fowls with which we should be pleased. Scraps of information about muffs, and divers beauties and decorations, arrived before the fowls, and led to expectations of something much



prettier than the pretty Ptarmigan, in which we had always noticed a certain uncertainty in tuft and comb. In January they arrived in a steamer manned by Turks. The voyage had been long and rough ; and the poor fowls, so rolled over, and glued into one mass with filth, were never seen. Months afterwards, with the aid of one of the first fanciers in the country, we spent an hour in trying to ascertain whether the feathers of the cock were white or striped, and almost concluded that the last was the true state of the case, although they had been described by our friend as '*bellissimi galli bianchi*.'

"We at once saw enough to make us very unwilling to be entirely dependent for the breed on the one sad-looking gentleman, with his tuft heavy with dirt, dirt for a mantle, and his long clogged tail hanging round on one side ; and we wrote directly for another importation, especially for a cock, and to ask the name they had at home. In answer to the first request, we found that good fowls of the kind are difficult to get there ; our friend has ever since been trying to get us two or three more, but cannot succeed, either in Constantinople or other parts of Turkey. The first he can meet with will be sent. With regard to the name, he told us they are called, 'Serai-Täook.' 'Serai,' as is known by every reader of Eastern lore, is the name of the Sultan's palace ; 'Täook' is Turkish for fowl. The simplest translation of this is, 'Sultan's fowls,' or 'fowls of the Sultan,' a name which has the double advantage of being the nearest to be found to that by which they have been known in their own country, and of designating the country from which they came.



"Time very soon restored the fowls to perfect health and partial cleanliness ; but it was not until after the moulting season that they showed themselves as the '*bellissimi galli bianchi*' described by our Constantinople friend.

"They rather resemble our White Polands, but with more abundant furnishing and shorter legs, which are vulture-hocked, and feathered to the toes.

"In general habits they are brisk and happy-tempered, but not kept in as easily as Cochins. They are very good layers ; their eggs are large and white ; they are non-sitters and small eaters. A grass run with them will remain green, long after the crop would have been cleared by either Brahmas or Cochins, and with scattered food they soon become satisfied and walk away.

"They are the size of our English Poland fowls. Their plumage is white and flowing ; they have a full-sized, compact Poland tuft on the head, are muffed, have a good flowing tail, short, well-feathered legs, and five toes upon each foot. The comb is merely two little points, and the wattles very small. We have never seen fowls more fully decorated—full tail, abundant furnishing in hackle, almost touching the ground, boots, vulture hocks, beards, whiskers, and full round Poland crests. Their colour is pure white, and they are so very beautiful, that it is to be hoped amateurs will procure fresh importations before they disappear from among existing kinds."

Polish fowls are originally supposed to have come from India, and have found their way overland to Poland, before coming to England. Sonnini states that they are in great request for the table in Egypt.

In dirty situations their top-knots are liable to become dirty and bedraggled; and those who are anxious about the appearance of their fowls, in this case should wash them at night, in a little warm water and soap.

*The Lark-crested Fowl.*—The lark-crested fowl is a somewhat old variety, though not often seen in many parts of the country. They are of various colours, but the pure white are held in the highest estimation. The peculiar feature with them, is the small tuft of feathers at the back of the head, joined to a sort of half-comb in front. They are good layers and good sitters, being of average size and weight, and are fairly hardy. The flesh also is of good quality. The species was described by Aldrovandi more than two centuries and a half ago—an author, however, who was not always correct in every particular of his descriptions of fowls.

*French Fowls.*—The leading kinds to which we are indebted to the French are: Houdan, Crève-Cœur, La Bresse, La Flèche, and Gueldres.

*Houdans.*—These are large plump birds, and attain a good size above the common average, and are mostly black and white, mixed, in colour. The cock has thin, long red wattles, the face being covered with a beard which hangs in a bunch beneath the beak, breast round and full, with well-developed wing. Although this breed is prized by some, yet others consider it inferior to different French varieties.

*The Crève-Cœur.*—This is also a fine large fowl, with black plumage, having a crest, or top-knot, on the head. The best specimens are of a glossy, metallic black, the wings and saddle being specially distinguished in this way. They are short in the leg,

compact, and plump in the body, full in the breast, and wide at the back. The crest of a good cock is fully furnished with unmixed black hackle feathers, which incline backwards. The comb, according to the requirements of judges, should take the form of two straight horns, inclining at an angle of fifty-five degrees. The hen should have a full round crest, free from white, small deaf ears, and the beard hanging in a tuft or bunch from the beak.

*La Flèche.*—This breed, although not so commonly met with as other varieties of French fowls, is perhaps the handsomest of any. The colour is jet black, with rich metallic lustre, and in place of a comb in either sex, there is a pair of straight horns. They are long in the body, and also long in the leg; with lengthened head, somewhat unusual in appearance, the face being large, red, and bare; body long and thin, slanting towards the tail, neck slightly curved, breast wide and deep, wings large.

The hens are also large in size, the small hornlike comb growing over the nostril in the same knotlike form as that of the cock. The legs are long and stout, this being looked upon as a necessary point in this breed, which has impressed itself upon many English travellers in France, who have commented upon the length of limb of some of the fowls brought to table, when they have happened to get a drumstick upon their plate.

*La Bresse.*—These are the breed most generally put up for fattening in France, attaining great weights as young chickens. They are not very attractive in appearance, resembling in an inferior degree the pencilled Hamburgs. The cock's comb is single and

somewhat large, and, in the hen, falls over on one side. The chickens are generally put up for fattening in France soon after leaving the old hen, and possess the advantages of fattening and arriving at maturity early, so that they form plump, delicate chickens, the flesh being white and tender, and of superior flavour. The hens lay a great many eggs in summer, but are bad winter layers.

*The Gueldres.*—These are considered a hardy variety, the common colourings resembling somewhat the cuckoo Dorking, although there are black, white, and gray Gueldres. But the French, as a rule, do not keep their birds very distinct, although certain kinds predominate in different districts. They are of fair average size, and are distinguished by an entire absence of comb; they lay a good supply of eggs throughout the entire year, but do not sit, and are generally considered a useful breed to keep.

Of all the French kinds, perhaps the most delicate are the Crève-cœur, which have the name of being very subject to roup, the climate of England being too damp and moist, as a rule, for their being reared successfully.

There is no doubt, however, they could be reared here as successfully as in France, if done under the same conditions. There are so many peasant proprietors in France, who raise a great number of poultry, and these understand that fowls, to be profitable, must have warmth in wintertime; and this they give them. The same as amongst the cotters of Ireland, where the fowls share the warmth of the dwelling; but there is no reason for selecting delicate varieties when plenty of hardy ones are to be obtained.

I wish that it were more the custom for the English peasantry to keep fowls, who might thereby add to their scanty earnings considerably, and increase materially the food-wealth of the nation, if they could only be got to take a sufficient interest—a more intelligent interest—in the raising of the minor articles of eggs, honey, and poultry. But the fact is, the English agricultural labourer has not the same incentive as the petty French proprietor, who possesses, according to Arthur Young, “the magic of property which turns sand into gold.”

*English and French Land Laws.*—It has for some time been the fashion, with a certain class, to abuse the English land laws, for having a tendency to keep estates in few hands, and compare them unfavourably with the French—while small farms and small holdings are decried by another ; and an examination into the facts of these two important questions, which are of interest to most who have to do with stock and rural occupations, are well worth a few minutes’ attention, as a good deal of misapprehension exists respecting them.

The French law relative to the division of land has been explained by M. A. Ansas, *avocat*, in connection with the general misapprehension which exists upon the point in England, in some such way as the following : The common notion here is, that when M. Bonhomme dies, leaving an estate of 200 acres, this is divided amongst his ten children, which gives them twenty acres apiece. Each of Bonhomme’s children has also ten children, who inherit an estate of two acres each, so that the original estate becomes divided into thousands of fields. Those who thus

reckon, forget that the average of children, instead of being ten in a family, is three, and in France somewhat less ; and they also forget that if the portion is diminished by division amongst the sisters, the same amount practically comes back again to them through their wives ; and many authors write in a manner which causes people to believe that the division of landed property is obligatory in France. Even in the lucid and excellent "*Manual of Political Economy*," by Mr. Fawcett, who is in favour of small proprietors, one can read (p. 211) : "The law which in France compels the equal division of landed property amongst the children of a deceased parent," etc.

In England, in the absence of a will, the personal property of the deceased parent belongs equally to his children.

1. The French law does not compel the equal, or unequal division of the land of a deceased parent amongst his children.

2. It prevents it to a certain degree.

3. The French law does not forbid the parent from giving more to one or several of his children than to the others.

This will be seen by the quotation of a few Articles of the Civil Code, to prove to demonstration the above three propositions, so much ignored by English opinion.

The Article 755 says : "The children inherit to their father and mother without distinction of sex or primogeniture. . . ."

They succeed by equal portions, and this means that they have all an equal right to the succession ; and the Article 827 says expressly : "If the real



estates cannot be easily divided, they must be sold up." The fact is, the landed estate, in any case, may be sold, or possessed in common, with the agreement of the children. It is not therefore correct to say that the French law compels the division of the landed estate.

In France, a parent, when alive, can do with his property just as he pleases, but when he dies he cannot completely disinherit his children. He can, nevertheless, favour by his will any child or children of his, or even people thoroughly strangers to him. The Article 913 says : "The liberalities either during life, or by will, cannot exceed the half of the wealth of the donor, or testator, if he leaves at his death but one child ; the third, if he leaves two children ; the fourth, if he leaves three, or a greater number of children." Thus, if Monsieur Jaques has three children, and an estate, personal or real, worth £4000, he can give by his will one quarter to one of his children, besides his portion, and that child will have as much as both the others. If that child's mother, having a fortune equal to that of the father, favours equally the same child, his part of both successions shall be £4000, and that of every other child £2000. It is thus inexact to say that, by the French law, all children have an equal right to the inheritance of their deceased parents ; but in France they do not think it just that all, or some of them, might be completely disinherited.

Thus land is not indefinitely divided in France, as the assessment returns will show ; the contrary being a fact which cannot be denied, as many causes tend to keep estates together in some instances. The

working of the system may be shown by the following instance :

M. Le Brun, who has an estate worth £200, marries Mademoiselle Blanche, who has £200 in cash ; they become blest with a family of three children. At their death the right of each child, in the absence of a will, is £133 in round numbers. One of them keeps the landed property, and owes £66 to one of his brothers or sisters. With his wife's dowry he can easily pay off his debt. Sometimes the property of the parents consists in a farm, and a house in town ; or in two farms, and one or two houses independent of the farms. Then the division of the inheritance is very easy, without dividing the lots. Whether the children keep the whole property, or sell one of the lots, with the money of which they equalise the shares, the lots remain also as they were. It is again often the case that one or two of the brothers do not marry, and they remain in the paternal house with another who is married. Very often, also, some uncle or aunt without children dies, and leaves to a nephew some money, or some lands which he may sell to pay what he happens to owe to his brothers or sisters. So the property is kept together. Where there are a great many children, and one or few estates, there is the remedy afforded by Article 827—that is to say, the sale and division of the price. Then also the landed property is not divided. In short, the landed property is never divided unless the heirs choose to do it.

But now the question comes : “What is the real condition of the peasant-proprietor in France ? It is one materially comfortable. Small farming is not



so profitable as large farming; but that is not the question. A small farmer who rents his land is sure to go to the wall; but the small landed peasant *owns* his land. This makes all the difference. His work is not the work of a machine. He works with love; he identifies himself with his land, and almost worships it. But however great may be the material advantages of the small proprietary peasant who gets rent, wages, and profits all for himself, these advantages are very small compared to the social and moral advantages which he enjoys. His cottage is his castle. There he is king; there his wife is queen. Neither is afraid of being turned out. In one sense the Englishman boasts that his house is his castle, so far as political liberty is concerned; but how different is the absolute condition of the English farm-labourer, who often holds his only by the sufferance of the farmer, his employer? The French housewife, whose whole life is spent in her house, is at liberty to make any of those trifling changes and improvements which, though insignificant to a stranger, really form an important portion of her happiness, because her home is her own. They are neither slaves, nor serfs, nor proletarians; they are landowners. That state gives them a certain dignity, as far from insolence as it is from servility. They are no mere journeymen, without any interest in the land they till; they have something to think about. They must think when, and where, they must buy or sell, what they must grow, or rear. They have no administration; their minds cannot but be enlarged.

They are also more moral, more prudent, more economical. When a poor man has a few pounds in

a savings bank, and a bad year comes on, he withdraws his money very easily. The peasant proprietor does not like to part with his property ; he will reduce his expenses as much as possible, in order to wait till next year. In the years of prosperity, he does not spend his money extravagantly ; he is most frugal, and instead of wasting his income in drink, he saves as much as he can, that he may buy some new field upon which, for a long while, he has cast his covetous eye ; and he feels beforehand the pleasure of becoming a larger landholder.

The intense materialism of the French peasant has been used against him as a reproach. Would that many of our English agricultural labourers had but a little more of it, and an equal chance of exercising that quality ! which though not exactly laudable for its own sake, is eminently so when it forms the groundwork of prudence, self-reliance, and independence ; and it becomes a very questionable matter after all, whether the disappearance of that small yeoman class which used to abound in England is good for the country, notwithstanding that the ground which they formerly tilled may, in fewer hands, be made to produce, under scientific management, much more abundantly ; and which, to a certain extent, has interfered in England with the production of the minor classes of food I have mentioned, as well as vegetables, etc.

It would be out of place here to follow this argument up to its legitimate conclusion, upon the basis of Jeremy Bentham's principle of "the greatest good to the greatest number," but we must not reproach our peasantry and labouring poor with their

shortcomings in the product of eggs and poultry, which renders it necessary for us to import so much food from abroad for our national consumption, when they do not possess equal facilities; nor twit them with unfavourable comparisons as to thrift, when they have not the same inducement to practise it, and carry it out in their daily lives and daily occupations, which the "father of English husbandry," as he has been termed, so readily perceived when he said "the magic of property turned sand into gold."

But if those living in the rural districts, who take an earnest interest in the welfare of their poorer neighbours, would "help them to help themselves," by encouraging a love for, and interest in, keeping a little live stock, which demands no attention but what the wives and children of the labourers could give, they would doubtless materially contribute both to their material and moral welfare.

But to resume where I left off before making this digression: I was remarking that warmth was necessary for the production of eggs in winter, and the supply generally fails from want of it; but Cochins, Brahmas, and a few others which I have mentioned, can be made to lay throughout the greater portion of the winter months, the first thing to aim at being the possession of the class of birds that is most suitable for the object in view. This point is often very much neglected, and many persons content themselves with the possession of fowls of a mongrel breed, and are disappointed at their want of success, and surprised at the meagre result which they are only able to obtain. It costs no more to keep a good breed than a bad one, beyond the first cost; and no great expense

need even then be incurred, for if the purchase of choice fowls be above a person's means, they can purchase the best kinds of eggs, from some established and thoroughly good strain, and thus make a beginning in the right direction.

I have mentioned the principal varieties of fowls, but there yet remain a few more to give a description of, amongst the most prominent of which are the universal pets and favourites, the Bantam.

*Bantam Fowls.*—Viewed simply as fowls for profit, the bantam may be considered hardly worth keeping, for, as diminutive size is their chief recommendation, they are not expected to exceed much more than one pound in weight, of some descriptions, and many of the hens weigh considerably less. They may, however, be kept in a small space where there would not be room for the larger breeds of fowls, and their eggs are not to be despised, though small. They have been pets for generations, but have somewhat changed in their character of late years, the feather-legged and booted kinds at one time being most in vogue, but have of late years given place to the clean-legged varieties—the black, the white, the Sebright, game, etc., being now mostly preferred. Bantams are somewhat troublesome amongst themselves, and put on airs of annoyance towards larger fowls at times; and, although inferior in that respect to game hens, they do good service in destroying grubs and insects in gardens, and are still held in favour by many.

*The Booted Bantams.*—The Booted bantams are completely feathered on the legs, the best specimens being considered those which are pure white. Although at one time the most commonly to be met with

of the bantam tribe, perhaps of late years they have been somewhat rare, and inquiries are now beginning to be made for them again, so that it is possible they may once more occupy the high place they formerly held in public estimation. They are small in size, falcon-beaked, and feathered with long quilled feathers to the end of their toes.

*The Sebright, or Gold and Silver laced Bantams.*—The cock of this breed weighs from twenty to twenty-eight ounces, and the hen proportionately less. The plumage is laced throughout, and the cocks are hen-feathered as well as hen-tailed, not having any hackles. The colours are silvery-white and golden, surrounded with an edging of black. They owe their name to Sir John Sebright, who had them for many years.

*Black Bantams.*—These are compact pretty birds, with lustrous black plumage, having a rose, or double comb, full tails, carried rather erect, full breast, and very distinct white ear-lobes. Their legs are black or lead-colour.

*White Bantams.*—White bantams are similar to the black, excepting that the leg is white and the ear-lobe red, the plumage of spotless white being the exact opposite to the other colours.

*Game Bantams.*—The game bantams resemble the game fowls in their different varieties in miniature. Some of the black-breasted reds and duckwing game bantams are extremely handsome, and are exact prototypes of their larger kindred, all their characteristics being the same.

*Pekin, or Cochin Bantams.*—These are said to have come from the palace of Pekin after it had been stormed. The cocks weigh from sixteen to eighteen

ounces, and the hens a couple of ounces less. They are not very commonly met with, being in comparatively few hands. They are said to be very difficult to rear.

*Japanese Bantams.*—These are mostly white, with black tails laced with white, or gray. The comb is large, as also the tail, which is flowing, the body being deep and short. Their general appearance is somewhat odd, suggesting the idea that their *tout ensemble* is made up of parts from other fowls. They have the same erect carriage which distinguishes all the different kinds of the bantam species.

*American Fowls.*—Great attention has been paid of late years to the breeding of fowls in America, where it is the fashion to carry everything to the extreme that is once undertaken. The consequence has been that a great many crosses have been made with domestic poultry in every direction, and certain kinds have now become recognised as “American Fowls.” Foremost amongst these are the Plymouth Rocks, Leghorns, and Dominiques.

*Plymouth Rocks.*—These are said to be the result of skilful crossing between Cochins, Dorkings, and Malays. They somewhat resemble the Cuckoo-Dorking in appearance, the feathers being of dark-blue or steel, shaded by a darker colour. The comb is single, breast broad and deep, broad back, with wings of average size, large full tail, with somewhat short yellow legs, terminating in four toes. The cocks will weigh about ten pounds, and the hens seven or eight. They are very hardy and docile, the hens being good sitters and mothers, laying a fair-sized yellow egg, all through the winter. They make



excellent table-fowls. One of the difficulties in breeding from these kind of crosses is, that the result is never certain, some of the birds inclining to a greater degree than others towards one particular species of their original ancestry.

*Leghorns*.—The white of this variety are considered the best, the brown Leghorn resembling somewhat dull-coloured black-red game-fowls, the breast being a dull salmon in the hen, shading off to a grayish brown. They lay large white eggs, are hardy, and the chickens grow rapidly. They are recommended as a good fowl to keep by those few persons who have made themselves acquainted with their different points as egg layers, but not as table-birds.

*Dominiques*.—These have a cuckoo-marked kind of plumage, with rose combs, yellow legs and beaks, and are good-looking birds, of fair size. They are hardy, good layers, sit well, and turn out excellent mothers.

*Rumpless Fowls, sometimes called also Rumpkins*.—These are said to have come originally from Persia, and although the singularity of their appearance caused them to be much noticed upwards of five-and-twenty years ago, they do not appear to possess any particular qualities to recommend them, as a counterbalance to their ugly and ungainly appearance, not only the tail feathers being absent, but the tail itself. They are not in consequence held in very high estimation, generally speaking.

*Frizzled Fowls, called also by some Friesland Fowls*.—The feathers, which are usually white, present a wool-like appearance, taking its name of "frizzled" from the fact that the feathers, excepting those of the

wings and tail, are curled the reverse way. They are somewhat small in size, wearing a single comb, and are very delicate to rear, having been brought, it is said, from Eastern Asia, and may now be commonly met with in the islands of Java and Sumatra. In consequence of the peculiar arrangement of their plumage, it does not shelter their bodies so effectually as that of ordinary fowls, and they are not well fitted for this climate, and would only be kept on account of the novelty of their appearance, which causes them to be recognised as *lusus naturæ*. As a novel, or ornamental addition, they are worth notice by those who are pleased with singular varieties.

*The Silky Fowl.*—This bird takes its name from the white, ruffled, silky-like feathers with which it is covered, that are not held together, as it were, by the ordinary filament which causes a feather to retain its shape, but are quite unconnected, thus giving to it its dishevelled appearance.

It is sometimes included amongst the bantam class from its small size, the cock generally weighing about three pounds and a half, and the hens a pound less. With this idea they have been recommended for the purpose of rearing bantam chickens, small tender game, such as partridges, etc. Originally coming from China and Japan, it yet does very well in England, and the hen lays a good number of small, round eggs. They are compact in shape, the comb and wattles being of dark purple, the skin the same colour, the flesh notwithstanding being white, and also tender. They are a nice addition to the poultry-yard, being a pleasing variety, while the hen being a kind mother, causes her to be useful where the



smaller kinds of poultry are cared for. They are sometimes vulgarly called "negroes" and "silky niggers," from the dusky hue of the skin, in which the bones of the bird also partake.

*Japanese Silk Bantams.*—These are not commonly held in high estimation, not being very good-looking, and having nothing very special to recommend them.

*The Silky Cochins, or Emus.*—This is considered to be merely an eccentricity or "sport" of the Cochins, and can scarcely be looked upon as a distinct species, though it bears a distinctive name.

*The Russian Fowl.*—These have been more commonly seen in Ireland, and in Scotland, than in England, and are good layers, hardy, and not over particular in the kind of food they consume. They are also good table-fowls, the flesh being white and well-flavoured. They are of various colours, many resembling game-fowls very much in their plumage; some are white and others black, while there are also spangled varieties, something akin to Hamburgs, these latter being, perhaps, the best-looking of the species. The distinguishing trait with the Russian fowl is the dark-coloured feathers which appear to spring from each jaw, while others, longer and fuller, form a beard-like appendage, the same as in the bustard.

*Varna and Cossack Fowls.*—These seem to be varieties of the above, and do not appear to be sufficiently well known, as far as I can learn, to have earned as yet any special commendation. Offshoots from various breeds have lately become so numerous, that in many instances they are not entitled to a separate classification.

*Japanese Whites.*—These are handsome birds, of the booted bantam species, with short legs, and compact shapely form. They will be liked chiefly by those who are desirous of having a strain of “fancy” birds, as a good-looking addition to their ordinary stock.

*The Rangoon.*—This breed is a species of first-cousin to the Malay, possessing the same bold upright carriage. They are heavy birds, with handsome plumage and well-developed drooping tail, with a comb also resembling that of the Malay.

*Dumpies, or Bakies.*—This is a somewhat favourite breed in Scotland, their short legs, perhaps, giving them the *sobriquet* of “dumpie.” They are good layers, and sit well, and bring up their young with care. The plumage is mostly a mixture of black, or brown and white, and they make good plump table-fowls.

As may readily be imagined, I have mentioned a great many more breeds of fowls than I have had personal dealings with, but a work of this sort would hardly be complete if a small space were not devoted to a short description of the various kinds, and their leading characteristics ; but whatever breed of fowl is kept by the poultry-farmer, it should be ever borne in mind that warmth, cleanliness, dryness, and pure air, are strictly necessary to their wellbeing. Without these success cannot be looked for, nor, what is often called “good-luck,” expected ; for good-luck is, in reality, insured by attention to these essential particulars. Fowls cannot be healthy in cold and damp situations, where the proper circulation of the blood cannot be kept up, the lack of which first invites

disease, and the system being weak, there is not sufficient animal power to throw its first attack off, so that it ultimately becomes confirmed. Where fowls are kept in dirty places, and eat dirty food, its passage through the crop injures the mucous membrane of the stomach at first, and afterwards acts upon the brain, heart, and lungs, by which the system becomes prostrated at last, and the bird gets permanently diseased, or dies.

## CHAPTER IV.

Feeding Poultry—Wheat—Indian Millet—Buckwheat—Rice—Malt-dust—Peas and Beans as Food—Cooked Vegetables—Greaves—Meat-diet—Milk-curd—Water—Cabbage Plantation—Breeding—Setting a Hen—Artificial Mothers—Rats in Poultry-houses.

*FEEDING POULTRY.*—The food that is usually given to poultry is very varied in its nature, and the kind often depends, with many, upon that which is most easily accessible ; but a great number of persons who are obliged to purchase all that is given to their stock, and thus have no adequate reason for not giving them the best kind adapted for keeping the birds in health and vigour, do not feed them to the best advantage always, because they are ignorant of the different qualities of each ; for poultry, to be fed in the best manner, should have food of the most appropriate kind administered to them, in order to insure certain distinct results which may be wanted, and which, in a great measure, can thus be obtained.

*Barley* is more frequently resorted to than any other grain, and it is an excellent food in itself, and no better standing dish could, perhaps, be given in the form of corn, if varied with an occasional feed or two of oats now and then, as it is liked better

than any other kind of grain by most fowls, who eat it with a relish which they will not do with every species; as, for example, Dorkings and Spanish do not care for Indian corn, if they can get other sorts, which Cochins take to freely; these, in addition to wheat and rice, form the principal variety with which it is customary to feed fowls. Peas are often very injurious, though pigeons prefer them to any other food which can be given to them, and often get their owners into trouble by committing depredations upon their neighbours' fields in search of them. Some kinds of food best perform the office of bone-making, which is a very necessary point to look to where birds of large frame are wanted to be raised. If the primary foundation, or framework, is not built up, no large superstructure can afterwards be laid upon it, from actual lack of space. These qualities are found in the largest proportions in the outer part of the grain, as bran, or pollard, a mixture of which is better for the fowl, than when a meal is made off the inside portion alone, just in the same way that brown bread is considered better than white for growing children, and contains more valuable nutriment. Flesh-forming food is found to the greatest extent in wheat, peas, beans, oatmeal, middlings, and sharps; and to a lesser degree in barley and Indian corn; but, as I have before remarked, pulse is not suited to many kinds of fowls. Fat-forming food is found in oatmeal, bran, middlings, Indian corn, etc. Warmth-giving food is contained in the starch derived from rice and the solid parts of potatoes, which latter answer well to *bake*, though they are most frequently boiled. And here I should remark that cooked

food of all sorts possesses greater advantage than uncooked, and goes much farther. To this fact agriculturists, who have a large number of cattle to keep, are now slowly awaking.

A judicious mixture of food is therefore highly desirable; for some particular kinds, although very valuable for certain properties when taken in conjunction with others, may, when given alone, be almost worthless for insuring the leading object in view.

Barley-meal is the ordinary fattening food given to pigs, and *pari passu* it is commonly given to fowls; but oatmeal is better still for the latter than barley-meal. The oats themselves, when given whole, are not so readily eaten by poultry, and on account of the much larger proportion of husk, they contain a less comparative amount of nutriment; but when given in the shape of meal it is eaten greedily, and contains the largest amount of flesh-forming substance of any meal. Young poultry therefore should always be plentifully supplied with oatmeal, made up into a stiff paste. Birds fledge quicker upon it, the feather-formation being of course a tax upon the system.

*Wheat* is not better than oatmeal, although an opinion to the contrary is often expressed; but in the case of farmers, who have a large quantity of "tail-wheat," which they have to get rid of, it forms capital food. Many breeders of fancy poultry, to whom expense is immaterial, prefer feeding their birds upon wheat.

*Indian Millet*, or *Dhovra*, is liked very much as a change of food by fowls, and may often be given with advantage, being a favourite grain with many

poultry-keepers. Its effects and properties are very much the same as wheat, with which it may rank as an equivalent.

*Buckwheat.*—The same may be said of this as of the preceding, and it is credited by many with the quality of leading to an increased production of eggs ; but there are no grounds to warrant this supposition, I believe. That the fowls themselves are very fond of it, there is abundant testimony. A patch of buckwheat planted in any convenient situation has the effect of attracting to it all the game which may happen to be in the neighbourhood.

*Rice* is the least useful food which can be given to growing poultry, though it may be used with advantage, when boiled, upon occasions when it is necessary to feed with soft food ; but it is a mistake to give it to growing chickens as the principal item of provision. Its flesh-forming properties are but limited, and its chief recommendation lies in the large proportion of starch it contains—for which purpose potatoes will answer as well—which is warmth-giving. Indian corn also possesses a large percentage of starch. In the latter also, as far as regards the yellow varieties, is found a large percentage of oil, the flesh-forming powers of the latter being equal to barley.

*Malt-dust.*—The fattening qualities of malt are known to stock-keepers, who upon occasions use it largely in fattening cattle—a fact which has been urged upon the consideration of divers Chancellors of the Exchequer as a reason for taking the duty off malt. But malt-dust is generally much overlooked. As a sweetener, sprinkled over boiled vegetables, it is most appetising, and it is said to contain from two to

three times the flesh-forming properties that wheat possesses. In some districts, it is not recognised as being of much commercial value. Some years ago I bought a good deal of it at the rate of four shillings per sack, and used it largely for poultry, as well as for pigs and cows. In fact, the consumption was so great at last, and neighbours also beginning to use it, that the price was raised considerably after a while, in the district in which it was obtained, where the maltsters before had great difficulty in disposing of it—one of them, who was a farmer and maltster, being in the habit of using it as manure upon his land.

*Peas and Beans as Food.*—These are often recommended to be given to poultry, either ground or whole. It is true they contain a larger amount of flesh-forming food than grain, but they are heating, and their injurious effects may often be seen upon animals which are fed too freely upon them; though, by the same rule, a handful occasionally given to young pigs supplies an amount of warmth which is sometimes deficient. They are not easily digestible however, and tend to produce at times inflammation of the stomach. To laying hens they are also calculated to do injury, by affecting the egg-passage, and the use of food freer from the amount of risk which appertains to these is therefore desirable. *A priori*, a small dose of pea or bean meal might be given to weakly growing chickens, who require warmth, in the same way that the handful before alluded to is good for young pigs, but they are not desirable to use as staple articles of food.

*Cooked Vegetables.*—Boiled carrots, and parsnips,



form a capital food for fowls, especially when sprinkled over with malt-dust. Of potatoes, it is hardly necessary to speak, as there are few which do not get some. *Baked* potatoes, as I have mentioned before, will also be found a good change, some potatoes improving vastly by baking, and being the most fitted for that method of cooking. The "Baked-potato men" of London are usually supplied with "Shaws" for this purpose, which bake better than they boil.

*Greaves.*—Tallow-chandlers' refuse is recommended as a matter of course, by some writers on poultry-feeding; but it should never be given to laying hens, which are best preserved in condition by a liberal allowance of what may be termed sound natural food; it being dangerous to tamper with their laying qualities by administering heavy doses of artificial stimulants. The giving of these and similar substances is never desirable, except under certain conditions, and with a design to furnish some corrective influence; and in nine cases out of ten this desirability, as it may appear, is mistaken, and does not legitimately exist.

*Meat-diet.*—The natural meat-diet of fowls is snails, worms, and insects. There is no question but this description of food—eminently their *natural* one—is most advantageous to their health, and the opportunity they enjoy, when unconfined, of procuring this meat-diet is one of the advantages of giving fowls a good range, which is really the great secret of keeping fowls in condition and robust health. Small pieces of cooked or raw meat may, however, be occasionally given with advantage, if chopped up very fine, where the birds have no opportunity of supplying themselves with the proper substitute, which they

readily procure when favoured with a moderate amount of freedom.

Fresh green vegetables are essential to the perfect health and condition of fowls. The absolute necessity of green food to their system may often be exemplified by the eagerness with which hens will run to feed off grass, when they have been kept long in confinement. Fowls will readily eat almost every kind of green food that can be given to them.

*Milk.*—Milk is a most useful and strengthening article of diet with which to moisten meal for the purpose of feeding young chickens, *if it is consumed immediately*. In hot weather, however, it soon becomes sour, if suffered to lie about, and then it becomes decidedly injurious. The practice of leaving food about in plates and feeders is a very injudicious one, the fowls never doing so well as when it is supplied to them fresh, and no more should be mixed than can be eaten at once.

*Curds* are sometimes given as a substitute for insect food, but their utility is somewhat doubtful. Stale food should on no account be left standing about for young chickens. Sopped bread may often be seen lying in plates and dishes, mixed with the excrement that has been dropped from the fowls, which unpractised hands think is quite rational treatment, as the food is always by the chicks when they want to eat. Sopped bread, in the first place, is very bad to give, and often brings on diarrhœa, and when it is contaminated in addition, it is lucky for the owner of the fowls if it does not produce disease as well; although he would not deserve the luck, as he has done his part to bring on the opposite.

*Water.*—A supply of fresh, clear water is indispensable, and in hot weather it should be given to the fowls oftener than once a day even—once a day being usually prescribed. Stagnant water is very likely to cause disease, and in dry, dusty weather fowls are more prone to drink larger quantities than usual.

*Cabbage-plantations.*—Some poultry-keepers who study the comfort of the birds they are rearing, who have but limited space for them to roam in, in situations destitute of shrubs and shelter, have resorted to the somewhat ingenious method of planting a patch of cabbages in early spring, of a large variety. The young chickens, occasionally turned into the cabbages, find a good deal of healthy amusement in picking about, and running in and out the growing crop.

*Breeding.*—Where a large number of fowls are kept, it will be found the best plan, in order to insure strong, fine, healthy stock, not to pick up any eggs for sitting indiscriminately, which is oftener done than not, ordinarily, but to keep a cock and half-a-dozen hens separate and distinct from the others, and breed from these alone. By this method of arrangement, not only are better birds insured, but one has the opportunity of breeding up to any particular standard that may be required by proper selection. If the best hens are chosen, a fresh cock every year, or two years at farthest, should be placed with them. Where the hens run with several cocks the results cannot be accurately relied on, except that the breed is pretty sure to become deteriorated, and there should not be a direct relationship existing between the parents. A

most forcible illustration is given of this truth in the case of the turkey, as it is commonly found in many parts of the country, which has deteriorated to a great extent from its original size and strength ; so that this practice has indeed passed beyond the bounds of individual loss, and may be even regarded as a national misfortune, in those cases where a useful race of birds or animals, through want of proper management, falls from the position they once occupied to a much lower place.

Some cocks, when they have passed their prime, lose the natural gallantry which, perhaps, at one time distinguished their youth ; and without cause show an aversion to some particular hen. The hen in such a case should be removed, but vicious old cocks should always be sent about their business, and not kept upon the premises, unless there is adequate reasons for retaining them. The same also with hens, which will perhaps display an unreasonable dislike to one of their number, which appears to excite their jealousy. If one could but understand the language of fowls, it would doubtless be highly diverting to hear what passed upon these occasions, and what the vixens had to say when some unfortunate pullet "ran the gauntlet." The cock evidently understands it all, for he may be noticed at times regarding such a scene with a grave air, which plainly expresses vexation at what is occurring, which he signifies by a deprecatory *gluck, gluck*, and an endeavour to make up for the lack of sociability on the part of the hens, by the display of a little extra attention on his own.

Two years is, perhaps, about the best average age for a cock ; in some instances, as mentioned else-

where, they do not attain their prime so soon as in others, but in no case should he be *under* a year.

*Setting a Hen.*—Some persons allow their hens to sit upon hay, from the erroneous notion that it is softer, and makes a better nest. This is a mistake. The best nests are made out of movable baskets or boxes, which are filled up to the height of about one-third of their depth with fine cinder-ashes, upon which straw is placed. Any old box, or part even of a hamper, will do ; and from the fact of its being movable, it can be taken away after it has performed the office for which it was intended, when the orthodox fowl-boxes are likely to become infested with vermin, which are difficult to eradicate. Where there is no help for it, and the room is limited, the boxes must be made use of, for these extemporised nests would otherwise often have to be placed under the fowls as they roost at night, and receive the droppings—strict cleanliness being highly essential with all the belongings to a sitting hen. Ashes will not harbour vermin, especially if powdered brimstone be mixed with them, while straw is far preferable to hay. The box, or basket, should be nearly filled to the top, so that the hen, when she returns from her hurried feeding, may not have to drop down far upon her eggs, which otherwise may occasionally be broken.

As hens sometimes leave a nest after having taken to it a little while, the seriousness of her intention should be first tested, by trying her with a few nest-eggs for a day or two ; when, if she shows that she means business, she may be regularly established to her heart's content, the real eggs being substituted

when she leaves her nest, or placed beneath her at evening, when objects are most indistinct, and she is less likely to be scared. The operation often mystifies her; whereas, if she is removed in the broad daylight, she scrambles back, and is apt to break the eggs, as well as becoming thoroughly discomposed.

Hens generally proclaim their desire for incubation by the clucking sounds they utter, as well as by staying a longer time on the nest than occasion demands—a habit which begins to grow as it were, and increases in duration.

It is advisable to keep the eggs selected for hatching with the large end upwards, and for this purpose the most convenient plan is to have a few boards fixed in the form of shallow shelves, allowing room for the hand to pass freely between, with holes drilled in them with a large auger, which will allow them to stand upright with the small ends stuck downwards. Different-sized holes can be made in the different shelves, if necessary, but it will be found that one set of holes will hold eggs of various sizes easily enough. They are best kept in a dark store-closet, away from the light, and also to insure the same temperature.

Thirteen is the usual number of eggs given to an ordinary-sized hen; but it is a bad plan to give too many, as the hen cannot cover them all, if they occupy too large a surface; and small hens should have less. They constantly shift the eggs themselves from time to time, so that they all stand a chance of getting chilled in turn, if she has more than she can actually cover. The chickens are invariably stronger when

produced from a fewer number of eggs, and they hatch much more easily and certainly, and the chickens are decidedly more vigorous.

The chickens of the first-year fowls are invariably smaller, and not so strong as those hatched by hens of two or three years of age.

Sitting hens should be fed upon whole corn, as it remains longer in the crop, and sustains them for a greater period than softer food.

When the chickens are hatched, unless a coop is absolutely necessary, they do better if allowed to run about with the mother, who scratches for them, and finds them insects and worms. She summons them with loud calls, which the chicks obey with alacrity, whenever she finds a delicate morsel, and there is mutual enjoyment participated in by both giver and receivers. The fretful impatience of a poor hen confined in a coop, who is anxious to perform the proper maternal offices for her offspring, whose company and amusements she is debarred from sharing in, is pitiable to witness, especially upon the approach of any object, as a stray cat or dog, from which she anticipates danger to her young.

In their company she is contented and happy—her cares are “happy cares,” and unlike the hen-turkey, which is indiscreet, and will take her young long journeys above their strength, through wet grass, the hen will not wander far, but occasionally gather her brood beneath her wings, and contentedly remain in a cozy position, with a dozen or so of bright eyes peeping out, and half that number of little beaks protruding from her feathers.

The affection of the hen for her young was beauti-



fully chosen to symbolise the yearning love of our Divine Master to fallen man :

How often would I have gathered thy children together, as a hen *doth gather* her brood under *her* wings, and ye would not !  
*Luke* xiii. 34.

her example, as well, furnishing an illustration of vigorous self-dependence, expressed in the following homely lines of healthy sentiment :

Jenny is poor, and I am poor,  
Yet will we wed, to say no more ;  
And should the bairns you mention come  
(As few that marry have but some),  
No doubt that Heaven will stand our friend,  
And bread as well as children send.

So fares the hen in farmer's yard,  
To live alone she finds it hard ;  
I've known her weary every claw,  
In search of corn amongst the straw ;  
But when in quest of nicer food,  
She clucks among her chirping brood.

With joy I've seen that self-same hen,  
That scratched for one could scratch for ten.  
These are the thoughts that make me willing  
To take my girl without a shilling :  
And for the self-same cause, d'ye see,  
Jenny's resolved to marry me.

*Artificial Mothers and Artificial Incubation.*—

Chickens are hatched so readily, that the numerous and sometimes complicated contrivances which have been invented of late years are not likely to become very much used in England, on account of the vast amount of attention that is required, which a *real* mother spares, and takes off one's hands. Artificial mothers are, how-



ever, soon made, if the exigency of circumstances ever renders recourse to them necessary. A wooden frame lined with fleece will afford the necessary protection to young chickens, till they are old enough, and strong enough, to do without any assistance. There is a good deal of self-reliance with young chickens of the ordinary kind, which soon learn to take care of themselves. Crook's "mother," which can be purchased, is made of zinc. A space at the top and back holds hot-water, which can be kept up to a certain temperature by the aid of a little lamp. It is about three inches high inside at the back, and about four-and-a-half inches in front, and lined at the top with lamb's-skin. The door is made of perforated zinc, and is closed at night, the "mother" fitting into a firm wooden floor, so that the inmates are protected at night from rats. This is generally sold in association with Crook's incubator, which is perhaps amongst the simplest and best of those contrivances which need no regulation. This machine is made of block-tin, with a lamp placed below the incubator, the door of the egg-drawer being of glass, inside which is a thermometer, the eggs having to be turned regularly. The great objection to these contrivances is that, when the oil of the lamp is replenished, the thermometer rises too high, so that the heat is not exactly the same—the first essential to successful artificial incubation. They are, of course, handy when a hen dies just before completing incubation, perhaps, or in other cases; but few people will be found to take the trouble necessary to insure the success of such a nice and difficult operation as the thorough and effectual overlooking of artificial incubation.

An artificial "mother" would, at times, be found useful, and one can easily be constructed upon the system I have indicated at the cost of a few shillings. The young chickens can soon be taught to adopt it, and will run to it for warmth and shelter. The wool, or even strips of flannel hanging down, must be kept scrupulously clean. To the "mother" can be attached a little wire run, in which they are confined for ten days or so, while making the full acquaintance of their artificial "mother," after which they can be allowed their liberty. The door should be perforated, to let in air, as it must be closed at night, to keep the young chicks from the rats. The Chinese and Egyptians are in the habit of rearing great numbers of young chickens by artificial incubation, but they resort to no elaborate contrivances, but hatch them in ovens built underground, which open into a room that is never left during the period of incubation. They, however, thoroughly understand what they are about, and the whole process, although extremely simple, is yet carried out with the most systematic routine, and a precise and unvarying temperature is kept up, which is necessary for the successful issue of hatching.

*Rats in Poultry-houses.*—Rats are often a great scourge where poultry is kept. The constant presence of food, if even in small quantities, is a continual allurements to these vermin, who, to get at it, will construct "runs" for a considerable distance. Not content with the stray scraps of food which they may find lying about, they will, at times, abstract the eggs from beneath a sitting hen, or turkey ; in which latter case, where rats abound, there is a drawback in having the

nest upon the ground. Of course it is very annoying to lose anticipated chickens in this way—which are, alas! only too often “reckoned upon before they are hatched”—and the engineering works of these gentry are so skilfully constructed, that it is often a matter of great difficulty to get at them. A hole sometimes in the corner of the fowl-house will show their door of egress. These have frequently been filled up with broken pieces of glass and earth mixed together, and other offensive measures taken, but they seldom result in any good. The “run” may be turned, perhaps, for a short distance, but they make their appearance again, as perseveringly as ever. There are only two ways of getting rid of them—one, to contract with a professional rat-catcher, whose business in life it is to circumvent these vermin; or to take their destruction in one’s own hands. And this may be done very easily by getting a small piece of wood, and rubbing it well with oil of valerian. Securely fasten to the wood a piece of meat that has been dosed with “Battle’s Vermin Killer,” and place it in the mouth of the hole, or run, where the fowls cannot get at it; which may safely be effected by thrusting it down the hole and putting a brickbat over its mouth, or placing an inverted basket over it, with a heavy stone, or log of wood on top, so that it cannot be easily overturned; and they will soon be exterminated. Poisons are dangerous substances to lay about, but they can always be removed in the daytime, and by the exercise of a little care the possible danger resulting from their use may be obviated. The poison should be inserted here and there in the meat, with the wood resting firmly fixed to the ground, so that some little

trouble will have to be incurred in getting it off from the stick, in which operation the poison is sure to be taken. If placed outside, the fowls should of course be kept in confinement till that which may remain is removed.

## CHAPTER V.

Diseases of Fowls—Recipe for Vermin in Poultry—The Gapes—Inflammation of the Lungs—Diarrhœa—Apoplexy—Pip, or Thrush—Dysentery—Crop-bound Fowls—Roup—Croup—Diseases of the Egg Organs—Inflammation of the Rump Gland—Rheumatism—Leg Weakness—Inflammation of the Feet—Cramp in Young Chickens—Bumblefoot—Elephantiasis—Consumption—Catarrh—Skin Diseases.

*DISEASES OF FOWLS.*—Fowls are subject, at one time or another, to a variety of diseases, many of which may be traced to improper treatment and want of cleanliness in their houses; others to damp, wet, exposed, draughty situations; some to insufficient and injudicious feeding, where food is thrown down upon tainted ground which has become impure, which the fowls take up, to the injury of their digestive organs. The lungs and air-passages at times become affected, at others the egg organs become diseased, while some occasionally drop down dead at once, from apoplexy, without any previous notice, to which birds that are much confined are subject, arising from want of exercise and over-feeding.

There are preventives and cures. The first are always well worthy of the most earnest consideration by poultry-keepers, but it is very questionable whether the latter is worth the trouble which it costs to effect

it in the case of ordinary poultry; but in that of valuable specimens, it is very annoying to lose perhaps a fine cock-bird, a single specimen of his order, whose loss might, perhaps, prevent the perpetuation of a desirable species, that may originally have been obtained from a distance, and be very difficult to replace.

Fowls are also subject to the visitations of parasitic insects, sometimes being covered with lice, and swarming with fleas and bugs. A kind of spider-fly (*Ornithomyia avicularia*) may at times be seen swiftly gliding amongst the feathers, and the lice which are known to naturalists under the names of *Goniocotes hologaster*, *Goniodes dissimilis*, *Lipeurus caponis* or *variabilis*, and *Menopon pallidum*, most commonly infest pullets; while *Goniodes styliifer*, and *Lipeurus melcagridis* or *polytrapesius* are found upon the turkey. Flour of sulphur dusted into the growing feathers of the chickens will destroy these, and is generally the remedy which is adopted. As may naturally be supposed, the presence of these parasites interferes with their growth, and will in some cases kill them, when they have taken full possession of the head.

*Recipe for Vermin in Poultry.*—The following receipt for vermin in poultry was published on one occasion in *The Country*:

“Jno. E. Roberts, in *The Southern Poultry Journal*, says that many fanciers use the carbolic (or carbolated) powder, in order to rid the fowls of lice and mites. It is considered the very best of remedies. His plan, which he thinks is used by no other breeder, has never failed him in completely ridding his fowls of every insect, and has demonstrated to him its infallibility. It is simply the use of oil of sassafras mixed with sweet oil, and apply a small quantity to different parts of the body of the fowl, selecting those joints where the vermin would be most apt to hide.

In applying the preparation, he fills with it a small oil-can, so that he can force out as much or as little of the oil as he wishes.

A very small quantity can be made to go a great way, for one drop can be rubbed over two or three inches of space, and is no more trouble to apply than the various insect powders. He uses sweet oil because of its curative powers, but any kind of grease, no matter what, will do to mix with the oil of sassafras. The oil of sassafras is the eradicator, the other oil merely the vehicle.

He believes common sassafras tea would be wonderfully efficacious. Make it in a large pot, then, after allowing it to cool, dip the fowls in bodily. In one second the lice will be dead, and in ten seconds the fowl will be perfectly dry, if placed in the sunshine. It is hard to form an idea of the magical effect produced by the oil of sassafras. He has never tried the remedy in greater attenuation than that mentioned (one part to five or six), but believes that it would be equally good if composed of one ounce of oil of sassafras to ten or twelve ounces of any other grease."

The ordinary treatment to which poultry-keepers have recourse, however, is to tie the flour of brimstone into a piece of coarse muslin, of the shape of a washer-woman's "blue-bag," which is gently struck against the body of the fowl, or placed in a flour-dredger. Fowls which are deprived of their natural remedy of dusting their feathers, are the most subject to the visitations of these pests, and for this purpose there ought always to be a pile of cinder-dust, which is accessible in every habitation, placed ready for their use when they are shut up. The trouble of dusting the fowls may be avoided, and they will perform the operation for themselves with ardent enjoyment and relief. If a pound or two of the powdered brimstone be added to the dust-heap, so much the better.

*The Gapes.*—This disease is often fatal to young chickens, and takes its name from the gaping action



of the bird, caused by the presence of a worm or worms in the windpipe. Its presence is due in the first place to a catarrhal affection, producing a slimy mucus, in which these parasites will be found embedded. Pheasants and partridges in wet seasons are very subject to this disease, and some gamekeepers are very expert in the remedy they have resort to, of stripping a pinion feather to within an inch and a half of its extremity, then thrusting it very gently down the bird's throat, and turning it round like a corkscrew, until all the worms are extracted. The worm is called *Fasciola trachealis* by some writers, and *Syngamus trachealis* by others, the latter describing it as being the male and female joined indissolubly together, of half an inch or more in length, the junction causing a forklike appearance.

Epsom salts, mixed with the food, has been prescribed, or in doses of two scruples. Soaking the barley or oats, on which they may be fed with urine instead of water, and feeding them with it three times a day, is said to be efficacious. A barbed feather inserted down the throat, which has been previously dipped in turpentine or diluted carbolic acid, is said to effect a cure. Shutting the chickens up in a box, and subjecting them to the fumes of carbolic acid, is also recommended, to which I have referred under the heading of *The Turkey*; but the operation is one of considerable nicety, and in endeavouring to kill the worms, the chickens will stand a fair chance of being killed also, unless in the hands of a skilful operator. Some give a grain of calomel made up into a pill, or three grains of Plummer's pill, after which flour of sulphur and powdered ginger is mixed with the barley-

meal which forms their food. Some wash the mouth and beak with a weak solution of chloride of lime, while others moisten a handful of grain with half a teaspoonful of spirits of turpentine, giving such handful in due proportion to a couple of dozen of consumers per diem. Though somewhat different agents are employed, it will be seen the effect aimed at is similar in its object. As gapes are epidemic, any infected bird should be immediately removed, and it is the safest plan to pursue, to remove the whole of them to a drier and warmer situation, and let them be well fed, and their bodily vigour promoted by extra warmth and generous diet.

*Inflammation of the Lungs.*—Inflammation of the lungs is evidenced by quick breathing, general dulness of habit, marked by disinclination to stir about, and, in advanced stages, vacancy of the eye. Sometimes the breathing is quick and hard. Cod-liver oil occasionally gives relief, but great warmth is essential, coupled with somewhat high feeding; for this purpose food which is nourishing and stimulating, but not clogging, should be given.

*Diarrhœa.*—Many causes will bring this on, which is generally due to some irritating cause in the stomach, which may be removed easily in the early stages, but becomes difficult when it assumes the form of intestinal irritation. Five grains of chalk, two grains of cayenne pepper, and five grains of powdered rhubarb, is considered an efficacious mixture. If this does not succeed in checking it, after the dose has had time to operate, one grain of opium, and one grain of ipecacuanha, should be administered every four or six hours.

Some give powdered chalk, mixed with boiled meal and milk, or chalk pills administered at intervals; but as chalk only tends to stop diarrhœa without removing the irritating cause, it is sounder practice to administer a purgative. A remedy known as Dr. Percy Chatterton's prescription, when the attack is very severe, is considered a good one, consisting of Hydr. cum creta, two grains, laudanum two drops, made into six pills, and given daily. Brown's astringent capsules are also recommended, as well as a Brown's charcoal capsule on alternate days.

*Apoplexy.*—This is generally too sudden in its operation to be dealt with successfully, the birds often dropping down dead without any previous warning. The only remedy is to bleed under the wing, if there be time for the operation, and feed more sparingly in future. The disorder is brought on by too full a habit of body and insufficient exercise. Like human creatures, a proper amount of exercise is necessary to fowls for their health and proper condition.

*Pip, or Thrush.*—Pip is a kind of horny scale which comes on the tongue, and indicates an unhealthy heat of the stomach, frequently arising from a temporary derangement or irritation of the mucous membrane of the alimentary canal. Let the *cause* of the token be removed, and the token itself will speedily follow. Food which is easy of digestion, such as bread and milk, should be given, and perhaps green food will effect a cure, when the fowl has been debarred from its use. Potatoes mixed with oatmeal is a good food, being somewhat laxative in its nature. Plenty of pure spring water is indispensable—that

universal medicine of nature. Castor-oil is a good remedy, about a teaspoonful, more or less, according to the age and strength of the patient. As the tongues of children, when suffering, are cleansed of thrush by an application of borax and honey rubbed on them, borax dissolved in a tincture of myrrh and water, applied by a camel's-hair brush, will perform the same office for the fowl. Scraping the tongue, or other rough means of removal, should never be resorted to; the indication of the disorder may indeed be thus removed, but the disorder itself will remain. Pip is the thickening of the membrane of the tongue and palate, which impedes free respiration, and takes away the appetite; so that the bird loses its bodily strength, and succumbs to its ailment, if it be not removed.

*Dysentery.*—Dysentery arises usually from inflammation of the mucous membrane of the intestinal canal. In the early stages of its progress it may perhaps be arrested by administering at first a small quantity of castor-oil. Afterwards the following treatment has been recommended :

Hydr. cum creta . . . . .	3 grains
Rhubarb . . . . .	„
Laudanum . . . . .	3 drops

Mixed in a teaspoonful of gruel, and administered every alternate day for a fortnight.

*Crop-bound Fowls.*—Over-distension of the crop causes a fowl to become crop-bound at times. In the first place warm water should be poured frequently down the throat, with the object of loosening the obstructive mass, which is frequently successful.

If this fails, a perpendicular incision may be made at the upper part of the swelling, as small as possible consistent with the necessity for bodily extracting the swollen mass. It will be found to close again immediately, but the fowl should be kept on soft food for some little time afterwards. Inflammation of the stomach is best prevented by the rigorous exclusion of unnatural food, such as peas, hemp seed, greaves, etc. Some of those which are prescribed for fattening fowls are often the cause of disease. Crop-binding results, at times, from the fowl having swallowed something in the form of a knot of hair, hay, or straw, which impedes the entrance to the stomach, and as it continues to eat, urged by hunger, the contents of the crop accumulate. If the obstruction is removed by cutting, some recommend the slit to be stitched up, the crop having been first washed with warm water.

*Roup.*—This is perhaps the most virulent of all the diseases to which poultry are subject. It is very contagious, and upon the first suspicion of the disorder being entertained, the suspected fowl should at once be isolated. It is mostly the result of an aggravated cold, and commences with a sticky discharge from the nostrils, at first clear, but which afterwards becomes thick, accompanied by an offensive smell, which has the effect of partially or entirely closing the nostrils and affecting the trachea, the disease finally reaching the lungs. The fowl breathes with difficulty, and a distension of the loose skin of the under-jaw may be noticed, while froth sometimes appears at the corners of the eyes. It has been compared to the glanders in horses. Half a grain of blue vitriol, given once a

day in meal, is sometimes prescribed. It is better, however, to kill the bird at once, and get it out of the way, as the disease is very insidious, and will soon contaminate the others, if there be any means of their following in its traces.

In the case of a valuable fowl, where great efforts are made to save it, it should be brought into a warm room, and the mouth, eyes, and nostrils cleansed with vinegar and water, or a solution of carbolic acid, the acid diluted in the proportion of one to sixty. This should be left damp upon the face and nostrils, but kept from the eye itself, the sight of which might possibly otherwise be destroyed. An injection of soda is also recommended, to dissolve and disperse the pus. Remedies applied internally seem to lose their efficacy when the disease has taken firm hold of the subject, but Walton's pills and paste are recommended by some poultry-keepers. Stimulating food should be given at the same time, as the disorder mainly springs from lowness of system. Condyl's fluid is a useful disinfectant in cases of roup.

*Croup.*—Croup is inflammation of the windpipe, when a thick mucus is coughed up, and generally arises from the prevalence of wet weather. Warm, dry housing is the best preventive of the visitation of croup. One twelfth of a grain of tartar emetic is sometimes prescribed for this ailment.

*Diseases of the Egg Organs.*—The laying of soft, or imperfect, eggs generally arises from inflammation of the egg passage. A want of access to lime will sometimes occasion eggs to be laid without shells, but when this happens it should be taken as a hint of the likely presence of inflammation. If no

doubt can exist on this point, from the undoubted presence of plenty of shell-forming materials, immediate treatment should at once be resorted to. A dose of one grain of calomel, and one twelfth of a grain of tartar emetic, made into a pill, should be given.

The ovarium of a fowl is beautifully and wonderfully constructed, the whole process of egg-formation having been minutely described by writers, and the process may be interrupted, or thrown out of gear at one stage or another, at which it is impossible to guess; but a little medicine may relieve, and set in motion some part of the complex machinery, which may have become temporarily impeded, perhaps during the transfer of matter to the funnel-shaped opening called the oviduct, or into its last filled receptacle, termed the cloaca. When hens crow this is often to be attributed to disease of the ovary.

*Inflammation of the Rump Gland.*—Where inflammation of the rump gland happens, the swelling should be opened with a lancet, and the matter gently squeezed out, and afterwards well bathed with warm water. Food of a cooling nature should be given to the ailing fowl, such as boiled vegetables, green vegetables, and oatmeal made into a paste with water. A teaspoonful of castor-oil may often be given with advantage. The roosting-places, upon the perches of which excrement is sometimes allowed to accumulate, should be kept perfectly clean, and thorough ventilation given.

*Rheumatism* is chiefly occasioned in fowls by exposure to damp and cold. To prevent the recurrence of attacks, the birds should be removed to a



warm dry place, and be fed with good stimulating food. Walton's paste is sometimes prescribed for this affection.

*Paralysis.*—Some birds appear to become almost helpless at times, although they eat and drink well, which is occasioned by paralysis. Sometimes they recover, but they never, perhaps, regain their original strength, and mostly linger for a time, and then die. I know of no remedy for this.

*Leg Weakness.*—This is generally found in fast-growing chickens, especially amongst the young cocks of the larger species, such as Cochins and Brahmas, which is the consequence of weakness, and an inability to support the weight of their bodies, which causes them to sink down upon their hocks. Four or five grains of citrate of iron, given daily in their food, will often be found efficacious, and give strength, or it may be mixed in their drinking water. A little meat, and strengthening food of the most appropriate character, should be given. Some recommend quinine capsules, or Walton's tonic paste.

*Inflammation of the Feet.*—Cochins are, perhaps, more subject to inflammation of the feet than any other kind of fowl, but at times it seems to show itself in a form resembling gout, the feet swelling, and becoming very hot. That celebrated remedy for gout in the human system is sometimes prescribed, colchicum, which is administered in the shape of three drops of colchicum wine twice a day, one grain of calomel having been given over-night.

*Cramp in Young Chickens.*—Exposure to cold and damp often produces cramp in young chickens, and sometimes destroys the very early broods altogether.

Its recurrence may be prevented by keeping them warm and dry. There is no universal fowl-medicine, but warmth and dryness is always to be recommended as a great preventive of diseases of various kinds, and as the vulgar proverb goes, "prevention is better than cure."

*Bumblefoot.*—The use of high perches is often the occasion of bumblefoot with large fowls. If the disease does not always originate from this cause, it is invariably aggravated by it; a swelling occurring in the ball of the foot, but which is not attended with heat; but sometimes by an eccentric growth, followed by ulceration; the birds fall with violence to the ground, and thus the injury is most frequently occasioned. Where a collection of congealed matter is formed, the swelling may be opened, and the matter removed; the part is then cauterised or dressed with Condyl's fluid or diluted carbolic acid. Sometimes swellings and distortions arise from cut feet, which may be prevented shortly after the accident, by first washing the place affected in warm water, and tying it up in a piece of rag, first carefully arranging the broken skin in its place. The swelling of the fifth toe in the case of young birds may be prevented by tying it up when about two months old, so as to free it from the other toes when placed upon the ground.

*Elephantiasis.*—This disease is caused by an insect, resulting in a growth of matter upon the legs or feet; common to Asiatic breeds of fowls. It is to be cured by dressings of sulphur ointment.

*Consumption.*—This disorder, the same as in the human frame, is sometimes inherited from the parents, and is caused by the presence of scrofulous matter in

the lungs, which damp and cold will often lay the foundation of. As the disease is hereditary, the keeping of fowls so affected may end in contaminating the subsequent stock; and such birds had better be got rid of at once.

*Catarrh.*—This is the first symptoms of cold arising from damp or wet; an indication that more dryness and warmth is needed. The fowls so affected should be at once removed to a warmer and more sheltered situation, and stimulating food given to them. Pills, composed—one ounce iron, one ounce aniseed, two ounces pimento, two ounces cayenne pepper, are recommended to be given twice a day. Tincture of aconite, in the proportion of three drops to half a pint of water, for the bird to drink, as having a beneficial action upon the mucous membrane; two ounces of chlorate of potash, mixed with two ounces of crushed sugar, in a pint of water, kept in a stoppered bottle, to resort to as occasion may require, is considered an efficacious remedy. Two or three spoonfuls daily should be given to an adult fowl. Half of the above ingredients to the same quantity of water will be found useful for young chickens, instead of their ordinary drinking water.

*Skin Diseases.*—Fowls which are kept in close, dirty, confined situations, where they may be sometimes seen in areas or cellars, or some foul corner of a London stable-yard, are subject to diseases of the skin, which cause the feathers to fall off from the head and neck. Unnatural food will also produce skin disease.

While they remain under these conditions, there can be no cure, but they may be restored to health if a

five-grain Plummer's pill be given to them occasionally, and they are taken away from the place where they have contracted the disease. The feathers, of course, must not be expected to grow again, till nature supplies a new set after the moulting season.

The chief objection to using tallow greaves, and similar strong food, is, that it is apt to produce skin disease. Peas, also, are objectionable, for although they are the natural food of pigeons, who prefer them to anything else, they are positively injurious to many other kinds of birds. In Cochins the disease known as "white-comb," which consists of an unnatural whiteness of the comb, frequently arises from the use of improper food. Fowls will eat almost anything that is put before them, but in a state of nature they will pick up and consume food which has a tendency to counteract and neutralise the bad effects of rank aliment, which is often debarred to them when in a state of confinement or partial restraint.

Of the whole list of diseases mentioned in the foregoing, it will be seen that the majority arise from cold and damp; warmth and dryness being the first essentials to profitable poultry-keeping. If these are not provided, no success can be expected to attend the best efforts of those who make them, and their ill-luck will be a constant source of vexation and annoyance.

For the prevention of roup, and when croup makes its appearance, Douglas's mixture is recommended to be given, with the object of furnishing stamina. It is made by dissolving half a pound of sulphate of iron and one ounce of diluted sulphuric acid together, in two gallons of spring water;

giving it to the fowls to drink in the usual manner.

A treatise on poultry would certainly be very incomplete without some allusion to the diseases to which they are subject ; but I would add to what I have already written, the advice never to breed from a bird that has been diseased if it can be helped.

## CHAPTER VI.

The Turkey — Derivation of Name — Tusser — Audubon — Frank Forrester—The Crested Turkey—Variety of Breeds—Management —Pugnacity of the Turkey—Choice of Turkeys for Breeding—The Bronzed Turkey.

I HAVE been very successful in rearing large numbers of turkeys every year, and they are consequently very great favourites of mine, our place being just adapted for them ; for they roam about the plantations, which abound in ant-hills, and nearly keep themselves, when they get established in stamina and have outgrown their tender youth, which is the trying time for turkeys ; for though they are delicate, and difficult to rear when young, they are very hardy when they attain early maturity.

The turkey owes its name to the fact that the bird was first imported by the Turkey merchants of London, who acquired their special designation from trading in the East ; hence, it was variously supposed by some to come from the East (instead of from the West, which we now know to be its place of origin), from its being called the “turkey bird,” the aforesaid merchants being some of the earliest and boldest trading adventurers to the West ; and at the close of the last century, and beginning of this present one, a

hot controversy was carried on as to its place of origin.

Maize, also, another product of American soil, used in the same way to be termed "Turkey-corn" at the time of Elizabeth, for precisely the same reason : *i.e.* that it was originally imported by the Turkey merchants.

Doubtless the name of "Indian pullet," by which also the bird used to be known, caused it to be supposed by many that it was of Indian extraction, although the French term *poulet d'Inde* had reference to its West Indian origin.

It was also occasionally called in France *le Jésuite*, in allusion to the success of the Jesuits as Turkey-farmers in the neighbourhood of Bourges; who have also earned a reputation as the introducers of the bark called *cinchona*, from which quinine is made; as well as being accredited as the first discoverers of the virtues of port-wine, of which they used to produce large quantities.

The turkey in its wild state is now almost extinct in the eastern and middle states of the Union, though it is more commonly to be met with in Upper Canada, where the sportsman must now seek this largest of all gallinaceous game, which, if a proficient in the use of the rifle, he may always easily secure, without the expenditure of any great amount of pains.

The turkey has completely driven the peacock and swan away from English dinner-tables, though a cygnet, cunningly dressed, and even a peacock, may be occasionally met with at civic feasts; though neither would ever be preferred to the former, except



as a matter of curiosity as to flavour, and for the purpose of finding out "what they eat like."

Of late years, turkeys have been imported from America, and these are a decided improvement upon the old tame acclimatised stock of turkeys in England, a very noticeable difference existing in the extreme brilliancy of their changeable, metallic tints of plumage. They have less also of the tame stupidity which characterises the domestic turkey at times, and are more self-reliant and search for their food with greater briskness, and resemble game more, which arises most likely from their descent being derived not so many generations back from birds in a state of nature. An instance of the stupidity of the turkey exhibited itself to me the other day, when I happened to be looking out of window upon some park-like meadows which adjoin the house. A brood of turkeys, which had just attained their full size, had wandered into a field enclosed with light iron hurdles, and had walked off again down into the road, leaving one fine young cock turkey behind in the field. The others were walking leisurely down the road, and their progress was watched by the one left behind with the greatest anxiety, causing him to wander frantically up and down inside the railing for the space of half-a-dozen yards or so, till it got well-nigh exhausted. It never occurred to it to fly over the railing, although the whole brood were in the habit of flying up quite high to roost in the branches of a fir-tree in a plantation adjoining the house, where this particular party had taken up its quarters, so that it knew how to use its wings well enough, but was too stupid to resort to them; and as there appeared the prospect of the bird

keeping up what it was doing for a considerable length of time, I sent a boy to drive it out, and, thus urged, it found the use of its wings readily enough, flew over the iron rails, and rejoined its companions.

It is clear that some of the most recent importations approach nearer to the original wild stock than the domesticated breeds in England, which have descended from parentage established a couple of centuries or more ago in these islands.

Tusser, in his "Five Hundred Points of Good Husbandry," speaks of

Beefe, mutton, and porke, shred pies of the best,  
Pig, veale, goose and capon, and turkie well-dressed—

which was written about the year 1573, when the bird may possibly have been known and reared as a domestic fowl for fifty years or so preceding this date.

*Species.*—The turkey is classed under the headings of two species by naturalists, *Meleagris gallipavo*, or the common turkey, and *Meleagris ocellata*, or the Honduras turkey. The latter is a very rare bird, and is distinguished by its effulgent plumage, though smaller in size than the common turkey.

The domesticated hen turkey makes two, and sometimes three, series of layings in the course of the year. Those eggs which are laid in the early spring produce the strongest and finest birds, the surplus cocks out of the broods being intended to be killed at Christmas. By that time they attain a large size and weight, if well fed. If there be a convenient district at hand for them to roam in—such as a plantation where ant-hillocks are to be found—the young birds

will thrive, and as they approach maturity at the end of the year, they will pick up and eat large quantities of acorns, which are to be found under the oak-trees where there are any, and will get nearly fat upon them, which will save much of the outlay for corn that would otherwise have to be incurred. On this account it is desirable to get turkeys hatched as soon as possible in addition to other reasons, where there are such facilities for their picking up food, and partially feeding themselves, by the time the acorns are ready or stubbles for them to go on, and with this object in view it will be found desirable to give the first turkey-eggs to sitting hens to hatch, and allow the hen turkey to hatch those which are laid later.

The second layings are usually made in June or July. These, although they never produce such fine birds as those that are hatched from the first laying, yet make a very material addition to the stock of turkeys that come in for table use in early spring, when the game season is over, though they are not so profitable for the reason given above, where there is a good "run," for of course the late turkeys are almost unable to keep themselves with that which may be picked up gratuitously, like the earlier birds, and these must have good and sufficient food provided for them during the latter months of the year, and the commencement of the new one, when the earth is often bound with frost, and neither insects are to be found in any quantity, and but comparatively little green vegetation, upon which they can subsist, is to be procured. The birds, too, are generally stunted in their growth. During the early summer, turkeys will eat large quantities of grass, and the damage

they do in this way is often not assessed and taken into account, for they pick out the young, shooting blades of grass, and thus diminish the future hay-crop.

As I have before recorded under the heading of "Poultry in the Nine-acre Field," I once turned out a large number of poultry, and allowed the fowls to range at will over it, excluding them when the grass got to be sufficiently high for them to damage the prospective hay-crop. The field is bounded on three sides by a narrow belt of trees, which forms a delightful shady walk in summer, being of just sufficient width to allow of a pathway being laid out in it, with shrubs and trees of all sorts growing on either side.

Although the poultry did remarkably well, the field never yielded anything like the amount of hay when the poultry were in it, as it did when they were not allowed to go there; and experience proved to me that the value of several tons of hay would have to be laid to the expense-account of the poultry; and although, as I have before remarked, farmers are often twitted with the foolishness of overlooking the profit they might secure by keeping a large stock of poultry, they are not exactly the dullards they are often represented to be in this particular.

Of their consciousness of the damage done in this way to their growing crops, I was reminded some short time since. "What would you say," said a neighbouring farmer, half in joke and half in earnest, "if I were to shoot some of your turkeys, when I see about thirty or forty of 'em picking all the heart out of my young clover?" "Say," was the cheerful

answer given, "why, that it served them quite right, for trespassing ; and it would also furnish me with an excellent excuse for shooting one or two of your cows, which are always breaking down fences, and roaming about my meadows, which we are now obliged to put up with, in a neighbourly manner, so as to live harmoniously together." Of course a hearty laugh on both sides followed this interchange of ideas, which are often somewhat one-sided.

The roaming disposition of turkeys is often apt to embroil one with one's neighbours, which is somewhat a drawback to the advantages which accrue from their foraging so successfully for themselves. But all these *pros* and *cons* must of necessity be taken into account.

*Audubon.*—Audubon, that close observer of the habits of birds on the American continent, describes their method of procedure—when, about the beginning of October, before the seeds have fallen from the trees in any perceptible quantities, large numbers of them will assemble in flocks, and gradually move towards the rich bottom-lands of the Ohio and Mississippi. The same antipathy of the male birds to the young, which characterises them in their tame condition, is equally remarkable in their wild state. The males, in parties varying from ten to one hundred, associate together, and search for food, away from the hens, which are to be seen advancing singly with their young—which will then be about two-thirds grown—or else in company with other females and their families—which will sometimes amount in number to seventy or eighty—all intent on shunning the old cocks ; which, when they come into collision with the young cocks of the broods, will fight with them, and

often destroy them by repeated blows on the head. The entire body, however, young and old, all move steadily forward on foot in the same course, and will not take wing unless disturbed by the hunter, or they approach the banks of a river.

When they approach a river they betake themselves to the highest eminences, and from thence appear to review the situation. They often remain an entire day, and sometimes two days, in this position, as if for the purpose of deliberation and consultation. During this time the males are heard "gobbling" (from whence the name of "gobbler" is derived), calling to one another, strutting about, and making much ado, as if to raise their courage to a sufficient pitch to overcome the obstacle in their path, and befitting the emergency. Even the females and young are affected by the general excitement, and, in a more limited degree, emulate the pompous behaviour of the cocks, by spreading out their tails and running round each other, purring loudly, and performing extravagant leaps, as if to show the prowess of which they are capable. At last, when the weather appears settled, and all is quiet, they mount to the tops of the tallest trees. At a signal given by a single leader, consisting of a loud "cluck," the entire party takes flight for the opposite shore. The old and strong birds invariably fly safely over, even if the river be a mile in breadth, but the younger and the weakest birds have not always sufficient strength for the enterprise, and fall into the water. They do not, however, drown, as might well be imagined, for, bringing their wings close to their bodies, they spread out their tails and stretch out their necks, striking out with their legs with great vigour,

until they succeed in reaching the opposite shore. Should the landing prove too steep for them, they will cease their exertions for a short time, and allow themselves to float down the stream till they come to a more accessible point, when, by a violent effort, they will generally succeed in extricating themselves from the water. The exertion, however, is evidently a very trying one for them, for immediately after crossing a wide stream, they ramble about purposeless, as if bewildered, and in this condition fall an easy prey to the hunter.

When the flocks of turkeys arrive in those districts where the mast is plentiful, they separate into smaller flocks, which are made up of birds of all ages and both sexes, and then, promiscuously mingled, devour all before them. This takes place about the middle of November. So gentle do they sometimes become after these long journeys, that they have been known to approach the farmhouses, associate with the domestic fowls, and even enter the stables and corn-cribs in quest of food. In this way roaming about the forests, feeding chiefly on mast, they pass the autumn and part of the winter.

Such, in effect, is Audubon's description of the habits of the turkey in a wild state, which even then, as is shown, inclines at times to the dwellings and abode of man, as if gravitating towards domesticity.

Some recent writers upon poultry have assumed that the large American domestic turkey was first seen in England at the exhibition held in Birmingham in 1870, Mr. Lythall, of Banbury, the distinguished turkey breeder, having a cock turkey which attained the enormous weight of sixty-eight pounds, and exhi-



biting a young cock, six months old, at the Birmingham show of 1871, which weighed twenty-eight pounds. But American turkeys were imported afresh into England a great many years back, which may be looked upon as the best renewals of the original stock, whose progenitors were not so very long before in a state of nature, which is sufficiently proved by the anecdote related by the Rev. W. Darwin Fox, which has been printed before, of the American turkeys imported by Earl Powys, as follows: "I have always believed these birds to be descendants of the true wild breed brought immediately from America. The owners of them have constantly laid claim to this; in proof whereof, I may mention an anecdote which occurred some years since. At that time Earl Powys was reputed to be the only possessor of these, and I believe he imported them. On one occasion the earl presented George IV. with a fine black charger, which was graciously received; but the king is said to have remarked to those in his confidence, that a horse was of no use to him, as he could not ride, but that Earl Powys did possess something which he should much value. This was reported to his lordship, and after some difficulty it was found out that a couple of American turkeys would be most acceptable, and they were sent. I mention this to show that their wild descent was believed in high quarters. The late Lord Leicester was also said to possess the wild breed; and I well remember his telling my father they were so, and remarking that they got their food so much more readily than the tame kinds. I originally had my breed from Lord Leicester, and have since crossed them with Earl Powys'. The two breeds differ; in

the latter having the wing-feathers, or rather quills, barred with white, while Lord Leicester's are wholly dark. Both cocks and hens are beautifully metallic, far more so than any breed I know. The shape of the hens is also more elongated, and there is a sprightliness about the head, which also is better shaped. Audubon's plate of the turkey strongly reminds me of my own. Much of this may be fancy ; yet I have not a doubt upon the subject, but believe that they are genuine wild American turkeys. They also lay later than the common breeds."

This description does not exactly tally with the American standard recently set up with respect to the wing, which has been given as: Wing coverts rich bronze, the feathers terminating in a wide black band, the wing when folded having a broad bronze band across, divided from the flight by a glossy black ribbon-like mark formed by the ends of the coverts, which are a dull gray when overlapped, shading into brilliant metallic blue-black, and ending in a wide brown band, the black part being crossed by two or more very narrow pencillings of brown, and a distinct narrow pencilling of jet black between the blue and brown end."

From careless and bad management in breeding has, doubtless, arisen the great deterioration in the quality of the stock of this grand bird common in England, until its comparatively recent resuscitation by crossing with fresh blood. The various exhibitions of poultry, which are now common, will keep alive this spirit of progress and improvement doubtless, otherwise it might have become a very important question whether, with the possible extinction of the wild breed

in effluxion of time, the whole race in England would not have become very inferior to the original type. By judicious breeding, their standard of excellence may be kept up, as may be seen.

*Frank Forrester.*—Frank Forrester, in his “Field Sports of the United States,” predicts the early extinction of this noble and beautiful bird in a wild state in the eastern and middle states; and that wild birds were converted into domestic ones, and afterwards reared very abundantly by the ancient Mexicans, is mentioned by Washington Irving, in his “History of the Conquest of America.”

*The Crested Turkey.*—The crested turkey, mentioned by Zemminck, is in all probability some special and separate species indigenous to Central America, for many attempts have been made to solve the puzzle from whence it originated, and all attempts which have been made to breed the crested turkey in England have failed. With this exception, the various breeds of turkeys differ very little from the wild American birds—occasionally in colour, as described, but very little in general form and points. Those which are termed the wild American, are remarkable for the brilliancy of their plumage and its closeness to the body, which gives it a somewhat smaller appearance than tallies with its actual weight, as well as the deterioration of the turkey in many districts being due to breeding in and in; there is also a want of proper selection from the early and strongest birds, the midsummer chicks being allowed to grow up and breed, which is a fruitful cause of degeneracy, both as respects size and bodily health and strength. If they survive a weak and struggling

chickenhood, they grow up into poor and undersized birds, which offer a most unfavourable contrast to well-bred strong turkeys. It is with these bad specimens that so much trouble has to be taken, and so much disappointment often ensues to those who rear them, who eventually give up turkey-keeping in disgust, when by proper management they would be found highly satisfactory poultry, well worthy of all the attention that can be bestowed upon them.

It is therefore highly essential to commence with a good sort, and different breeds possess various points, which I will briefly indicate.

*Variety of Breeds.*—The Cambridge breed is the largest of the varieties which are now found as distinct stock, and these bear a stronger resemblance to the wild turkey, so far as plumage is concerned, than other kinds; and of these there are generally recognised two subdivisions—the bronze, and the copper-coloured or gray. These attain the largest size of any, a fine specimen of the cock turkey weighing at times as much as thirty-five pounds, while the hen will attain to twenty pounds weight. The chickens are rather tender to rear. The eggs of the Cambridge breed are larger than the Norfolk, and the young chicks are taller and more slender. The copper-coloured are sometimes called the “bustard breed.”

The Norfolk turkeys are held in the highest estimation for the table, the pure breed of which should have black plumage and black legs; but the genuine old Norfolk turkey is now very scarce, and somewhat rarely to be met with, having been crossed a good deal with the Cambridge, even in the county

of Norfolk itself ; so that it is no uncommon thing for persons anxious to obtain the prize breed, when they have sent there for them, not to receive specimens of the genuine Norfolk turkey, but a mixed breed, the object being generally to rear large birds which fetch the highest price in the market. A shilling a pound is sometimes the scale at which turkeys of ordinary size are sold when tolerably plentiful, rising to sixteen-pence according to the condition of the market ; but very fine specimens fetch considerably more when needed for special occasions, and the price for these is much higher, and by reason of their size get lifted above any ordinary scale of calculation as to weight, as much as four or five pounds being sometimes got for a very large bird. These are never to be found amongst the pure breed of Norfolk turkey, the best eating being considered the young well-fattened hens of eight pounds and under for private use.

Pure white turkeys are liked by some poultry keepers on account of the elegance of their appearance, but these are the most tender of all to rear. Sometimes they bear a tuft of coal-black feathers on the breast, which has a highly ornamental appearance. The earuncles on the neck of the male, as well as the head, are of the same blue and scarlet hues as the other kinds, and the variety of colours assumed by these birds when excited, and strutting about displaying their plumage to the best advantage, gives them a most beautiful appearance. The white, however, looked upon as a separate breed, will now and then produce speckled birds, and exhibit an inclination to return to their original plumage.

*Management.*—The chicks hatched from mid-summer-laid eggs, when they grow up to turkeys, should never be kept to breed from, which is the means of causing the stock to degenerate; and they should be either sold off, or consumed at table, when they will be found to come in for use at a very acceptable time. The eggs which come at the last laying, from the end of September to Christmas, can only be made use of for eating.

The hen turkey in its domesticated state seldom incubates twice of its own accord, if allowed to rear her own brood, but her instinctive affection causing her to be a steady sitter when once she has taken to her nest, which scarcely anything will induce her to leave, is often taken advantage of by poultry rearers, and she is made to bring up a second clutch, when the poor creature will leave her nest in a distressingly light condition; and those people do not deserve success who tax the powers of the poor birds so unconscionably, and one brood of fine healthy birds ought to content anybody.

In the ordinary way, the hen turkey generally commences laying about the middle of March, at which time she assumes an air of evident self-satisfaction, and may be seen prying about in all sorts of odd corners, being very fastidious in her choice of a nest, and will not perhaps lay her eggs in a commodious hen-house that may have been provided, but will wander off and find some corner in a hedge, or other place which she selects to her mind. It is well perhaps to let her have her own way, and remove the eggs as they are laid, if in an insecure position, leaving a nest-egg, of an imitation egg of chalk, in the

place she has selected, until she shows a desire to sit. Hen turkeys sometimes choose the most out-of-the-way places in which to deposit their eggs. The writer once had a hen turkey which made choice of the top of a wall for this purpose. It was clothed with ivy where the door opened into a walled-in garden, the ivy covering the wall each side of the doorway, and growing thickly at the top, where the gardener had trimmed it squarely with his shears, and this place above the doorway was made choice of. When the turkey had laid her egg, it dropped down on the ground, and was smashed ; for she had not the sense to place her body lengthwise with the "run" of the wall ; and finding a broken turkey's egg just inside the doorway of this walled garden where fowls were always rigorously excluded (for sometimes they would slip in when the door had been accidentally left open), it was a matter of some surprise, and difficult to account for, how the egg got there ; but when this was repeated two or three times, it was discovered that a hen turkey had selected this singular situation in which to lay her eggs, when no time was lost in compelling her to find another, the top of the wall being made decidedly uncomfortable and unsuited for the performance of this operation in the future.

But to resume. Should the turkey have made choice of a secure spot in which to lay her eggs, it is as well, perhaps, to allow them to remain there, if it can be done safely, marking the date of each egg with a pencil, and when she manifests a desire to sit, which will be indicated by her remaining all day and night upon her nest, she should be removed to a convenient



place, and her eggs put upon some clean straw upon the ground, which can be kept in position by a narrow strip of wood, so as to keep it tidily together. If several turkeys are sitting at the same time, they should be kept wide apart, to prevent their mistaking their nests, or stealing one another's eggs.

It is sometimes very difficult to induce the hen turkey to take to the nest which has been assigned to her, away from the place where she has laid her eggs. I have often got over this difficulty in a very summary and effectual manner, by using large square wicker hampers, the same as wholesale houses are in the habit of receiving goods in, shutting the lid down, and allowing it to remain closed for a couple of days. By that time the hen turkey will have acquired an affection for her eggs, and become reconciled to her position. She is often such a close sitter that she will not leave her nest for the purpose of feeding, and at times requires to be removed. She ought to be kept as quiet as possible, and the same person should always attend to her, to whom she will get accustomed, and show confidence in. The hen turkey generally lays from fifteen to twenty eggs before she wants to sit—sometimes an egg every day, sometimes only every other day. Thirteen eggs are generally thought enough to give her; and, as few are infertile, if the first half-dozen that were laid are given to a hen, unless in the case of accidents in breakage of the eggs, nearly the whole can be reared with ordinary luck. A week after the hen has had the turkey eggs, a few more fowls' eggs can be given to her to make up the requisite number which she can conveniently cover, when they will all hatch together. A mixed brood like this

often gets on remarkably well. It is considered the young chickens teach the turkey chicks to feed earlier, and help themselves, and they in consequence do better at the first start off than when only turkeys are hatched.

In the same way, if the turkey has an insufficient number of eggs, a few hens' eggs can be given to her a week after she has commenced sitting in like manner.

Four weeks is the usual period of incubation. Eggs which may have become accidentally broken should be carefully removed, as well as any soiled straw, to keep the nest clean and sweet ; but it is well to leave the hen turkey as much as possible to herself, and not disturb her, unless from imperative necessity. She will of her own accord arrange the eggs, turn them, and pack them into convenient positions during the whole period. A slight variation in the time of hatching will sometimes ensue, which may be possibly due to different degrees of warmth, etc., from twenty-six to thirty-one days being the space of time when young chicks may be expected to make their appearance after the hen has commenced to sit ; a few will sometimes come before the others, and in such cases it is usual to remove them, and place them in a basket lined with flannel, feathers, or any suitable substance, till all are out of the shell, and then return them to the mother. People often err, even in these cases, from mistaken kindness, and do too much ; and the turkey should be allowed to manage them as much as possible by herself. A mistaken opinion is also very prevalent that they require feeding at once, and many housewives who look after their own poultry make a

religious practice of cramming a peppercorn down the throat of the newly-hatched chick, which is entirely a work of supererogation, and an impertinent interference with the laws of nature. The broken shells should be removed which have been hatched, but it is a bad plan to pick off the shells which are hatching, and the birds are seldom reared which have been so manipulated. A check probably is given to the warmth by this process at a critical time, and those which have not stamina enough to help themselves at this juncture very seldom come to any good afterwards. When hatched, they should be left with the turkey all that day, and during the succeeding night, for they will not require feeding, as is very commonly supposed, but will be ready for a meal on the following morning. All sorts of foolish things are sometimes perpetrated on newly-hatched chicks, they being sometimes dipped into cold water by certain hydro-paths, with a view of making them hardy, when nothing is so likely to be injurious to a young turkey as a wetting. Others give them ale or wine, with the erroneous idea of imparting strength, and resort to all sorts of preposterous usage, which is calculated to do them an injury, and act quite in violation of all natural laws; the treatment required being as much as possible that which would befall them in a state of nature.

The day after the chicks are hatched, they should be taken out from under the mother, very carefully, one by one, and placed in a basket lined with flannel, to keep them warm. The hen turkey should then be lifted by her wings and carried to a roomy coop, placed in a sunny spot on very dry ground, or

in an orchard, or near to grass that is not rank and wet. The writer has tried, in the course of his experience, all kinds of coops for turkeys, which, being a large bird and withal somewhat clumsy, notwithstanding her affection for her young, is apt to trample them down accidentally, or lame them by placing her foot unawares upon them. The coops which answered best were made of four ordinary hurdles, placed upright, and then fastened securely at the corners. On the top of these, to form a roof, two other hurdles were placed, one being thatched with straw, and firmly secured in its place, the other being fastened to it by pieces of string at the near edge only, so that it could work up and down like the lid of a basket. Beneath the one half of the roof thus extemporised there would be shelter from showers at all times, while during very heavy rain tarpauling could be placed over the other portion, so that the coop can be always kept dry. Each day this contrivance can be moved the length of its own dimensions, so that the place on which it stands is perfectly fresh and clean—for nothing like dirt or moisture should be allowed to accumulate—and the place where the coop stood previously can then be swept and the manure taken away, when it will be of value to growing plants that may require it. Everything can then be kept very clean, and there will be plenty of room, not only for the hen turkey but for her chicks also, for the ingress and egress of which the withes forming the hurdles should be pushed up in two or three places near the ground. By the expenditure of only the smallest amount of trouble two men should slowly move the coop thus formed,

and the turkey will walk along inside with it, to its new position a few paces off, the whole operation taking only a few minutes.

When the turkey is to be indulged with a stroll, by merely throwing the hurdle back at the top, which has been left uncovered, she will fly up and join her young.

She is, however, at times apt to be injudicious, and will sometimes take them too great a distance, and lead them through long wet grass, where they will get bedraggled and wet, which will do them a great deal of injury. There is nothing like warmth for all kinds of young poultry, and this is especially the case with turkeys. Much of the success attending the rearing of fowls amongst the lower orders of the Irish peasantry arises from their allowing them to enter into their poor dwellings, and share the warmth which is there to be obtained—a plan, of course, not to be recommended, as it is followed at the expense of the cleanliness and neatness of the dwellings of the poor people who reside in them, though to the gain of the fowls.

The hen turkey taken to this coop should then have the chicks brought to her, and let out immediately before her. They should then be supplied with some hard-boiled egg, chopped up fine, with the tops of onions or clives, which they should be induced to eat. Now, indeed, is the trying time for turkeys, for they should be tempted to eat as often as possible. Every hour at least they should have fresh food given to them—every half-hour would not be too often—and the person feeding them should stay and see that they *do* eat. If they are not well fed they fall into a low

mopish state, and will perhaps refuse to eat at all, when they will have to be crammed—the only time when such a proceeding needs to be resorted to, when, from accident or any cause, they have been overlooked. Many suppose that by merely putting the food down by them all has been done which is necessary, but this is not so. Several of the little creatures will stand about in a listless manner, and will make no attempt to eat, or remain inside the coop with the mother. These should be tempted with a few crumbs in the palm of the hand, or some thrown down just before them. Seeing it under their beaks—I was about to say noses—they will pick up a crumb, and having made a commencement, will then continue feeding. Placing the food on the ground, and there allowing it to lie, is not sufficient. In cases where mixed barleymeal and water, and other things, have been given in this way, the young chicks walk over it, and foul it; sometimes stumbling in the adhesive matter, which clings to their feet and legs, and throws them down into it, so that their feathers become clogged and dirty. With this system of bringing up, the young turkey chicks are seldom reared to advantage. The strongest may blunder through the ordeal, but the weak ones will inevitably suffer from such a course of procedure. They should be constantly tempted to eat, and their stomachs kept full, when their growth will be remarkably rapid, and well repay the care and attention bestowed upon them. Turkeys in their infancy require plenty of green food, intermixed with more solid diet. Nothing green can hardly come amiss—the weed vulgarly called “cliver” is frequently given; but lettuces, grass, tops of nettles,

chopped dock leaves—almost anything will do—but best of all, the tops of onions, or chives, which are of a stimulating nature.

Turkey chicks, which have been hatched under a hen, require more assiduous attention as respects accommodation and superintendence, on account of the larger size of the chicks, which the poor creature vainly tries to shelter with her wings and keep warm, when they are nearly as big as herself, so that the spare turkey eggs should always be put beneath hens of the largest breeds—Cochin Chinas or Dorkings at least.

As the young birds advance in age and growth, so great an amount of attention is not necessary, and they will begin to forage for themselves. A few spadefuls from an ant-heap, if there be any about, should be brought up to the coop occasionally. The critical time with young turkeys is when the larger feathers begin to grow, particularly those of the tail, which are a great strain upon the bird's strength. Generous diet at this time is the best preventive of loss of tone, for which caraway seeds, or rue, are often prescribed.

Many persons who are very successful in rearing poultry of all other kinds, are unfortunate with their turkeys, which they are unable to bring up to maturity. The turkey chicks are indeed difficult to rear, unless, as stated before, a good deal of attention is bestowed upon them. If, however, the necessary pains are taken at first, they may be reared easily enough afterwards, and when they have attained a certain age there are no hardier birds; and that is when they have got their red heads, which, hitherto



clothed with down only, will gradually become covered with fleshy tubercles. Up to this time they are decidedly delicate subjects, and require constant watching and attention.

The roving tendencies of turkeys can never be restrained, despite what is often said to the contrary if brought up by a hen. Nature will always assert itself. They may always, however, be kept near the house at roosting-time, by giving them a feed of corn at evening, which also should be done in the morning as well. They want a spacious house to roost in, where there is no danger of injuring themselves in flying up and down. They will often of their own accord roost in trees near the house, when they will do very well in a sheltered plantation. But they should not be allowed to roost in trees in an exposed situation, as in moist nights, which afterwards turn to frost, their feet get injured by the cold, the damp branches being sometimes coated with rime, with which their feet come into contact.

Much depends upon the facilities of the situation where the breeder resides. Where there are stubbles to range over, or plenty of beech or oak mast to be picked up, large numbers of turkeys may be kept, and a considerable profit made out of them. They can be taken up almost in a fat condition at the end of the year, when there is plenty of feed to be had.

When put up for fattening, under ordinary circumstances, small hens will be ready in about three weeks or a month, but heavy cocks will take two months to fatten. Their progress should be watched, for sometimes after having attained a certain condition they will go back. Perhaps the best food which can be

given to them is barleymeal, mixed with skim milk or water, made stiff. Corn will do, but they do not fatten so rapidly upon it. Peas, tares, and most kinds of pulse, are not suitable for turkeys. Many recommend giving tallow greaves for fattening, but as there is a danger of the flesh becoming tainted with an oily flavour when these or similar substances are used, I have never resorted to their use. Like human beings, a change of food is often necessary, and boiled carrots, swedes, and parsnips, may be given with advantage. These, mixed with kitchen stuff, make an agreeable change for the birds.

During the stages of their early growth, a mixture of boiled vegetables should always be given with their barleymeal or oatmeal, or mixed with the solid grain (as barley, oats, or buckwheat), either of carrots, turnips, potatoes, the tops of young nettles, cabbages, etc. The more delicate lettuce can be given raw, cut into shreds.

Careful and abundant feeding in infancy is the best preventive of disease, until they become *turkey poults*, a title which is given to them when the sexual marks on the head are distinctly established. This point cannot be too frequently repeated, for afterwards they will become hardier and stronger every day, and will henceforth take care of themselves. It is needless to say that birds of all ages should be kept scrupulously clean, while in partial or entire confinement; and always be supplied with *fresh* water, which should be given to them in shallow pans, which they cannot easily upset. Any little pools of water are often apt to communicate cramp, which is a most fruitful source of disease, and death, in wet seasons.

Damp and wet bring on colds, and colds are the forerunner of roup, which is a discharge from the eyes and nostrils, occasioned also at times from draughts in overcrowding. When roup makes its appearance it is best to kill the bird off at once, before it affects the others, which should be removed to fresh ground, and fed abundantly with good food. Lowness of system causes the birds (and indeed anything else) to be more ready subjects for disease, when they easily take any contagion.

*Gapes* is a very destructive epidemic, which causes worms to be introduced into the windpipe. Experienced breeders who have become acquainted by long practice how to manage the operation, introduce a barbed feather into the trachea—before described under the heading of Diseases of Fowls—and thus remove the worms, while others cause the birds to inhale the fumes of carbolic acid. This, however, is a very delicate operation, and requires great care in its administration; for, if the gas be inhaled too long, the bird will be killed—if not long enough, the worm is not destroyed. From five to eight seconds is generally considered the proper time the gas should be inhaled.

Disease will be kept away from turkeys if the ground is not allowed to become tainted and impregnated with all manner of filth and stale food. Spilled milk which has become sour, which is often given to them mixed with their food, is very often a fruitful source of foulness, combined with spilled water, which causes little puddles to be common where the young turkeys are being reared, and frequently gives them cramp. The ground should always be dry, and sweet and clean, and no stale food

should ever be allowed to be left about. The young birds will then eat the fresh food brought to them with a degree of avidity, when their appetites will fail them for stale and objectionable food. Indeed, just in proportion to the care and attention which is bestowed upon them during their infancy, will the amount of success be which is attained in rearing the number of turkeys.

*Pugnacity of the Turkey.*—Turkey cocks are very pugnacious and vindictive, some of the old cocks at times having inflicted serious injuries upon children. A curious incident once happened in connection with a big bully of a turkey cock that I once had. He was the terror of all the children and women about the place, whom he would strike violently with his legs when flying up at them, and they used to arm themselves with a stout stick when passing near him, a practice which of course I deprecated, having had several pugnacious birds lamed through this course of procedure.

There was a little bantam cock in the poultry yard, which had gradually grown up to cock's estate, of singular beauty. How we acquired him nobody could tell, as we did not keep bantams, and could only imagine that, somehow, he had joined a brood of chickens in his and their infancy. We hardly knew what to do with him. He was so small that he was not worth killing for the table, while he was not wanted to go with the rest of the hens, and deteriorate the breed; and while matters remained unsettled, he was kept in a little enclosure near the house, where the dog-kennels were placed, between the outhouses and the fence which separated the kitchen-

garden, in which were often placed hen-coops, or hens with young broods. There was a good deal to be picked up there, and other fowls would occasionally intrude, but these were generally sent away ; but this was a work of some little difficulty at times, as most of the young ones had been reared there, and remembered the place. Cock turkeys least of all were welcome there, but the individual of which we are speaking would occasionally intrude himself, and this little bantam cock endeared himself to us upon one occasion by his gallant behaviour.

One day, the writer's wife, who took an interest in the poultry, went to look at a brood of chickens which had been placed in a sunny corner at the farthest end of this enclosure. The old turkey cock had got there also, and he immediately made a violent attack upon her, so that she incontinently took to flight, which was accelerated by the infuriated turkey cock flying up at her back as she ran away. This was no sooner perceived by the little bantam cock, than he at once flew to the rescue, and a battle royal ensued between him and the turkey. The great weight of the lubberly turkey cock was entirely disproportionate with respect to the odds of the fight, but the bantam cock made up in science for what he lacked in weight. As the turkey sprang up to strike with his heavy legs, the bantam dodged beneath each time, and the big bird could not get at his little opponent, though he tried ever so hard. The battle lasted for a considerable time, till one of the women servants had time to fetch a man who was at work in a neighbouring field to come and drive the turkey away, at which the little bantam cock crowed loudly.

It may be added that, in consequence of this plucky behaviour, the bantam attained such a high place in public estimation, that whereas, before he had led a somewhat solitary life, the handsomest mate which could be found was provided for him, upon the principle that "none but the brave deserve the fair," and a race of bantam birds ensued which was quite foreign to their owner's original intention, who was aiming more at profit than keeping fancy birds. Game cocks have often been known to conquer a turkey cock in a pitched battle ; in such cases evading the attacks of the turkey and using their spurs with such adroitness that their bulky opponent has been compelled to decline the combat. Another time, an old man who was employed about the place, who used to feed the poultry and milk the cows, having in his younger days once filled the post of coachman in a gentleman's family, arrayed himself one Sunday afternoon in a holiday suit, consisting of his old top-boots and white cord breeches, and wearing a new sage-coloured smock-frock donned over all. When the cock turkeys saw the old man coming to feed them as usual, several of the largest, not recognising him in his unusual garments, made a fierce attack upon him. The ingratitude of these birds, which he had helped to bring up from chicken-hood, so incensed the old man, that although sticks were forbidden to be used, he resorted to one in self-defence, and in consequence lamed one fine turkey.

This poor old fellow was killed eventually, while doing light work in a hayfield, by sun-stroke, when between seventy and eighty years of age, having been

renowned as the best *hedger* in the county in his middle-aged days.

*Choice of Turkeys for Breeding.*—When a year old, the male bird becomes fitted for breeding purposes, but he does not arrive at perfection till he has attained his third year, and he will continue in good breeding condition for three or four years. Many breeders, however, make a point of not keeping males for breeding purposes after two years, preferring the substitution of young birds to follow in rotation. The common practice is to mate one cock turkey to eight or ten hens, though almost an unlimited number of hens may be assigned to a single male. In choosing a cock turkey, he should be broad in the breast, clean and short legged, and correct in plumage, according to breed, with a bright eye, ample wings, plenty of bone (which is necessary for the attainment of great weight in the progeny), and the carunculated skin of the neck should be ample, and display rapid changes of colour. The most vigorous birds should of course be selected. The hens should be chosen from their similarity of plumage to the cock, so as to ensure uniformity of breed and special distinctiveness, which is always a point to be cared for, and these should not exceed in weight from twelve to fifteen pounds, as larger ones are apt to break their eggs, and injure the young chicks. When a heavy hen of the largest size has been selected, being somewhat awkward birds in suddenly moving, they are likely to put a heavy foot down upon a slender turkey chick, and allow it to remain there some time, occasionally causing lameness to the infant brood in its earliest stages of growth. The dispositions of the birds are various, and those



most fitted for the business in hand, and which commend themselves to the observation for the purpose, should always be chosen. The hen commences breeding when a year old ; that is, if hatched in one spring, she will breed the next ; but is not supposed to be in her prime until she has attained two or three years, and will continue serviceable for two or three years longer. The gobblers of a good strain of the Cambridge breed will often attain a weight of thirty-five pounds at two years of age, and the hens a weight of twenty pounds. This is mentioned as some kind of explanation to the recommendation which has been given, to choose hens which do not exceed fifteen pounds in weight as breeders—a large weight to those accustomed to birds of inferior size and deteriorated breed, who might have some difficulty in finding birds so heavy, even as the weights mentioned, amongst their own inferior stock.

*The Bronze Turkey.*—The following account of the bronze turkey, which appeared in the "American Pet Stock Bulletin," will be found interesting to those who are unacquainted with the enormous size that this bird will attain. The solution of the name of "turkey" I have already given, so that readers will not be at a loss on this head, referred to in the annexed, which I give verbatim. "When America was first discovered, the turkey in its wild state was met with throughout nearly every section of what is now the United States. It is now rarely met with save in the unsettled portions of the west and southwest. When, and by whom it received its name, and why it was called 'turkey,' is one of those conundrums which has seemed to defy any satisfactory solution.

"The bronze turkey is the product of the wild turkey, or selected specimens of the common black domesticated variety. Careful breeding, and selection of the largest and finest birds for breeding purposes, has resulted in the formation of a breed which attains immense size, and retains the splendid plumage of the wild progenitor.

"The heaviest weight of which we have any knowledge, was of a gobbler which was purchased by a party of Berks County (Pa.) Democrats, and sent as a Christmas dinner to Andrew Johnson, when he occupied the presidential chair. We were at that time breeding bronze turkeys, and had heard of this unusually heavy bird from several sources; but on sending a party to try and purchase him, we found we were two weeks too late. He had been purchased and disposed of as above stated. His weight was fifty-five pounds. Since then, we have seen gobblers in the show-pen which weighed forty pounds, and even forty-five pounds. The hens are also very heavy in this variety, instances of twenty pounds being not unfrequent, and we once owned a three-year-old hen which weighed twenty-five-and-a-half pounds.

"In breeding, too great care cannot be taken in selection of the stock—in fact almost everything depends upon the parent birds. Turkeys do not reach their full size and vigour until their third year, and it is reasonable to conclude that the best results are to be obtained by breeding from fully-matured specimens. Experiments in breeding from three-year-old, and from yearling birds, have almost invariably resulted in a larger percentage raised, and a greatly increased

weight in favour of the former. There is one disadvantage in breeding from very heavy birds—the liability of having the backs of the hens skinned and torn. But this may be in great part avoided by penning the gobblers up before the breeding season commences, and reducing their weight. Turkeys are great roamers, and it is almost impossible to have good success with them unless they have their liberty and ample range. Early in April the hen begins to wander around, searching a secluded place for her nest. We found that old barrels turned down in a thicket, under the side of a stone fence, or in a clump of broken rocks, often provided the sought-for spot, and prevented the hen from stealing her nest in some hidden place. Never disturb the hen when laying, or let her know you have found her nest, for if she suspects you she will quit the old nest and make another.

“The early-laid eggs had better be put under common hens, letting the turkey hen sit later in the season.

“A few days before the birds hatch, the hen should be dusted with flowers of sulphur. When the chicks are twenty-four hours old, grease their heads with the following: one ounce of mercurial ointment, one ounce pure lard, and half an ounce pure petroleum.

“When hatched, put the mother in a roomy coop facing the south on the sod. Feed little at a time, and often. Hard-boiled eggs are good for the first two days, after which give curd, in which mix onion tops, or sives, chopped or cut fine with a knife or scissors. When a week old, add coarse Indian meal to the food, well scalded. After three weeks, give them

cracked corn, wheat, etc., once a day or oftener. Keep fresh cool water by them at all times.

“The first three weeks is usually the critical time with the little “turks,” and if kept dry and warm, with abundance of insect food within their range and reach, there will be little trouble in raising them. It is not best to give the mother her liberty until after this period, and even then it is well to limit her range for another fortnight. They should be shut up at night, and not let out until the dew is off the grass, until they are six or eight weeks old.”

## CHAPTER VII.

Ducks—The Tame Duck—White Aylesbury—Warwick Blues—The Black East Indian Duck—Rouen Ducks—The Hook-billed—Indian Runners — Commencement of Duck-keeping — Duck-breeding.

DUCKS are a species of poultry which, as a rule, are very much overlooked by poultry keepers. This is somewhat surprising, as they can be made extremely profitable with proper care and management. I say "care," but they absolutely require far less care than young chickens to rear, as they begin to take care of themselves soon after they are born, and the term "care" must be accepted in the sense rather of proper management than in that of any great expenditure of labour; the principal object to be attained being, that they be made to come on early in the season, when they will fetch a long price in the London and other markets, and are much in request. This is thoroughly well understood in Buckinghamshire and Berkshire, where ducklings are generally reared by the fireside and fattened in great numbers, in the early part of the spring, for London consumption. This is mostly done by cottagers, who have broods at different stages of their

growth, and which very early in the season fetch extravagant prices. According to "The Buckinghamshire Report," issued many years ago, one man, a labouring peasant, with only one room to live in, sent up as many as four hundred ducks in the year, the greater part of which were sold at six weeks old, for twelve shillings a couple! This would not be a bad living of itself for a labouring man, but the instance must of course be taken as a very exceptional one. The success in this case was ensured by warmth, and a large amount of care and attention.

I first had my notice directed to this way of rearing ducks, which are never allowed to go into the water, while living near Berkhamstead at a house I rented for a short time many years ago, not at that time keeping more than a score or so of fowls myself, by a man with whom I used to have occasional dealings, letting him a little grass land, etc., who kept a small public-house in the neighbourhood. This person used to rear great numbers, and send them up to London by the carrier in early spring, and the process, though not followed perhaps to any great extent in that immediate neighbourhood, had been imitated from the methods adopted a little farther off, which I afterwards availed myself of, the plan consisting of hatching early broods, feeding them well on barley-meal mixed up into a stiff paste, or oat-meal, and keeping them confined between hurdles, upon some little grass enclosure, when the forward kinds will be ready to kill from six to nine weeks old.

*The Tame Duck (Anas boschas).*—The tame duck is generally supposed to have originated from the domestication of the British mallard, but some writers

consider that it was probably received by us in an already domesticated state from the East, which the introduction of the black East Indian, or Labrador duck, as it is sometimes termed, appears to confirm. It is noticeable that the tame and the wild breed will freely intermingle, and when such has been the case, the progeny will incline more to the latter than the former, which shows the inclination of domesticated birds, and animals, to assume the proclivities of their original progenitors, when chance favours their doing so. In the same way it has been remarked that town-bred cats, when taken from London to a somewhat solitary country residence, occasionally become thoroughly wild, this happening upon two occasions, in the writer's own experience, with large, prized animals at different times, whose ultimate fate was decided by the gamekeeper of the neighbouring squire.

The duck is indigenous to England, and Pennant describes the great numbers which used to be found in the fens of Lincolnshire, before the young had taken wing.

Some writers on poultry have unfortunately given a somewhat wrong description of the duck, so far at all events as its *paying* qualifications are concerned in its method of rearing ; and we are told they require water, and that confinement will not suit them ; the opposite being really the case, as respects the profitable rearing of the *young* for market. It is true enough when taken in reference to the old birds, who delight to sport about in ditches, ponds, etc., and whose natural vigour and health are, of course, of a much higher order under these conditions ; but the



early access of young ducks to water actually *arrests* their quick approach to early maturity and condition, to fit them for the *table*. Ducklings get wet when they go into the water before they are properly fledged, and often get cramp and die; but the plumage of the mature duck throws the water off, so that their bodies do not become wetted. Ducks are very useful to turn into a garden occasionally, which they will very soon clear of slugs and snails. It is expedient, therefore, to give the old ducks as much liberty as possible, but if *profit* be aimed at, the ducklings should be reared as early as possible, fed on barleymeal and oatmeal, *kept from the water*, except, perhaps, to wash themselves thoroughly just before being killed, and turned into money without loss of time.

If, however, the object be to raise a strong and vigorous stock, let the young ones have access to the water as soon as the feathers replace the down with which they are at first covered.

Well-fed ducks will begin laying in January, or at latest February; and with the view of getting early ducklings hatched, the first eggs are generally placed under a hen that wants to sit. A good deal has been said of the puzzled astonishment of the hen when she first sees the young brood take to water, to which she has a most ladylike aversion herself, and where she never ventures to follow them; but she soon gets accustomed to this eccentricity, and takes it afterwards as a matter of course. Indeed, young ducks get independent of the mother's care very soon, and in a very short space of time learn to shift for themselves.

To breed for profit, a kind which comes early to maturity should be selected, and perhaps there is none to excel in this respect the white Aylesbury.

*White Aylesbury.*—The true white Aylesbury is of large size, with perfectly white plumage. The legs should be yellow, and the bill of a pale flesh colour. Those ducks which have deep yellow bills are not the true breed, and are most likely derived from a cross with the white call-duck, which is smaller in size, having an orange bill and feet. Perhaps no nicer breed could be chosen than the Aylesbury, the objection which is sometimes made to white, on account of dirt showing, does not apply to ducks, as they will always keep themselves scrupulously clean when they have access to water.

On this account, as well as others, ducks should always have a separate place to themselves, and not be allowed to squat on the ground in the fowl-house, beneath the perches of the roosting fowls, which is frequently seen. A thin sprinkling of straw on the ground, or any other kind of fresh litter, should be spread for them, and removed every day, for if not kept perfectly clean, their place will soon become very offensive. This will apply to ducks of all colours.

*Warwick Blues.*—This is a fine large breed, which is held in good repute in Warwickshire, where it is mostly to be met with. In almost every district there is something connected either with soil, climate, or situation, which leads to the particular development of certain species, and this appears to be the case with the above.

*The Black East Indian Duck.*—The feet, legs, and

entire plumage of this beautiful bird should be entirely black, as well as the bill, which has a slight under-tinge of green. Not only the neck and back, but the larger feathers of the tail and rump, shine with a lustre of metallic green, the hen also exhibiting traces of the same. A few white feathers will appear about the breast, in imperfect specimens. One remarkable feature in connection with these birds is, that upon first commencing laying the eggs are black. This is not caused by any internal stain, but arises from an oily pigment, which may be easily scraped off, those which come afterwards gradually toning down to the colour of those usually laid by ducks.

They lay as well as the other kinds, and do not require more than the usual amount of attention to rear. If well kept, they possess the merit of being fit for the table when taken direct from the pond, without undergoing any previous process of fattening. As these pair, an equal number must be kept of ducks and drakes.

*Rouen Ducks.*—These are great favourites with those who prefer ducks which have dark-coloured plumage. They are of large size, and generally do very well in any situation where ducks are commonly reared.

The Rouen do not lay till February or March, but they are considered by some to be better layers than Aylesbury; good specimens of these ducks will weigh eight or nine pounds each. The drake has a blue-green head—which has given rise to the term of “drake’s-neck,” as descriptive of colour when applied sometimes to articles of clothing, as silks for ladies’ dresses—with claret-brown breast, the under part of

the body being of a rich gray, shading down to white towards the tail ; back of a metallic black, up to the tail feathers, with wings of a grayish brown, in which is marked a distinct ribbon-like stripe of purple and white. The flight feathers are gray and brown in the best specimens, and the legs yellow ; the bill being long, of a yellowish hue, with a pale shading of green over it, with a jet black "bean" at the tip.

The head of the duck is of dark brown, with two distinct light brown lines running along each side of the face ; pale brown breast, pencilled with dark brown ; the back being brown, pencilled with black. The shoulder of the wing is also pencilled with black and gray, the flight feathers being dark gray with ribbon-mark the same as the drake.

*The Musk Duck (Carina moschata).*—This is a distinct variety from the common duck, and owes its name to the strong scent of musk which is exuded from its skin. It is much larger in size than the common duck, and the flesh is very good eating, but as it is far inferior, as a layer, either to the Aylesbury or Rouen, it cannot be considered a useful variety. The general colour is glossy blue-black, varied with white, but pure white are sometimes met with. A round rim of scarlet flesh surrounds the eye, brought round from scarlet caruncles at the base of the beak. It has not the curled feathers, which are distinguished sometimes by the term "drake's-tail," usually seen in the common drake.

It is often erroneously called the Muscovy duck, but it is a native of South America, and was brought to Europe about 1500 ; and the learned Dr. Caius, in 1570, describes it accurately under the name of *Anas*

*Indica.* Equally early mention is made of that white variety, and it has been said that the Cairo duck of Aldrovandi and the Guinea duck of other writers is identical with it. Willoughby mentions that Bellonius thus describes it: "A few years ago a certain kind of ducks began to be kept in France, of a middle size between a goose and a duck, having a broken voice, as if it had distempered, or ulcerated lungs. Now there is so great plenty of them in our country, that they are everywhere kept in cities, and publickly exposed to sale. For at great entertainments and marriage feasts they are sought for and desired. . . . Their flesh is neither better nor worse than that of a tame goose or duck."

*The Hook-billed.*—These are both white and coloured, and have been described by Albin, a great deal more than a hundred years since, as well as the penguin or upright duck, which is a droll-looking variety. These are supposed to have been originally importations from the East.

There are other cross-bred kinds which are not entitled to any special description, but there remains the Cayuga, or large black duck of America, which is hardy and a good layer, but is seldom seen in this country.

One main point should be observed in the management of ducks, upon which particular stress must be laid, and that is, never to let them out of their pen of a morning until they have laid their eggs. The duck is very careless about laying, and does not attach nearly so much importance to the transaction as the hen, frequently dropping her eggs in the water whilst swimming. Thus, ducks' eggs are frequently

picked up by children, or become the perquisite of the rats which often infest the banks of ditches and water-courses.

*Indian Runners.*—An interesting account respecting these ducks was published in *The Country*, in the issue of August 16th, 1877 :

“At the last Dumfries Poultry Show, there was a separate class for Indian Runners, and as these birds are new to most fanciers, especially to those living in the south, and Mr. W. B. Tegetmeier, who was the judge, told us he had never seen them before, we have made some inquiries as to the origin and usefulness of these birds.

“It will be seen from the following letters that these ducks would probably prove very useful on farms, as they will follow the plough, and eagerly devour the worms and grubs, and they are also very prolific egg-producers.

“Mr. W. Pool, of Dumfries, and Mrs. Pool, of Milnfield, have very kindly furnished us with the following particulars of these birds, which will be read with much interest by all fanciers. If any of our readers are able to give further particulars, we shall be very glad to hear from them.

“Mrs. Pool writes: ‘The Indian Runner ducks are all that they have been represented to you—splendid layers, producing an egg almost daily, except when they are moulting, or there is a hard frost; they lay constantly, and what is still more in their favour, they require very little food to be given them, as they search for it themselves, feeding upon grubs, worms, etc. They may be seen following the plough at a distance of nearly a mile from home. I

cannot say so much in their favour for the table, as they are small, though very sweet food. The first was given by a Mr. Wilson to my brother-in-law, Mr. W. Pool, of Dumfries, who told him they were called Indian Runners, and said the natives gave them a great name as egg-producers.'

"Mr. W. Pool says : 'I have made every inquiry about Indian Runner ducks, but can find out nothing further about their history than what my sister-in-law wrote you ; but I will try to describe them to you as well as I can. Head, neat, small, and snake-like (but why it should be called snake-like I am at a loss to say, but I suppose it will be for the same reason that a good greyhound's head is called such); neck, long and thin; wings, rather short; colour of duck, light or dark gray, like Rouen, with sometimes a white band half-way round neck, from one-eighth to a quarter-inch deep, the gray nicely pencilled ; the drake about same as Rouen, but the claret on breast not coming so well down to the water-line ; legs rather long, and set far back ; the body long and slender, and when walking or running they are nearly erect, like a penguin ; they can run at a great speed, seldom making any use of their wings. I don't think they can stand a great length of time in the water, as last year we lost three birds in the following manner : In the field near the house is a stone trough, used for the cattle to drink out of ; this was all right at eight o'clock, but three hours afterwards three full-grown ducks were found in it drowned, the depth of water being only about eighteen inches, and from top of water to top of trough about twelve inches. These were the first ducks I ever knew drowned ; they



were plucked and examined, but no marks were found on them. Two others were in the trough and were nearly dead, but on being taken out soon recovered. I have no doubt whatever but they were drowned. I think I hear you exclaim: 'Drown a duck—impossible!' I must now give you what I consider their superior qualities over most other ducks, but before doing so, I may say they are, for size, about the size of the wild duck—what we in Scotland call the mire duck. They are the best egg-producers of any ducks. Their eggs are large, and good in flavour. They seldom stop laying, except when moulting, or when the weather is very severe. They seem to prefer finding their own food, and are continually hunting the fields for worms, and may be seen sometimes a long distance from home. It is a pretty sight to see twenty or thirty of these ducks let out in the morning. They go off at such a pace to their last night's feeding-ground, and come home always in Indian file, with crops fit to burst. I may add, that one drake can manage a great many ducks, and it does not seem to matter how many he has, the eggs invariably prove fertile. Their flesh is good, but they are seldom in condition for killing. It is as egg-producers they are famed, and, being easily kept when crossed with Rouen or Aylesbury, they produce very fine birds, and first-rate table-fowls, being large, and I think the flavour of the flesh improved. If I can assist you further, I shall be glad to do so."

*Commencement of Duck-keeping.*—I began my experience in duck-keeping with a sitting of eggs that was given to me by a kind friend, who lived at a pleasant place in Hertfordshire, where the canalised river

Stort separates it from Essex, not far from Bishop's Stortford, and this gentleman had some very handsome ducks, both of the Aylesbury and the Rouen species, each being of the largest kind.

Only three out of the number hatched, however, grew up to maturity, as the rats destroyed the remainder. They were two ducks and one drake, the latter a most unusual specimen, for he was white all over, and possessed all the characteristics of the Aylesbury breed, excepting his head, and for a short distance down his neck, which was of dark green. A fox ran away with him one night, much to his owner's regret.

The two ducks left to themselves used to lay an immense number of eggs, as they had access to the food bowls of two greyhounds, which lived upon a mixture of boiled greaves and pollard. The hounds would snap at the ducks if they presumed to eat from the bowls before they had satisfied their own hunger; but after that, they complacently allowed them to clear out the dishes with their bills. The ducks used both to lay in one nest at first, until the nest was found, and the eggs taken away, one after another, and although nest-eggs were left they would not return, but make another elsewhere.

One was a pure white Aylesbury, and the other a Rouen. The former used to lay a white egg, a little duller in colour than an ordinary fowl's egg; and the dark duck a greenish-coloured one; so that the eggs of each could be distinguished. All at once no eggs could be found; and the men about the place could find no trace of any duck's-nest. The wife of the writer at that time used to miss the ducks'

eggs for her puddings, and so made diligent search herself. After looking into all sorts of holes and corners, an egg was at length discovered in some long grass, just peeping into sight out of some long grass by the edge of a pond, at the bottom of an orchard. Upon nearing it to secure it, not one, but about twenty were found, all light-coloured ones, which were identified as those belonging to the Aylesbury. It was immediately surmised that the dark duck must have a nest close by; but although careful search was made, it could not be found. The eggs were removed, leaving two behind; and knowing that the ducks had deserted their nest previously, when it had been tampered with, curiosity was aroused to see if the usual result would happen. Surprise was excited, however, to find that the nest contained not two, or three eggs only, including the couple left, but a dozen! Ten of them, or so, were the green ones belonging to the dark duck, and on looking a little farther, another stray egg was discovered on the road, between another artfully-hidden nest resorted to by the dark duck, well concealed at a short distance from the other, where there were eight or ten more eggs; the fact being that, the white duck, finding nearly all her eggs gone, had robbed the dark duck's nest of the better half of her eggs, which no doubt she had pushed along with her bill, leaving one on the road midway between the two nests.

When breeding afterwards upon a regular plan, I resorted to the best system of making ducks pay, by having the best sort of the largest and finest Aylesbury I could procure; and as the young ducks were hatched, they were kept from water, and supplied

liberally with barley-meal and oatmeal, mixed with skimmed milk or water.

Although it may be considered too bad to prevent the duck from going into its native element—the water—I used to separate about forty ducklings from their mothers, and pen them between some hurdles, from which they were unable to escape, in an orchard. A large flat packing-case, with broad sides and narrow top and bottom, was laid down on the grass with one of its sides knocked out, which otherwise would have formed the bottom as it was placed, so that, as it stood, one side acted as the top; the real top, which was taken away, becoming the entrance; and into this they used to go at night, and huddled together, where they were as warm as possible. By this means, in addition to being confined within hurdles, the case was easily shifted by being pulled a few steps forward or backwards, and their dormitory was fresh and clean each night for them to go into; a thin covering of straw being laid on the ground in a new place each day, over which the box was placed. In six or seven weeks they were plump fat ducks, fit for killing, and, of course, exquisitely tender.

*Duck-breeding.*—The following letter upon duck-breeding appeared in *The Country*, under date June 28th, 1877, and signature of James Long; which will be found to contain a good deal of homely truth:

“Few poultry fanciers, I believe, speaking comparatively, breed ducks, and yet they will take a vast amount of trouble to rear chickens of delicate species, which, after all, pay them nothing relatively for their trouble. I do not think anyone will deny the

assumption that poultry fanciers have an eye, at least, to make their hobby pay. True, some amateurs at times write a letter, commenting strongly upon the practice of others in 'prize grabbing,' and so on ; but doubtless, these very men, had they such birds as could win time after time, would no doubt send them. Well then, granted that all, from 'my lord' down to the humblest mechanic or collier, desire to see the balance of £ s. d. on the right side, why do they not breed ducks more readily ? I cannot tell what can be the objection ; for I have myself kept them but a short time only in comparison with fowls, and yet there was an undefined something which made me overlook them for so long. People must have a reason for discarding ducks. Is it because they have no water ? If so, that is no earthly reason. (Query, watery reason ?) Is it because they consume so much food ? If so, it must be borne in mind that they fatten in so much quicker time, and are ready for table at nine or ten weeks. No doubt the majority of persons associate ducks with a pond, and naturally enough ; for, for fine condition and prolific breeding, a pond is almost necessary, and yet for simply keeping, rearing, and even showing ducks, no pond is a necessity. As a rule, duck-eggs are very fertile, although this season appears to have been an exceptionally bad one, sitting after sitting being bad. One gentleman, whose ducks are among the best in the county, tells me that he has but twenty-nine out of some 200 eggs sat. Others are equally unfortunate among high-class breeders, yet among the commoner sorts they have been prolific. Anyone with a back-yard should keep a few ducks. The best plan is to purchase eggs,

put them under hens, and so as to hatch three or four lots at once. A hen will protect as many as thirty or forty, for, unlike chicks, there seems to be a precocity beyond the years of a duckling, and after two or three days they seem to do very well without any parent at all. I saw forty cross-bred ducklings some time back all under one hen. A very small space is sufficient for them to run about in, and a tin or iron dish, not above an inch or so deep, is all that is required in the way of water. If many ducklings are together they may have a larger vessel, or two or three, as the case may be. For the first day or two, some chopped egg, boiled rice, bread and meat, etc., mixed with meal and chopped nettles (boiled), is very good food. This may be given them several times during the day, and varied to entice their appetites, which will shortly require no enticing at all. When they appear sufficiently old-fashioned, as they will in a few days, to be able to feed and run about as though they were old birds, then feed them three times a day. Barley-meal is about the best food ; it should be given tolerably well mixed, friable, so that in distribution it takes up no dirt. This meal should be cleared up clean, but the mid-day meal may be mixed less stiffly, and put in a bowl for the little ones to help themselves, sufficient being given to last the whole afternoon. Then the last again at night as in the morning. When the ducklings get a good start they will grow rapidly, and surprise those not accustomed to them. The larger the space they have to roam about, the longer will they be in fattening ; and if a pond is allowed, then they will be some weeks longer in growing even fit for table. There



need be no fear of the water harming them, though this is contrary to the opinion of many, but I have never lost a duckling from allowing it to go to the pond. Water in which young ducks spend most of their time, though it delays them in growth, nevertheless makes them into fine, strong adults, and I do not think makes any difference in the size of the frame. Some persons feed on the offal from some slaughter-house, others on tallow-greaves, but I think, take all in all, nothing beats sound meal. What then is to hinder the thousands of towns-folk from rearing a few ducklings for their own table, at a cost of little money and little trouble? How many gratifying meals would be provided—one also which many often covet, but will not go to the expense to obtain? If they care to retain a drake and a few ducks for laying, for fancy, or for breeding, then a little labour and it is done. Any handy man can make a miniature pond in his own garden; it need be no more than four feet square, and eighteen inches to two-and-a-half feet deep. I saw such a pond the other day, in which were fancy ducks, mandarins, and whistlers, with Aylesbury in their turn. This was a wooden pond, and answered very well. Cement would perhaps be better. Those who would like to keep ducks for profit should remember that both Aylesburys and Rouens lay a large number of fine eggs, and are ready eaters of all garbage, insects, snails, and worms. They can be fenced off a garden by a railing less than a yard high; and though they make the ground dirty where they run, they keep themselves very clean. In some parts the cottagers rear numbers of ducks, and seldom have they more



room than a small back-yard. I have seen in a yard about ten yards square as many as seventy full-grown ducklings, which had been reared, fattened, and sold off by the first week in May, making a high price for the London market. Persons who do not care to hatch their ducklings can readily purchase them a few days old, or more, from one shilling each, through the papers, and I believe even at some markets—of course I refer to cross-bred ducklings. This is the custom with many farmers, who purchase them when old enough to take their chance in the farm-yards, and eat up all the refuse corn, which would be wasted but for the birds."

The time of incubation of ducks is thirty days, and whether it is intended to rear for stock or not, they should be kept away from the water for a fortnight. It is found a good plan to cut off the long down at the tails of the ducklings with a pair of scissors, to prevent them from getting bedraggled.

## CHAPTER VIII.

The Goose—Pennant—The China Goose—Pea-fowl—The Swan—  
Guinea-fowl.

I HAVE never kept any great number of geese, considering their presence objectionable where there are a number of grazing animals like milch-cows, as they injure the grass a good deal, and make it foul with their excrement; but they give very little trouble to their owners, and ought to be much more frequently kept than they are, by those who live in the neighbourhood of commons, and other waste or semi-waste lands.

They appear to have been kept in much greater numbers during the past century by single individuals, than they are at present, Pennant stating that single owners were the possessors of a thousand geese in districts such as the fens in Lincolnshire, or the Surrey commons.

Probably the greater number of cattle that are now kept, and the grazing land being considered to be partly spoiled for feeding purposes, where geese go upon it, as well as the alteration in the opportunities presented to the class of persons who would interest themselves in this kind of business, on account of the

land being more completely taken up, has been one principal cause for their numbers being lessened.

"During the breeding season," says the author I have quoted, "these birds are lodged in the same houses with the inhabitants, and even in their very bed-chambers. In every apartment are three rows of coarse wicker pens, placed one above another; each bird has its separate lodge divided from the others, of which it keeps possession during the time of sitting. A person called a 'gozzard,' *i.e.* gooseherd, attends the flock, and twice a day drives the whole to water; then brings them back to their habitations, helping those that live in the upper stories to their nests, without ever misplacing a single bird. The geese are plucked five times in the year; the first plucking is at Lady-day, for feathers and quills; and the same is renewed four times more between that and Michaelmas for feathers only. The old geese submit quietly to the operation, but the young ones are very noisy and unruly. I once saw this performed, and observed that goslings of six weeks old were not spared, for their tails were plucked, as I was told, to habituate them early to what they are to come to. If the season prove cold, numbers of the geese die by this barbarous custom. When the flocks are numerous, about ten pickers are employed, each with a coarse apron up to his chin. Vast numbers of geese are driven annually to London to supply the markets—among them all the superannuated geese and ganders (called the cagmags), which by a long course of plucking prove uncommonly tough and dry."

Apropos of driving geese to market, it is related

that George IV., when Prince of Wales, saw a flock of turkeys and a flock of geese being thus driven towards London ; and bets were laid as to which could be made to reach their destination soonest. Odds were freely laid on the turkeys, but the Prince Regent, who upon this occasion knew what he was about, backed the geese. The turkeys were driven along at a rattling pace, and soon outstripped their slower-paced competitors. But towards night the aspect of matters entirely changed ; for the turkeys with one accord got up to the trees and fences, to roost by the wayside ; while the geese jogged steadily on all night, and won the race.

Upon first reading Pennant's account many years ago, it struck me in relation to the barbarous custom described, that the geese of the present day have much to be thankful for to the steel-pen makers, and that they must hold the names of Gillott, Mitchell, and others, in affectionate remembrance.

The ganders are generally found more pure white than the geese. All white geese are generally called "Emden geese," after a town in Hanover, but are really not different to the ordinary English goose, while Toulouse geese are larger in size ; but all the different varieties resemble each other, in not reaching their prime till they are three or four years old. The eggs laid are fewer ; and the young are not so strong. Two or three geese are generally assigned to one gander.

Well-fed geese will lay in the middle of January, and will cover eleven of their own eggs ; the time of incubation being thirty days, a little more or less according to season. When hatched, they had

better be left all the first night with the mother. The common way of first feeding them is to break an egg in a cup, and mix with it as much flour as can be made up into a stiff paste. This is formed into pellets, about half an inch long, of the thickness of a goose-quill, which are dried slowly before the fire. A few hours after the goslings are born, these are dipped in milk, to make them slip down their throats easily, and three or four are administered to each by cramming. The administration of this delicacy is supposed to hasten their growth, but it need scarcely be said it is not at all necessary.

Geese should be set in March, or early in April, as they are difficult to rear in hot weather. The gander displays great affection for the goose while she is sitting, and will often remain by her for hours together. Geese also frequently show attachment to persons, whom they will occasionally accompany like a dog, and many anecdotes of their sagacity are related.

After a fortnight, the goslings will be able to shift for themselves, requiring protection from heavy rain until they are fledged, and they should have plenty of dry litter to prevent them having attacks of the cramp. Corn should be given to them as soon as they can eat it, and it is essential that plenty of green food be supplied.

Green geese sell at high prices in the London markets. They are usually fed upon oatmeal and green peas, mixed with skimmed milk; and can be got round in about four months fit for the table. The same treatment applicable to ducklings is also suitable to goslings.

*The China Goose.*—The China goose, if well fed, lays a great many eggs; the time of incubation is longer than that of the common goose, being five weeks. They have the name of being bad sitters. It is also termed by some the Chinese swan.

*The Chinese White Goose.*—This variety is more swan-like than the above, having snowy plumage, a bright yellow-orange bill, knob, and legs. The time of incubation is less than that of the other.

The domestic goose is said to be the best and most reliable kind of any to keep, by those who have tried the various breeds, but my own experience has been extremely limited with them, for the reasons I have before assigned.

*Pea-fowl (Pavo cristatus).*—The common pea-fowl begins to lay the third summer after she has been hatched, the number of eggs varying from five to seven. They are smooth, marked with little indentations, as if pricked with a blunt pin; somewhat larger than a turkey's egg, sometimes, but not always, covered with freckle-like marks. The time of incubation is from twenty-seven to twenty-nine days, and the young chickens require to be reared in precisely the same manner as that pursued with turkeys.

The birds do not reach maturity till their third season, but are handsome from the first, and are, perhaps, the most beautiful of all birds when their gem-like plumes are fully furnished. The hen conceals her eggs from the cock, which is animated by the same jealousy towards them as displayed by the turkey, and he sets about breaking them whenever he can discover them. They are also destructive to the young of other fowls. The best plan to adopt, when

a number of these birds is kept, is to kill and eat every male bird in the autumn, or winter, succeeding the spring in which he first coupled with the hen; and not even to keep the hens beyond the second year of their becoming mothers. The flesh of these birds is finer eating than it is commonly imagined to be, if killed in the best condition, which is either before they have begun to moult, or after they have completed moulting. It is a pity they are so unamiable, for it is almost impossible to exaggerate their beauty; the female having the aigrette, as well as the male, though not the splendid colour and gorgeous plumes which distinguish the male. The Japanned pea-fowl, sometimes erroneously called the Japan pea-fowl, is a distinct variety, the prevailing colours being blue and green, which blend with one another according to the action of the light. The feathers of the neck and breast are short and rounded, being at their base of the same bright colour as the head, with a lighter and broader margin. There is a naked place on the sides of the head, including the eyes and ears, which is bluish-green in front, and light yellow behind; the primary quill feathers being of a light chestnut. Their train plumes have the same markings, and closely resemble those of the common species.

The peacock is unsuited to confined spaces, and shows to the best advantage where there are broad terraced walks, or open glades, roosting most frequently on the gable-end of some building, or high up in the branches of a tree, which is readily accessible to it.

*The Swan.*—This handsome bird can scarcely be classed with domestic poultry, though at one time



cygnets were commonly eaten, and "swan-hopping," or "upping," was formerly a popular sport, as mentioned in another place.

The large white swan usually seen upon lakes, and ornamental water is the kind known as the mute swan, and weighs from twenty-five to thirty pounds ; the beak being dark red, on which is a black knob, the tip of the beak being curved. Its wings, when expanded, will measure seven feet and a quarter across, and the bird stands four feet and a half high, from its feet to the top of its head.

There are five other varieties. The Polish swan, the Australian black swan, the Chilian, Bewick's swan, and the Whooper, or whistling swan. The latter is a native of northern European countries. Bewick's swan is not so familiarly known as the black swan of Australia, but they may be seen in zoological collections, as well as the Chilian.

The cygnets of the Polish swan are white, instead of being gray.

*The Guinea-fowl.*—The Guinea-fowl is a native of Africa, of which there are several distinct species in its native country, one of which has a handsome crest, or top-knot, but only one species, that of the common Guinea-fowl, is familiarly known in England.

It is generally highly esteemed both for its flesh and eggs, and out of the game season a Guinea-fowl is often considered a capital substitute for game. The two varieties of the Guinea-fowl chiefly seen in England are the white—which is said to be more delicate than the others, but I believe without reason—and the more common pied-coloured ones. There is however one kind, the plumage of which

more nearly resembles the wild species, speckled all over with very minute spots, and having no white feathers, except the first few quills of the wing. Another variety, which is somewhat rare, is distinguished by much darker plumage; the spots being nearly obliterated.

Guinea-fowls mate in pairs, the female alone having the call note, which is likened to the words "Come back, come back!" which has caused them to be often vulgarly called "come backs" by the rustics in the Eastern counties. The hens lay a great number of eggs, but they are laid very often astray, which is considered a great drawback to the keeping of these birds by many. They are of a wandering habit, and like to prowl about hedge-rows, and in plantations and shrubberies, in which they will often conceal themselves and their nest so skilfully, that it is often difficult to discover their whereabouts, which however is very often disclosed by the presence of the cock, who jealously guards the spot where the hen is laying. Sometimes she will make her appearance unexpectedly at the farm-house, accompanied by a fine brood of chickens. The time of incubation is four weeks—some say twenty-six days. If left to themselves, they are likely to bring forth their brood too late in the season to allow of the young chickens being brought up before the wet season sets in; and the game-hen is therefore often used with advantage in hatching Guinea-chicks. Those who propose to keep Guinea-fowl for the first time should procure a pair, or pairs, in January or February; although, if eggs alone are wanted, it is immaterial how many hens are associated with one cock; for breeding, if

more than one hen is allotted to a cock, there is a danger of their not being properly fertilised, which is a very important point to those who are looking to the result of a hatching. The same constant attendance upon the young chicks is as necessary as that given to turkeys, to which, being a gallinaceous bird of the same order, it bears a family likeness in some respects, though a wide divergence in others. The young birds are very delicate, and difficult to rear, until the horn on their heads is fully grown. After which, like the turkey, when he has acquired his red head, they will become hardy and take care of themselves; deserting their mother, and keeping up their search for insects and seeds, long after the other poultry have retired to rest.

Guinea-fowls generally prefer to roost on a tree, and they call to each other in a discordant tone, before retiring for the night, making a noise which is very objectionable to some people.

One very successful breeder of Guinea-fowl is in the habit of putting the eggs he desires to have hatched, under a common hen, but not before the end of May, as, according to his opinion, they are apt to prove unfertile; but as this gentleman allows two hens to one cock, perhaps he may err in this particular somewhat. When the young birds are first hatched, he feeds them on ants' eggs, curds, chopped onions, bread and milk, Spratt's chicken food, etc., varying their provision as much as possible. For the first week they are kept under a wooden coop with the hen, the coop being open in front, through which the chickens can run in and out. At night they are shut in, and let out again the next morning. The hen is

kept in the coop for the first six weeks, the position of which is constantly changed, to keep the earth fresh and clean. When the weather is fine, he allows the hen to have a run occasionally, with her young brood. His chickens, he says, will stay with the hen for some months, and also, further, that he has not had a single bird die for two years together.

Fewer Guinea-fowls are kept in England than turkeys even, their wandering habits causing them to be objectionable to many.

The hens lay daily throughout a great part of the summer, and mostly use one common nest, till the eggs are removed, when they will go to a fresh one.

The male is of a spiteful and cruel temper, and will often pick a quarrel with birds of a larger size, and more fully armed by nature; for his only aggressive weapon is his bill, which he uses so adroitly, that his superiors in strength and weight often literally "turn tail" before him. He seems, at times, to take a particular aversion to the tails of some cocks; at which he will make a direct attack, so that it is not uncommon to see ordinary barn-door cocks walking about denuded of these ornamental appendages, where Guinea-fowls are kept. Their mode of attack always, at first, puzzles the ordinary cock; but in time, when he gets used to it, the tables are turned, and the Guinea-cock often gets a sound thrashing.

The presence of one or two of those stately birds, the peacock, about a country residence, even on a neatly-trimmed, well-gravelled path, and where there are no palatial terraces, adds a great charm, and adornment, in my opinion to one's residence; as well as a swan or two where there may happen to be a

small lake, or piece of ornamental water ; and these, although not to be included amongst the items of farming for profit, may be well classed, I consider, amongst those which are to be styled farming for pleasure.

THE END.

# Chapman & Hall's Publications.

---

## FARMING FOR PLEASURE AND PROFIT.

BY ARTHUR ROLAND. EDITED BY W. H. ABLETT.

1. DAIRY FARMING. Large crown 8vo, cloth, 5s.
  2. POULTRY-KEEPING. Large crown 8vo, cloth. [*Nearly ready.*]
  3. TREE-PLANTING. Large crown 8vo, cloth. [*In the Press.*]
- 

## WORKS BY GEORGE FLEMING, F.R.C.S.

ANIMAL PLAGUES: THEIR HISTORY, NATURE, AND PREVENTION. 8vo, cloth, 15s.

PRACTICAL HORSE-SHOEING. With 37 Illustrations. Second Edition, enlarged. 8vo, sewed, 2s.

RABIES AND HYDROPHOBIA: THEIR HISTORY, NATURE, CAUSES, SYMPTOMS, AND PREVENTION. With 8 Illustrations. 8vo, cloth, 15s.

A MANUAL OF VETERINARY SANITARY SCIENCE AND POLICE. With 33 Illustrations. 2 vols., demy 8vo, £1 16s.

LESSONS IN HORSE JUDGING; with an APPENDIX ON THE SUMMERING OF HUNTERS. By W. FEARNLEY, late Principal of the Edinburgh College. With Illustrations. Crown 8vo, 4s.

THE PLEASURES AND PROFITS OF OUR LITTLE POULTRY FARM. By Miss G. HILL. Crown 8vo, 3s.

NATIONAL TRAINING SCHOOL FOR COOKERY. Containing Lessons on Cookery, forming the Course of Instruction in the School. With List of Utensils Necessary, and Lessons on Cleaning Utensils. Compiled by "R. O. C." Large crown 8vo. Fourth Thousand, 8s.

ROYAL CONFECTIONER: English and Foreign. A Practical Treatise. By C. E. FRANCATELLI. With Coloured Illustrations. Third Edition. Post 8vo, cloth, 7s. 6d.

HOME LIFE. A Handbook and Elementary Instruction. Containing Practical Suggestions addressed to Managers and Teachers of Schools, intended to show how the underlying principles of Home Duties or Domestic Economy may be the basis of National Primary Instruction. Crown 8vo, 3s.

PRETTY ARTS FOR THE EMPLOYMENT OF LEISURE HOURS. A Book for Ladies. By ELLIS A. DAVIDSON. With Illustrations. Demy 8vo, 6s.

THE AMATEUR HOUSE CARPENTER: A Guide in Building, Making, and Repairing. By ELLIS A. DAVIDSON. With Numerous Illustrations, drawn on Wood by the Author. Royal 8vo, 10s. 6d.

---

CHAPMAN & HALL, 193, PICCADILLY.

THE ZULUS AND THE BRITISH FRONTIER. By Captain LUCAS, Author of "Camp Life in South Africa." Demy 8vo, 16s.

"Even if South Africa did not so much engage public attention at this moment, Mr. Lucas's book would be well worth reading. It is not a catchpenny publication, but a well-written and well-arranged study of our relations with the Zulus. Mr. Lucas expresses himself in a vigorous and manly style, without waste of words; and though he makes use occasionally of the figure of irony, he never declaims, and never tries to be humorous out of place. He himself has had some military experience near the scene of the present disturbances, and he writes with a military clearness and directness which commands attention."—*Saturday Review*.

OUR NEW PROTECTORATE. Turkey in Asia: its Geography, Races, Resources, and Government. With a Map showing the Existing and Projected Public Works. By J. CARLILE M'COAN. 2 vols. large crown 8vo, 24s.

"By 'Our New Protectorate' Mr. M'Coan means Turkey in Asia; and, if the title suggests rather the possibilities of future politics than anything which exists now, still he is quite right in thinking that there is at present a sufficient amount of vague interest in Asiatic Turkey to deserve the gratification of a good book on the subject. And, if a good book was to be made about Asiatic Turkey, it is difficult to see how it could have been made with greater success than has attended the efforts of Mr. M'Coan. He has told us all that we could wish to know; he has put his information into a compact and readable shape; and he has supplied just as much detail as gives body to his work without overloading it. He has, too, a personal knowledge of many parts of the vast district he describes: and has been for years familiar with the Turks, their ways and work. He has also the great merit of never exaggerating, and has composed a book bearing on the Eastern Question without a line of fine writing from the beginning to the end of his two volumes."—*Saturday Review*.

"Mr. M'Coan's book is not only full of interest, but is an authority of the highest value on the subject which he has taken in hand. He writes with authority and not with the off-hand flippancy of a mere traveller; for he has lived long among the Turks, and has seen much of most of the countries of which he treats."—*John Bull*.

IMPERIAL INDIA. By VAL PRINSEP, A.R.A. Containing numerous Illustrations made during a Tour to the Courts of the Principal Rajahs and Princes of India. Demy 8vo, 21s. [Second Edition.]

"It is hoped that the author of this work may be as successful in his delineation of the Great Durbar on canvas as he has been in the wood pictures we have noticed. His book is one of the most readable that has lately appeared on the subject of India, full of interest and of touches of humour which make it a pleasant companion from the first chapter to the last. . . . It may be added that the illustrations are superlatively good."—*Athenæum*.

"A volume lively and original to a degree quite unusual in books about India—the most vivid as well as the most complete account of the reigning native princes as a class to be found in any single book."—*Graphic*.

"Mr. Prinsep must have seen more of India than usually falls to the lot of any one Englishman, and he is a shrewd and clear-sighted observer. The novelty of India and things Indian to an English artist comes out very strongly, and these first impressions are happily expressed. The book may be accepted as a felicitous prelude to the great painting now in process of completion."—*The Week*.

BRITISH CYPRUS. By W. HEPWORTH DIXON. Demy 8vo, 15s.

"'British Cyprus' is in essential points an able and piquant work, and full of fresh and valuable information."—*Graphic*.

THREE YEARS IN ROUMANIA. By J. W. OZANNE. Crown 8vo, 7s. 6d.

---

CHAPMAN & HALL, 193, PICCADILLY.



ON THE FRONTIER. Reminiscences of Wild Sport, Personal Adventures, and Strange Scenes. By F. S. CAMPION, late Major, Staff 1st Br. C.N.G., U.S.A. With Illustrations. Demy 8vo, 16s. [Second Edition.]

ON FOOT IN SPAIN. By the same Author. With Illustrations. Demy 8vo, 16s. [Second Edition.]

SPORT IN BRITISH BURMAH, ASSAM, AND THE CASSYAH AND JYNTIAH HILLS. With Notes of Sport in the Hilly Districts of the Northern Division, Madras Presidency. By Lieut.-Colonel POLLOK, Madras Staff Corps. 2 vols. demy 8vo, with Illustrations and 2 Maps, 24s.

RAMBLES IN NORTH-WEST AMERICA. By J. M. MURPHY. Demy 8vo, with Map, 16s.

CAMP LIFE AND SPORT IN SOUTH AFRICA. With Episodes in Kaffir Warfare. By Capt. LUCAS. With Illustrations. Demy 8vo, 12s.

LIFE OF CHARLES LEVER. By W. J. FITZ-PATRICK. 2 vols., demy 8vo, 30s.

THE LIFE OF SIR JOSHUA WALMSLEY. By his Son, HUGH MULLENEUX WALMSLEY. With Portrait, demy 8vo, 14s.

AUTOBIOGRAPHY OF SIR GEORGE BIDDLECOMBE, C.B., Captain R.N. With a Portrait and Obituary Notice. Large crown 8vo, 8s.

PRINCE BISMARCK'S LETTERS. Translated by FITZ H. MAXSE. Small crown 8vo, cloth, 6s. [Second Edition.]

LECTURES ON ART. By E. J. POYNTER, R.A. Large crown 8vo, 9s.

### THE LIBRARY OF CONTEMPORARY SCIENCE.

ÆSTHETICS. By EUGENE VERON. Translated by W. ARMSTRONG. Large crown 8vo, 7s. 6d.

PHILOSOPHY, HISTORICAL AND CRITICAL. By ANDRÉ LEFEVRE. Translated by A. H. KEANE, B.A. Large crown 8vo, 7s. 6d.

BIOLOGY. By DR. CHARLES LETOURNEAU. Translated by WILLIAM MACCALL. With Illustrations. Crown 8vo, 6s.

ANTHROPOLOGY. By DR. PAUL TOPINARD. With a Preface by Professor PAUL BROCA. Translated by ROBERT T. H. BARTLEY, M.D. With Illustrations. Crown 8vo, 7s. 6d.

THE SCIENCE OF LANGUAGE. By ABEL HOVELACQUE. Translated by A. H. KEANE, B.A. Crown 8vo, 5s.

*Further Volumes in course of preparation.*

---

CHAPMAN & HALL, 193, PICCADILLY.

**SOUTH KENSINGTON MUSEUM SCIENCE AND ART  
HANDBOOKS.**

*Published for the Committee of Council on Education.*

**SPANISH ART.** By SENOR RIANO. Illustrated. Large cr. 8vo, 4s.

**GLASS.** By ALEXANDER NESBITT. Illustrated. Large crown  
8vo, 2s. 6d.

**GOLD AND SILVER SMITHS' WORK.** By JOHN HUNGER-  
FORD POLLEN. With numerous Woodcuts. Large crown 8vo, 2s. 6d.

**TAPESTRY.** By ALFRED CHAMPEAUX. With Woodcuts. 2s. 6d.

**BRONZES.** By C. DRURY E. FORTNUM, F.S.A. With numerous  
Woodcuts. Large crown 8vo, 2s. 6d.

**PLAIN WORDS ABOUT WATER.** By A. H. CHURCH, M.A.,  
Oxon. Large crown 8vo, sewed, 6d.

**ANIMAL PRODUCTS:** their Preparation, Commercial Uses  
and Value. By T. L. SIMMONDS. Large crown 8vo, 7s. 6d.

**FOOD:** A Short Account of the Sources, Constituents, and  
Uses of Food; intended chiefly as a Guide to the Food Collection in the Bethnal  
Green Museum. By A. H. CHURCH, M.A., Oxon. Large crown 8vo, 3s.

**SCIENCE CONFERENCES.** Delivered at the South Ken-  
sington Museum. Crown 8vo, 2 vols., 6s. each.

VOL. I.—Physics and Mechanics.

VOL. II.—Chemistry, Biology, Physical Geography, Geology, Mineralogy, and  
Meteorology.

**ECONOMIC ENTOMOLOGY.** By ANDREW MURRAY, F.L.S.,  
APTERA. With numerous Illustrations. Large crown 8vo, 7s. 6d.

**HANDBOOK TO THE SPECIAL LOAN COLLECTION**  
of Scientific Apparatus. Large crown 8vo, 3s.

**THE INDUSTRIAL ARTS:** Historical Sketches. With 242  
Illustrations. Demy 8vo, 7s. 6d.

**TEXTILE FABRICS.** By the Very Rev. DANIEL ROCK, D.D.  
With numerous Woodcuts. Large crown 8vo, 2s. 6d.

**IVORIES: ANCIENT AND MEDIÆVAL.** By WILLIAM  
MASKELL. With numerous Woodcuts. Large crown 8vo, 2s. 6d.

**ANCIENT & MODERN FURNITURE & WOODWORK.**  
By JOHN HUNGERFORD POLLEN. With numerous Woodcuts. Large crown 8vo,  
2s. 6d.

**MAIOLICA.** By C. DRURY E. FORTNUM, F.S.A. With  
numerous Woodcuts. Large crown 8vo, 2s. 6d.

**MUSICAL INSTRUMENTS.** By CARL ENGEL. With numerous  
Woodcuts. Large crown 8vo, 2s. 6d.

**MANUAL OF DESIGN,** compiled from the Writings and  
Addresses of RICHARD REDGRAVE, R.A. By GILBERT R. REDGRAVE. With  
Woodcuts. Large crown 8vo, 2s. 6d.

**PERSIAN ART.** By MAJOR R. MURDOCK SMITH, R.E. With  
Additional Illustrations. *[In the Press.]*

**FREE EVENING LECTURES.** Delivered in connection with  
the Special Loan Collection of Scientific Apparatus, 1876. Large crown 8vo, 8s.

*CHAPMAN & HALL, 193, PICCADILLY.*

# CHARLES DICKENS'S WORKS.

The Illustrated Library Edition, in Demy 8vo.

Complete in 30 Volumes £15, or 10s. each.

The "Charles Dickens" Edition, crown 8vo.

With Illustrations, 21 vols., cloth, £3 9s. 6d.

Vols. at 3s. 6d.

<i>Pickwick Papers</i> ...	8 Illus.	<i>Barnaby Rudge</i> ...	8 Illus.
<i>Martin Chuzzlewit</i> ...	8 ,,	<i>Old Curiosity Shop</i> ...	8 ,,
<i>Dombey and Son</i> ...	8 ,,	<i>A Child's History of Eng-</i>	
<i>Nicholas Nickleby</i> ...	8 ,,	<i>land</i> ...	4 ,,
<i>David Copperfield</i> ...	8 ,,	<i>Edwin Drood and Other</i>	
<i>Bleak House</i> ...	8 ,,	<i>Stories</i> ...	8 ,,
<i>Little Dorrit</i> ...	8 ,,	<i>Christmas Stories, from</i>	
<i>Our Mutual Friend</i> ...	8 ,,	<i>"Household Words"...</i>	8 ,,
Vols. at 3s.			
<i>Tale of Two Cities</i> ...	8 Illus.	<i>Oliver Twist</i> ...	8 Illus.
<i>Sketches by Boz</i> ...	8 ,,	<i>Great Expectations</i> ...	8 ,,
<i>American Notes and Re-</i>		<i>Hard Times and Pictures</i>	
<i>printed Pieces</i> ...	8 ,,	<i>from Italy</i> ...	8 ,,
<i>Christmas Books</i> ...	8 ,,	<i>Uncommercial Traveller...</i>	4 ,,

## Household Edition.

21 Volumes completed.

- Oliver Twist.* With 28 Illustrations. Cloth, 2s. 6d.; paper, 1s. 9d.  
*Martin Chuzzlewit.* With 59 Illustrations. Cloth, 4s.; paper, 3s.  
*David Copperfield.* With 60 Illustrations and a Portrait. Cloth, 4s.; paper, 3s.  
*Bleak House.* With 61 Illustrations. Cloth, 4s.; paper, 3s.  
*Little Dorrit.* With 58 Illustrations. Cloth, 4s.; paper, 3s.  
*Pickwick Papers.* With 56 Illustrations. Cloth, 4s.; paper, 3s.  
*Barnaby Rudge.* With 46 Illustrations. Cloth, 4s.; paper, 3s.  
*A Tale of Two Cities.* With 25 Illustrations. Cloth, 2s. 6d.; paper, 1s. 9d.  
*Our Mutual Friend.* With 58 Illustrations. Cloth, 4s.; paper, 3s.  
*Nicholas Nickleby.* With 59 Illustrations by F. BARNARD. Cloth, 4s.; paper, 3s.  
*Great Expectations.* With 26 Illustrations by F. A. FRAZER. Cloth, 2s. 6d.; paper, 1s. 9d.  
*Old Curiosity Shop.* With 39 Illustrations by CHARLES GREEN. Cloth, 4s.; paper, 3s.  
*Sketches by "Boz."* With 36 Illustrations by F. BARNARD. Cloth, 2s. 6d.; paper, 1s. 9d.  
*Hard Times.* With 20 Illustrations by H. FRENCH. Cloth, 2s.; paper, 1s. 6d.  
*Dombey and Son.* With 61 Illustrations by F. BARNARD. Cloth, 4s.; paper, 3s.  
*Uncommercial Traveller.* With 26 Illustrations by E. G. DALZIEL. Cloth, 2s. 6d.; paper, 1s. 9d.  
*Christmas Books.* Cloth, 2s. 6d.; sewed, 1s. 9d.  
*The History of England.* With 15 New Illustrations by J. M. C. RALSTON. Cloth, 2s. 6d.; paper, 1s. 9d.  
*American Notes and Pictures from Italy.* With 18 New Illustrations by A. B. FROST and GORDON THOMPSON. Cloth, 2s. 6d.; paper, 1s. 9d.  
*Edwin Drood; Reprinted Pieces; and other Stories.* With 30 Illustrations. Cloth, 4s.; paper, 3s.  
*The Christmas Stories.* With 23 Illustrations. Cloth, 4s.; paper, 3s.

Besides the above will be included—

*The Life of Dickens.* By JOHN FORSTER.

Messrs. CHAPMAN & HALL trust that by this Edition they will be enabled to place the works of the most popular British Author of the present day in the hands of all English readers.

CHAPMAN & HALL, 193, PICCADILLY.

# THOMAS CARLYLE'S WORKS.

## Library Edition Complete, in demy 8vo.

Handsomely printed in 34 vols., £15.

- Sartor Resartus*. The Life and Opinions of Herr Teufelsdröckh. With a Portrait, 7s. 6d.  
*The French Revolution: A History*. 3 vols., each 9s.  
*Life of Frederick Schiller and Examination of his Works*. With Supplement of 1872, Portrait and Plates. 9s.  
*Critical and Miscellaneous Essays*. With a Portrait. 6 vols., each 9s.  
*On Heroes, Hero Worship, and the Heroic in History*. 7s. 6d.  
*Past and Present*. 9s.  
*Oliver Cromwell's Letters and Speeches*. With Portraits. 5 vols., each 9s.  
*Latter-Day Pamphlets*. 9s.  
*Life of John Sterling*. With Portrait. 9s.  
*History of Frederick the Second*. 10 vols., each 9s.  
*Translations from the German*. 3 vols., each 9s.  
*General Index to the Library Edition*. 8vo, cloth, 6s.

## Cheap and Uniform Edition, in crown 8vo.

In 23 vols., £7 5s.

- Oliver Cromwell's Letters and Speeches*, with Elucidations, &c. 3 vols., 18s.  
*The French Revolution: A History*. 2 vols., 12s.  
*Lives of Schiller and John Sterling*. 6s.  
*Critical and Miscellaneous Essays*. 4 vols., £1 4s.  
*Sartor Resartus and Lectures on Heroes*. 6s.  
*Latter-Day Pamphlets*. 6s.  
*Chartism and Past and Present*. 6s.  
*Translations from the German of Musæus, Tieck, and Richter*. 6s.  
*Wilhelm Meister*, by Goethe: a Translation. 2 vols., 12s.  
*History of Friedrich the Second*, called Frederick the Great. 7 vols. £2 9s.

## People's Edition, small crown 8vo.

In 37 vols., bound in cloth, 2s. each vol.

Or in sets of 37 vols. in 19, cloth gilt, for £3 14s.

- |   |   |
|---|---|
| <i>Sartor Resartus</i> .                                | <i>Latter-Day Pamphlets</i> .   |
| <i>French Revolution</i> . 3 vols.                      | <i>Life of Schiller</i> .   |
| <i>Life of John Sterling</i> .                          | <i>Frederick the Great</i> . 10 vols.                                     |
| <i>Oliver Cromwell's Letters and Speeches</i> . 5 vols. | <i>Wilhelm Meister</i> . 3 vols.  |
| <i>On Heroes and Hero Worship</i> .                     | <i>Translations from Musæus, Tieck, and Richter</i> . 2 vols.             |
| <i>Past and Present</i> .                               | <i>Early Kings of Norway, Portraits of John Knox, and General Index</i> . |
| <i>Critical and Miscellaneous Essays</i> . 7 vols.      |   |

CHAPMAN & HALL, 193, PICCADILLY.

11, HENRIETTA STREET, COVENT GARDEN, W.C.  
(Late 193, Piccadilly, W.)

APRIL, 1885.

A

# Catalogue of Books

PUBLISHED BY

CHAPMAN & HALL, LIMITED,

INCLUDING

*Drawing Examples, Diagrams, Models,  
Instruments, etc.,*

ISSUED UNDER THE AUTHORITY OF

THE SCIENCE AND ART DEPARTMENT,  
SOUTH KENSINGTON,

OR THE USE OF SCHOOLS AND ART AND SCIENCE CLASSES.

BENSON (W.)—

MANUAL OF THE SCIENCE OF COLOUR. Coloured  
Frontispiece and Illustrations. 12mo, cloth, 2s. 6d.

PRINCIPLES OF THE SCIENCE OF COLOUR. Small  
4to, cloth, 15s.

BINGHAM (CAPT. THE HON. D.)—

A SELECTION FROM THE LETTERS AND  
DESPATCHES OF THE FIRST NAPOLEON. With Explanatory Notes.  
3 vols. demy 8vo, £2 2s.

THE BASTILLE: Its History and Chronicles. *[In the Press.]*

BIRDWOOD (SIR GEORGE C. M.), C.S.I.—

THE INDUSTRIAL ARTS OF INDIA. With Map and  
174 Illustrations. New Edition. Demy 8vo, 14s.

BLACKIE (JOHN STUART) F.R.S.E.—

THE SCOTTISH HIGHLANDERS AND THE LAND  
LAWS. Demy 8vo, 9s.

ALTAVONA: FACT AND FICTION FROM MY LIFE  
IN THE HIGHLANDS. Third Edition. Crown 8vo, 6s.

BLATHERWICK (DR.)—

PERSONAL RECOLLECTIONS OF PETER STONNOR,  
Esq. With Illustrations by JAMES GUTHRIE and A. S. BOYD. Large crown 8vo, 6s.

LORD BLOOMFIELD'S MISSION TO THE COURT OF  
BERNADOTTE. By GEORGIANA, BARONESS BLOOMFIELD, Author of "Reminiscences of Court and Diplomatic Life." Two Vols. demy 8vo, with Portraits, 28s.

BOYLE (FREDERICK)—

ON THE BORDERLAND—BETWIXT THE REALMS  
OF FACT AND FANCY. Crown 8vo, 10s. 6d.

BOULGER (DEMETRIUS C.)—

GENERAL GORDON'S LETTERS FROM THE  
CRIMEA, THE DANUBE, AND ARMENIA. 2nd Edition. Crown 8vo, 5s.

BRADLEY (THOMAS), of the Royal Military Academy, Woolwich—

## ELEMENTS OF GEOMETRICAL DRAWING. In Two

Parts, with Sixty Plates. Oblong folio, half bound, each Part 16s.

BRAY (MRS.)—

## AUTOBIOGRAPHY OF (born 1789, died 1883).

Author of the "Life of Thomas Stothard, R.A.," "The White Hoods," &c.

Edited by JOHN A. KEMPE. With Portraits. Crown 8vo, 10s. 6d.

## MRS. BRAY'S NOVELS AND ROMANCES.

*New and Revised Editions, with Frontispieces. 3s. 6d. each.*

THE WHITE HOODS; a Romance of  
Flanders.  
DE FOIX; a Romance of Bearn.

THE TALBA; or, The Moor of Portugal.  
THE PROTESTANT; a Tale of the Times  
of Queen Mary.

## NOVELS FOUNDED ON TRADITIONS OF DEVON AND CORNWALL.

FITZ OF FITZFORD; a Tale of Destiny.  
HENRY DE POMEROY; or, the Eve of  
St. John.  
TRELAWNY OF TRELAWNE; or, a  
Romance of the West.

WARLEIGH; or, The Fatal Oak.  
COURTENAY OF WALREDDON; a  
Romance of the West.  
HARTLAND FOREST AND ROSE-  
TEAGUE.

## MISCELLANEOUS TALES.

A FATHER'S CURSE AND A DAUGHTER'S SACRIFICE.  
TRIALS OF THE HEART.

BROADLEY (A. M.)—

## HOW WE DEFENDED ARABI AND HIS FRIENDS.

A Story of Egypt and the Egyptians. Illustrated by FREDERICK VILLIERS.  
Second Edition. Demy 8vo. 12s.

BROMLEY-DAVENPORT (the late W.) M.P.—

## SPORT: Fox Hunting, Salmon Fishing, Covert Shooting,

Deer Stalking. With numerous Illustrations by General CREALOCK, C.B.  
Small 4to. 21s.

BUCKLAND (FRANK)—

## LOG-BOOK OF A FISHERMAN AND ZOOLOGIST.

With numerous Illustrations. Fourth Thousand. Crown 8vo, 5s.



*BURCHETT (R.)—*

DEFINITIONS OF GEOMETRY. New Edition. 24mo,  
cloth, 5d.

LINEAR PERSPECTIVE, for the Use of Schools of Art.  
Twenty-first Thousand. With Illustrations. Post 8vo, cloth, 7s.

PRACTICAL GEOMETRY: The Course of Construction  
of Plane Geometrical Figures. With 137 Diagrams. Eighteenth Edition. Post  
8vo, cloth, 5s.

*BURLEIGH (BENNET G.)—*

DESERT WARFARE: Being the Chronicle of the Eastern  
Soudan Campaign. Demy 8vo, with Maps, 12s.

*CAMPION (J. S.)—*

ON THE FRONTIER. Reminiscences of Wild Sports,  
Personal Adventures, and Strange Scenes. With Illustrations. Second Edition.  
Demy 8vo, 16s.

ON FOOT IN SPAIN. With Illustrations. Second Edition.  
Demy 8vo, 16s.

*CHAMPEAUX (ALFRED)—*

TAPESTRY. With Woodcuts. Cloth, 2s. 6d.

*CHURCH (A. H.), M.A., Oxon.—*

ENGLISH EARTHENWARE. A Handbook to the  
Wares made in England during the 17th and 18th Centuries, as illustrated by  
Specimens in the National Collections. With 49 Illustrations. Crown 8vo, 3s.

PLAIN WORDS ABOUT WATER. Illustrated. Large  
crown 8vo, sewed, 6d.

FOOD: A Short Account of the Sources, Constituents,  
and Uses of Food. Large crown 8vo, cloth, 3s.

PRECIOUS STONES: considered in their Scientific and  
Artistic Relations. With Illustrations. Large crown 8vo, 2s. 6d.

## CLINTON (R. H.)—

A COMPENDIUM OF ENGLISH HISTORY, from the Earliest Times to A.D. 1872. With Copious Quotations on the Leading Events and the Constitutional History, together with Appendices. Post 8vo, 7s. 6d.

COBDEN, RICHARD, LIFE OF. BY JOHN MORLEY. With Portrait. 2 vols. Demy 8vo, 32s.

New Edition. Portrait. Large crown 8vo, 7s. 6d.

Popular Edition, with Portrait, sewed, 1s.; cloth, 2s.

## CHAPMAN &amp; HALL'S SERIES OF POPULAR NOVELS.

*New and Cheaper Editions of Popular Novels. Crown 8vo.*

ZERO. A Story of Monte Carlo. By MRS. CAMPBELL PRAED. 5s.

THE WORLD WE LIVE IN. By OSWALD CRAWFORD. 5s.

MOLOCH. A Story of Sacrifice. By MRS. CAMPBELL PRAED, Author of "Nadine." Crown 8vo, 6s.

INTRODUCED TO SOCIETY. By HAMILTON AIDÉ. 5s.

THE RIGHT SORT. A Romance of the Shires. By MRS. EDWARD KENNARD. Illustrated, 6s.

FAUCIT OF BALLIOL. By HERMAN MERIVALE. 6s.

AN AUSTRALIAN HEROINE. By MRS. CAMPBELL PRAED. 6s.

STORY OF AN AFRICAN FARM. By RALPH IRON. 5s.

TO LEEWARD. By F. MARION CRAWFORD. New Edition. 5s.

HARD LINES. By CAPT. HAWLEY SMART. 6s.

FROM POST TO FINISH. By CAPT. HAWLEY SMART. 6s.

AN AMERICAN POLITICIAN. By F. MARION CRAWFORD. 5s.

## COOKERY—

OFFICIAL HANDBOOK FOR THE NATIONAL TRAINING SCHOOL FOR COOKERY. Containing Lessons on Cookery; forming the Course of Instruction in the School. Compiled by "R. O. C." Twelfth Thousand. Large crown 8vo, 8s.

BREAKFAST AND SAVOURY DISHES. By "R. O. C." Crown 8vo, 1s.

HOW TO COOK FISH. A Series of Lessons in Cookery, from the Official Handbook to the National Training School for Cookery, South Kensington. Compiled by "R. O. C." Crown 8vo, sewed. 3d.

SICK-ROOM COOKERY. From the Official Handbook to the National School for Cookery, South Kensington. Compiled by "R. O. C." Crown 8vo, sewed, 6d.

THE KINGSWOOD COOKERY BOOK. By H. F. WICKEN. Crown 8vo, 2s.

CRAIK (GEORGE LILLIE)—

ENGLISH OF SHAKESPEARE. Illustrated in a Philological Commentary on his "Julius Cæsar." Seventh Edition. Post 8vo, cloth, 5s.

OUTLINES OF THE HISTORY OF THE ENGLISH LANGUAGE. Ninth Edition. Post 8vo, cloth, 2s. 6d.

CRAWFORD (F. MARION)—

TO LEEWARD. New Edition. Crown 8vo, 5s.

AN AMERICAN POLITICIAN. New Edition. Crown 8vo, 5s.

CRAWFORD (OSWALD).

THE WORLD WE LIVE IN. New Edition. Crown 8vo, 5s.

CRIPPS (WILFRED)—

COLLEGE AND CORPORATION PLATE. With numerous Illustrations. Large crown 8vo, cloth, 2s. 6d.

DAVITT (MICHAEL)—

LEAVES FROM A PRISON DIARY; or, Lectures to a Solitary Audience. 2 vols. Crown 8vo, 21s.

A New Edition, in one vol., in the Press.

*This book was written during the Author's confinement in Portland.*

DAUBOURG (E.)—

INTERIOR ARCHITECTURE. Doors, Vestibules, Staircases, Anterooms, Drawing, Dining, and Bed Rooms, Libraries, Bank and Newspaper Offices, Shop Fronts and Interiors. Half-imperial, cloth, £2 12s. 6d.

DAVIDSON (ELLIS A.)—

PRETTY ARTS FOR THE EMPLOYMENT OF LEISURE HOURS. A Book for Ladies. With Illustrations. Demy 8vo, 6s.

DAY (WILLIAM)—

THE RACEHORSE IN TRAINING, with Hints on Racing and Racing Reform, to which is added a Chapter on Shoeing. Fifth Edition. 9s.

*D'HAUSSONVILLE (VICOMTE)*—

**SALON OF MADAME NECKER.** Translated by H. M. TROLLOPE. 2 vols. Crown 8vo, 18s.

*DE KONINCK (L. L.) and DIETZ (E.)*—

**PRACTICAL MANUAL OF CHEMICAL ASSAYING,**  
as applied to the Manufacture of Iron. Edited, with notes, by ROBERT MALLET.  
Post 8vo, cloth, 6s.

*DICKENS (CHARLES)*—*See pages 32--38.*

**THE LETTERS OF CHARLES DICKENS.** Edited  
by his Sister-in-Law and his Eldest Daughter. Two vols. uniform with "The  
Charles Dickens Edition" of his Works. Crown 8vo, 8s.

**THE CHARLES DICKENS BIRTHDAY BOOK.**  
Compiled and Edited by his Eldest Daughter. With Five Illustrations by his  
Youngest Daughter. In a handsome fcap. 4to volume, 12s.

*DRAYSON (LIEUT.-COL. A. W.)*—

**THE CAUSE OF THE SUPPOSED PROPER MOTION  
OF THE FIXED STARS.** Demy 8vo, cloth, 10s.

**PRACTICAL MILITARY SURVEYING AND  
SKETCHING.** Fifth Edition. Post 8vo, cloth, 4s. 6d.

**DYCE'S COLLECTION.** A Catalogue of Printed Books and Manuscripts  
bequeathed by the REV. ALEXANDER DYCE to the South Kensington Museum.  
2 vols. Royal 8vo, half-morocco, 14s.

**A Collection of Paintings, Miniatures, Drawings, Engravings,  
Rings, and Miscellaneous Objects,** bequeathed by the REV. ALEXANDER DYCE  
to the South Kensington Museum. Royal 8vo, half-morocco, 6s. 6d.

*DYCE (WILLIAM), R.A.*—

**DRAWING-BOOK OF THE GOVERNMENT SCHOOL  
OF DESIGN; OR, ELEMENTARY OUTLINES OF ORNAMENT.** Fifty  
selected Plates. Folio, sewed, 5s.; mounted, 18s.  
Text to Ditto. Sewed, 6d.

*EGYPTIAN ART*—

**A HISTORY OF ART IN ANCIENT EGYPT.** By  
G. PERROT and C. CHAPIEZ. Translated by WALTER ARMSTRONG. With over  
600 Illustrations. 2 vols. Imperial 8vo, £2 2s.

*ELLIS (A. B., Major 1st West India Regiment)*—

WEST AFRICAN ISLANDS. Demy 8vo. 14s.

THE HISTORY OF THE 1ST WEST INDIA  
REGIMENT. With Maps and Coloured Frontispiece and Title-page. Demy 8vo.  
14s.

THE LAND OF FETISH. Demy 8vo. 12s.

*ENGEL (CARL)*—

A DESCRIPTIVE AND ILLUSTRATED CATALOGUE  
OF THE MUSICAL INSTRUMENTS in the SOUTH KENSINGTON  
MUSEUM, preceded by an Essay on the History of Musical Instruments. Second  
Edition. Royal 8vo, half-morocco, 12s.

MUSICAL INSTRUMENTS. With numerous Woodcuts.  
Large crown 8vo, cloth, 2s. 6d.

*ESCOTT (T. H. S.)*—

ENGLAND. ITS PEOPLE, POLITY, AND PURSUITS.  
New and Revised Edition. Fifth Thousand. Demy 8vo, 8s.

PILLARS OF THE EMPIRE: Short Biographical  
Sketches. Demy 8vo, 10s. 6d.

*EWALD (ALEXANDER CHARLES), F.S.A.*—

REPRESENTATIVE STATESMEN: Political Studies.  
2 vols. Large crown 8vo, £1 4s.

SIR ROBERT WALPOLE. A Political Biography,  
1676-1745. Demy 8vo, 18s.

*FANE (VIOLET)*—

QUEEN OF THE FAIRIES (A Village Story), and other  
Poems. Crown 8vo, 6s.

ANTHONY BABINGTON: a Drama. Crown 8vo, 6s.

*FEARNLEY (W.)*—

LESSONS IN HORSE JUDGING, AND THE SUM-  
MERING OF HUNTERS. With Illustrations. Crown 8vo, 4s.

FLEMING (GEORGE), F.R.C.S.—

ANIMAL PLAGUES: THEIR HISTORY, NATURE,  
AND PREVENTION. 8vo, cloth, 15s.

PRACTICAL HORSE-SHOEING. With 37 Illustrations.  
Fifth Edition, enlarged. 8vo, sewed, 2s.

RABIES AND HYDROPHOBIA: THEIR HISTORY,  
NATURE, CAUSES, SYMPTOMS, AND PREVENTION. With 8 Illustrations. 8vo, cloth, 15s.

A MANUAL OF VETERINARY SANITARY SCIENCE  
AND POLICE. With 33 Illustrations. 2 vols. Demy 8vo, 36s.

FORSTER (JOHN), M.P. for Berwick—

THE CHRONICLE OF JAMES I., KING OF ARAGON,  
SURNAMED THE CONQUEROR. Written by Himself. Translated from  
the Catalan by the late JOHN FORSTER, M.P. for Berwick. With an Historical  
Introduction by DON PASCUAL DE GAYANGOS. 2 vols. Royal 8vo, 28s.

FORSTER (JOHN)—

THE LIFE OF CHARLES DICKENS. With Portraits  
and other Illustrations. 15th Thousand. 3 vols. 8vo, cloth, £2 2s.

THE LIFE OF CHARLES DICKENS. Uniform with  
the Illustrated Library Edition of Dickens's Works. 2 vols. Demy 8vo, £1 8s.

THE LIFE OF CHARLES DICKENS. Uniform with  
the Library Edition. Post 8vo, 10s. 6d.

THE LIFE OF CHARLES DICKENS. Uniform with  
the "C. D." Edition. With Numerous Illustrations. 2 vols. 7s.

THE LIFE OF CHARLES DICKENS. Uniform with  
the Household Edition. With Illustrations by F. BARNARD. Crown 4to, cloth, 5s.

WALTER SAVAGE LANDOR: a Biography, 1775-1864.  
With Portrait. A New and Revised Edition. Demy 8vo, 12s.

FORTNIGHTLY REVIEW—

FORTNIGHTLY REVIEW.—First Series, May, 1865, to  
Dec. 1866. 6 vols. Cloth, 13s. each.

New Series, 1867 to 1872. In Half-yearly Volumes. Cloth,  
13s. each.

From January, 1873, to the present time, in Half-yearly  
Volumes. Cloth, 16s. each.

CONTENTS OF FORTNIGHTLY REVIEW. From  
the commencement to end of 1873. Sewed, 2s.

*FORTNUM (C. D. E.)—*

A DESCRIPTIVE AND ILLUSTRATED CATALOGUE  
OF THE BRONZES OF EUROPEAN ORIGIN in the SOUTH KEN-  
SINGTON MUSEUM, with an Introductory Notice. Royal 8vo, half-morocco,  
£1 10s.

A DESCRIPTIVE AND ILLUSTRATED CATALOGUE  
OF MAIOLICA, HISPANO-MORESCO, PERSIAN, DAMASCUS, AND  
RHODIAN WARES in the SOUTH KENSINGTON MUSEUM. Royal  
8vo, half-morocco, £2.

MAIOLICA. With numerous Woodcuts. Large crown  
8vo, cloth, 2s. 6d.

BRONZES. With numerous Woodcuts. Large crown  
8vo, cloth, 2s. 6d.

*FRANCATELLI (C. E.)—*

ROYAL CONFECTIONER: English and Foreign. A  
Practical Treatise. New and Cheap Edition. With Illustrations. Crown 8vo, 5s.

*FRANKS (A. W.)—*

JAPANESE POTTERY. Being a Native Report. Nume-  
rous Illustrations and Marks. Large crown 8vo, cloth, 2s. 6d.

*GALLENGA (ANTONIO)—*

EPISODES OF MY SECOND LIFE. 2 vols. Demy 8vo,  
28s.

IBERIAN REMINISCENCES. Fifteen Years' Travelling  
Impressions of Spain and Portugal. With a Map. 2 vols. Demy 8vo, 32s.

*GORDON (GENERAL)—*

LETTERS FROM THE CRIMEA, THE DANUBE,  
AND ARMENIA. By DEMETRIUS C. BOULGER. Crown 8vo, 2nd Edition, 5s.

*GORST (J. E.), Q.C., M.P.—*

An ELECTION MANUAL. Containing the Parliamentary  
Elections (Corrupt and Illegal Practices) Act, 1883, with Notes. New Edition.  
Crown 8vo, 2s. 6d.

*GRESWELL—*

OUR SOUTH AFRICAN EMPIRE. 2 vols.

[In the Press.]



GRIFFIN (SIR LEPEL HENRY), K.C.S.I.—

THE GREAT REPUBLIC. New Edition. Crown 8vo, 4s. 6d.

GRIFFITHS (MAJOR ARTHUR), H.M. Inspector of Prisons—

CHRONICLES OF NEWGATE. Illustrated. New Edition. Demy 8vo, 16s.

MEMORIALS OF MILLBANK. With Illustrations. New Edition. Demy 8vo, 12s.

HALL (SIDNEY)—

A TRAVELLING ATLAS OF THE ENGLISH COUNTIES. Fifty Maps, coloured. New Edition, including the Railways, corrected up to the present date. Demy 8vo, in roan tuck, 10s. 6d.

HARDY (LADY DUFFUS)—

DOWN SOUTH. Demy 8vo. 14s.

THROUGH CITIES AND PRAIRIE LANDS. Sketches of an American Tour. Demy 8vo, 14s.

HATTON (JOSEPH) and HARVEY (REV. M.)—

NEWFOUNDLAND. The Oldest British Colony. Its History, Past and Present, and its Prospects in the Future. Illustrated] from Photographs and Sketches specially made for this work. Demy 8vo, 18s.

TO-DAY IN AMERICA. Studies for the Old World and the New. 2 vols. Crown 8vo, 18s.

HAWKINS (FREDERICK)—

ANNALS OF THE FRENCH STAGE: FROM ITS ORIGIN TO THE DEATH OF RACINE. 2 vols. Demy 8vo, 28s.

HERBERT (AUBERON)—

A POLITICIAN IN TROUBLE ABOUT HIS SOUL. Crown 8vo, 4s.

*HILDEBRAND (HANS)*—

INDUSTRIAL ARTS OF SCANDINAVIA IN THE  
PAGAN TIME. Illustrated. Large crown 8vo, 2s. 6d.

*HILL (MISS G.)*—

THE PLEASURES AND PROFITS OF OUR LITTLE  
POULTRY FARM. Small crown 8vo, 3s.

*HOLBEIN*—

TWELVE HEADS AFTER HOLBEIN. Selected from  
Drawings in Her Majesty's Collection at Windsor. Reproduced in Autotype, in  
portfolio. £1 16s.

*HOLLINGSHEAD (JOHN)*—

FOOTLIGHTS. Crown 8vo. 7s. 6d.

*HOVELACQUE (ABEL)*—

THE SCIENCE OF LANGUAGE: LINGUISTICS,  
PHILOLOGY, AND ETYMOLOGY. With Maps. Large crown 8vo, cloth, 5s.

*HUMPHRIS (H. D.)*—

PRINCIPLES OF PERSPECTIVE. Illustrated in a  
Series of Examples. Oblong folio, half-bound, and Text 8vo, cloth, £1 1s.

INTERNATIONAL POLICY. By FREDERIC HARRISON,  
PROF. BEESLEY, RICHARD CONGREVE, and others. New Edition. Crown 8vo,  
2s. 6d.

*IRON (RALPH)*—

THE STORY OF AN AFRICAN FARM. New Edition.  
Crown 8vo, 5s.

*FARRY (GENERAL)*—

OUTPOST DUTY. Translated, with TREATISES ON  
MILITARY RECONNAISSANCE AND ON ROAD-MAKING. By Major-  
Gen. W. C. E. NAPIER. Third Edition. Crown 8vo, 5s.

JEANS (W. T.)—

CREATORS OF THE AGE OF STEEL. Memoirs of  
Sir W. Siemens, Sir H. Bessemer, Sir J. Whitworth, Sir J. Brown, and other  
Inventors. Second Edition. Crown 8vo, 7s. 6d.

JOHNSON (DR. SAMUEL)—

LIFE AND CONVERSATIONS. By A. MAIN. Crown  
8vo, 10s. 6d.

JONES (CAPTAIN DOUGLAS), R.A.—

NOTES ON MILITARY LAW. Crown 8vo, 4s.

JONES COLLECTION (HANDBOOK OF THE) IN THE SOUTH  
KENSINGTON MUSEUM. Illustrated. Large crown 8vo, 2s. 6d.!

KEMPIS (THOMAS A.)—

OF THE IMITATION OF CHRIST. Four Books.  
Beautifully Illustrated Edition. Demy 8vo, 16s.

KENNARD (MRS. EDWARD)—

TWILIGHT TALES. With Illustrations. Crown 8vo.

[In the Press.]

KENT (CHARLES)—

HUMOUR AND PATHOS OF CHARLES DICKENS,  
WITH ILLUSTRATIONS OF HIS MASTERY OF THE TERRIBLE  
AND PICTURESQUE. Portrait. Crown 8vo, 6s.

KLACZKO (M. JULIAN)—

TWO CHANCELLORS: PRINCE GORTCHAKOF AND  
PRINCE BISMARCK. Translated by MRS. TAIT. New and cheaper Edition, 6s.

LACORDAIRE'S CONFERENCES. JESUS CHRIST; GOD;  
AND GOD AND MAN. New Edition in 1 vol. Crown 8vo, 6s.

LAVELEYE (EMILE DE)—

THE ELEMENTS OF POLITICAL ECONOMY.  
Translated by W. POLLARD, B.A., St. John's College, Oxford. Crown 8vo, 6s.

LECTURES ON AGRICULTURAL SCIENCE, AND OTHER  
PROCEEDINGS OF THE INSTITUTE OF AGRICULTURE, SOUTH  
KENSINGTON, 1883-4. Crown 8vo, sewed, 2s.

LEFÈVRE (ANDRÉ)—

PHILOSOPHY, Historical and Critical. Translated, with  
an Introduction, by A. W. KEANE, B.A. Large crown 8vo, 7s. 6d.

LETOURNEAU (DR. CHARLES)—

SOCIOLOGY. Based upon Ethnology. Translated by  
HENRY M. TROLLOPE. Large crown 8vo, 10s.

BIOLOGY. Translated by WILLIAM MACCALL. With Illus-  
trations. Large crown 8vo, 6s.

LILLY (W. S.)—

ANCIENT RELIGION AND MODERN THOUGHT.  
A New and Revised Edition. Demy 8vo, 12s.

LONG (JAMES)—

BRITISH DAIRY FARMING. With numerous Illus-  
trations. Crown 8vo. *[In the Press.]*

LOW (C. R.)—

SOLDIERS OF THE VICTORIAN AGE. 2 vols. Demy  
8vo, £1 10s.

LYTTON (ROBERT, EARL)—

POETICAL WORKS—

FABLES IN SONG. 2 vols. Fcap. 8vo, 12s.

THE WANDERER. Fcap. 8vo, 6s.

POEMS, HISTORICAL AND CHARACTERISTIC. Fcap. 6s.

MALLET (ROBERT)—

PRACTICAL MANUAL OF CHEMICAL ASSAYING,  
as applied to the Manufacture of Iron. By L. L. DE KONINCK and E. DIETZ.  
Edited, with notes, by ROBERT MALLET. Post 8vo, cloth, 6s.

## MASKELL (WILLIAM)—

A DESCRIPTION OF THE IVORIES, ANCIENT AND  
MEDIÆVAL, in the SOUTH KENSINGTON MUSEUM, with a *Preface*.  
With numerous Photographs and Woodcuts. Royal 8vo, half-morocco, £1 1s.

IVORIES: ANCIENT AND MEDIÆVAL. With nume-  
rous Woodcuts. Large crown 8vo, cloth, 2s. 6d.

HANDBOOK TO THE DYCE AND FORSTER COL-  
LECTIONS. With Illustrations. Large crown 8vo, cloth, 2s. 6d.

## MCCOAN (J. CARLILE)—

OUR NEW PROTECTORATE. TURKEY IN ASIA: ITS  
GEOGRAPHY, RACES, RESOURCES, AND GOVERNMENT. With Map. 2 vols.  
Large crown 8vo, £1 4s.

## MEREDITH (GEORGE)—

MODERN LOVE AND POEMS OF THE ENGLISH  
ROADSIDE, WITH POEMS AND BALLADS. Fcap. cloth, 6s.

## MERIVALE (HERMAN CHARLES)—

BINKO'S BLUES. A Tale for Children of all Growths.  
Illustrated by EDGAR GIBERNE. Small crown 8vo, 5s.

THE WHITE PILGRIM, and other Poems. Crown 8vo, 9s.

FAUCIT OF BALLIOL. Crown 8vo, 6s.

## MILITARY BIOGRAPHIES—

FREDERICK THE GREAT. By COL. C. B. BRACKENBURY;  
containing Maps and Portrait. Large crown 8vo, 4s.

LOUDON. A Sketch of the Military Life of Gideon  
Ernest, Freicherr von Loudon, sometime Generalissimo of the Austrian Forces.  
By COL. G. B. MALLESON, C.S.I. With Portrait and Maps. Large crown  
8vo, 4s.

TURENNE. By COL. HOZIER. Large crown 8vo, with  
Maps. *[In the Press.]*

PARLIAMENTARY GENERALS OF THE GREAT  
CIVIL WAR. By MAJOR WALFORD. *[In the Press.]*

## MOLESWORTH (W. NASSAU)—

HISTORY OF ENGLAND FROM THE YEAR 1830  
TO THE RESIGNATION OF THE GLADSTONE MINISTRY, 1874. 3 vols.  
Crown 8vo, 18s.

ABRIDGED EDITION. Large crown, 7s. 6d.

*MOLTKE (FIELD-MARSHAL COUNT VON)*—

**POLAND: AN HISTORICAL SKETCH.** An Authorised Translation, with Biographical Notice by E. S. BUCHHEIM. Crown 8vo, 4s. 6d.

*MORLEY (HENRY)*—

**TABLES OF ENGLISH LITERATURE.** Containing 20 Charts. Second Edition, with Index. Royal 4to, cloth, 12s.  
In Three Parts. Parts I. and II., containing Three Charts, each 1s. 6d.  
Part III., containing 14 Charts, 7s. Part III. also kept in Sections, 1, 2, and 5. 1s. 6d. each; 3 and 4 together, 3s. \* \* \* The Charts sold separately.

*MUNTZ (EUGÈNE), From the French of—*

**RAPHAEL: HIS LIFE, WORKS, AND TIMES.**  
Edited by W. ARMSTRONG. Illustrated with 155 Wood Engravings and 41 Full-page Plates. Imperial 8vo, 36s.

*MURPHY (J. M.)*—

**RAMBLES IN NORTH - WEST AMERICA.** With Frontispiece and Map. 8vo, 16s.

*MURRAY (ANDREW), F.L.S.*—

**ECONOMIC ENTOMOLOGY. APTERA.** With numerous Illustrations. Large crown 8vo, 7s. 6d.

*MORLEY (JOHN)*—

**LIFE AND CORRESPONDENCE OF RICHARD COBDEN.** Fourth Thousand. 2 vols. Demy 8vo, £1 12s.  
**LIFE OF RICHARD COBDEN.** With Portrait. Popular Edition. 4to, sewed, 1s. Bound in cloth, 2s.  
**DIDEROT AND THE ENCYCLOPÆDISTS.** 2 vols. Demy 8vo, £1 6s.

#### NEW UNIFORM EDITION.

**RICHARD COBDEN.** With Portrait. Large crown 8vo, 7s. 6d.  
**VOLTAIRE.** Large crown 8vo, 6s.  
**ROUSSEAU.** Large crown 8vo, 9s.  
**DIDEROT AND THE ENCYCLOPÆDISTS.** Large crown 8vo, 12s.  
**CRITICAL MISCELLANIES.** First Series. Large crown 8vo, 6s.  
**ON COMPROMISE.** New Edition. Large crown 8vo, 3s. 6d.  
**STRUGGLE FOR NATIONAL EDUCATION.** Third Edition. Demy 8vo, cloth, 3s.

*NAPIER (MAJ.-GEN. W. C. E.)—*

TRANSLATION OF GEN. JARRY'S OUTPOST DUTY.

With TREATISES ON MILITARY RECONNAISSANCE AND ON ROAD-MAKING. Third Edition. Crown 8vo, 5s.

**NAPOLEON.** A Selection from the Letters and Despatches of the First Napoleon. With Explanatory Notes by Captain the Hon. D. BINGHAM. 3 vols. Demy 8vo, £2 2s.

*NECKER (MADAME)—*

THE SALON OF MADAME NECKER. By VICOMTE

D'HAUSSONVILLE. Translated by H. M. TROLLOPE. 2 vols. Crown 8vo, 18s.

*NESBITT (ALEXANDER)—*

GLASS. Illustrated. Large crown 8vo, cloth, 2s. 6d.

*NEVINSON (HENRY)—*

A SKETCH OF HERDER AND HIS TIMES. With a Portrait. Demy 8vo, 14s.

*NEWTON (E. TULLEY), F.G.S.—*

THE TYPICAL PARTS IN THE SKELETONS OF

A CAT, DUCK, AND CODFISH, being a Catalogue with Comparative Description arranged in a Tabular form. Demy 8vo, cloth, 3s.

*NORMAN (C. B.), late of the 90th Light Infantry and Bengal Staff Corps—*

TONKIN; OR, FRANCE IN THE FAR EAST. With Maps. Demy 8vo, 14s.

*OLIVER (PROFESSOR), F.R.S., &c.—*

ILLUSTRATIONS OF THE PRINCIPAL NATURAL

ORDERS OF THE VEGETABLE KINGDOM, PREPARED FOR THE SCIENCE AND ART DEPARTMENT, SOUTH KENSINGTON. With 109 Plates. Oblong 8vo, plain, 16s.; coloured, £1 6s.

*OXENHAM (REV. H. N.)—*

SHORT STUDIES, ETHICAL AND RELIGIOUS.

Demy 8vo. 12s.

SHORT STUDIES IN ECCLESIASTICAL HISTORY

AND BIOGRAPHY. Demy 8vo, 12s.



*PERROT (GEORGES) and CHIPIEZ (CHARLES)—*

**HISTORY OF ANCIENT ART IN PHœNICIA, CYPRUS, AND ASIA MINOR.** Translated from the French by WALTER ARMSTRONG, B.A., Oxon. Containing about 500 Illustrations. 2 vols. Imperial 8vo, 42s.

**CHALDÆA AND ASSYRIA, A HISTORY OF ART IN.** Translated by WALTER ARMSTRONG, B.A. Oxon. With 452 Illustrations. 2 vols. Imperial 8vo, 42s.

**ANCIENT EGYPT, A HISTORY OF ART IN.** Translated from the French by W. ARMSTRONG. With over 600 Illustrations. 2 vols. Imperial 8vo, 42s.

*PIASSETSKY (P.)—*

**RUSSIAN TRAVELLERS IN MONGOLIA AND CHINA.** Translated by JANE GORDON-CUMMING. With 75 Illustrations. 2 vols. Crown 8vo, 24s.

*PITT TAYLOR (FRANK)—*

**THE CANTERBURY TALES.** Being Selections from the Tales of GEOFFREY CHAUCER rendered i to Modern English, with close adherence to the language of the Poet. With Frontispiece. Crown 8vo, 6s.

*POLLEN (J. H.)—*

**ANCIENT AND MODERN FURNITURE AND WOODWORK IN THE SOUTH KENSINGTON MUSEUM.** With an Introduction, and Illustrated with numerous Coloured Photographs and Woodcuts. Royal 8vo, half-morocco, £1 1s.

**GOLD AND SILVER SMITH'S WORK.** With numerous Woodcuts. Large crown 8vo, cloth, 2s. 6d.

**ANCIENT AND MODERN FURNITURE AND WOODWORK.** With numerous Woodcuts. Large crown 8vo, cloth, 2s. 6d.

*POYNTER (E. J.), R.A.—*

**TEN LECTURES ON ART.** New Edition. *[In the Press.]*

*PRAED (MRS. CAMPBELL)*—

AUSTRALIAN LIFE: Black and White. Crown 8vo.  
[In the Press.]

ZERO. A Story of Monte Carlo. Crown 8vo, 5s.

AN AUSTRALIAN HEROINE. Crown 8vo, 6s.

MOLOCH. A Story of Sacrifice. Crown 8vo, 6s.

*PRINSEP (VAL), A.R.A.*—

IMPERIAL INDIA. Containing numerous Illustrations  
and Maps. Second Edition. Demy 8vo, £1 1s.

*RAMSDEN (LADY GWENDOLEN)*—

A BIRTHDAY BOOK. Illustrated. Containing 46 Illustrations from Original Drawings, and numerous other Illustrations. Royal 8vo, 21s.

*REDGRAVE (GILBERT)*—

OUTLINES OF HISTORIC ORNAMENT. Translated  
from the German and edited by GILBERT REDGRAVE. With numerous Illustrations  
Crown 8vo, 4s.

*REDGRAVE (GILBERT R.)*—

MANUAL OF DESIGN, compiled from the Writings and  
Addresses of RICHARD REDGRAVE, R.A. With Woodcuts. Large crown 8vo, cloth,  
2s. 6d.

*REDGRAVE (RICHARD)*—

MANUAL AND CATECHISM ON COLOUR. 24mo,  
cloth, 9d.

*REDGRAVE (SAMUEL)*—

A DESCRIPTIVE CATALOGUE OF THE HISTORICAL COLLECTION OF WATER-COLOUR PAINTINGS IN THE SOUTH KENSINGTON MUSEUM. With numerous Chromo-lithographs and other Illustrations. Royal 8vo, £1 1s.

RENAN (ERNEST)—

RECOLLECTIONS OF MY YOUTH. Translated from the original French, and revised by MADAME RENAN. Crown 8vo, 8s.

RIANO (JUAN F.)—

THE INDUSTRIAL ARTS IN SPAIN. Illustrated. Large crown 8vo, cloth, 4s.

ROBINSON (JAMES F.)—

BRITISH BEE FARMING. Its Profits and Pleasures. Large crown 8vo, 5s.

ROBINSON (J. C.)—

ITALIAN SCULPTURE OF THE MIDDLE AGES AND PERIOD OF THE REVIVAL OF ART. With 20 Engravings. Royal 8vo, cloth, 7s. 6d.

ROBSON (GEORGE)—

ELEMENTARY BUILDING CONSTRUCTION. Illustrated by a Design for an Entrance Lodge and Gate. 15 Plates. Oblong folio, sewed, 8s.

ROBSON (REV. J. H.), M.A., LL.M.—

AN ELEMENTARY TREATISE ON ALGEBRA. Post 8vo, 6s.

ROCK (THE VERY REV. CANON), D.D.—

ON TEXTILE FABRICS. A Descriptive and Illustrated Catalogue of the Collection of Church Vestments, Dresses, Silk Stuffs, Needlework, and Tapestries in the South Kensington Museum. Royal 8vo, half-morocco, £1 11s. 6d.

TEXTILE FABRICS. With numerous Woodcuts. Large crown 8vo, cloth, 2s. 6d.

ROLAND (ARTHUR)—

FARMING FOR PLEASURE AND PROFIT. Edited

by WILLIAM ABLETT. 8 vols. Large crown 8vo, 5s. each.

DAIRY-FARMING, MANAGEMENT OF COWS, &c.

POULTRY-KEEPING.

TREE-PLANTING, FOR ORNAMENTATION OR PROFIT.

STOCK-KEEPING AND CATTLE-REARING.

DRAINAGE OF LAND, IRRIGATION, MANURES, &c.

ROOT-GROWING, HOPS, &c.

MANAGEMENT OF GRASS LANDS.

MARKET GARDENING.

RUSDEN (G. W.), *for many years Clerk of the Parliament in Victoria*—

A HISTORY OF AUSTRALIA. With a Coloured Map.

3 vols. Demy 8vo, 50s.

A HISTORY OF NEW ZEALAND. 3 vols. With Maps.

Demy 8vo, 50s.

SCOTT (A. DE C., MAJOR-GENERAL, *late Royal Engineers*)—

LONDON WATER : a Review of the Present Condition and

Suggested Improvements of the Metropolitan Water Supply. Crown 8vo, sewed, 2s.

SCOTT-STEVENSON (MRS.)—

ON SUMMER SEAS. Including the Mediterranean, the

Ægean, the Ionian, and the Euxine, and a voyage down the Danube. With a Map. Demy 8vo, 16s.

OUR HOME IN CYPRUS. With a Map and Illustrations.

Third Edition. Demy 8vo, 14s.

OUR RIDE THROUGH ASIA MINOR. With Map.

Demy 8vo, 18s.

SHEPHERD (MAJOR), R.E.—

PRAIRIE EXPERIENCES IN HANDLING CATTLE

AND SHEEP. With Illustrations and Map. Demy 8vo, 10s, 6d.

SHIRREFF (MISS)—

HOME EDUCATION IN RELATION TO THE

KINDERGARTEN. Two Lectures. Crown 8vo, 1s. 6d.

*SIMMONDS (T. L.)—*

**ANIMAL PRODUCTS:** their Preparation, Commercial Uses, and Value. With numerous Illustrations. Large crown 8vo, 7s. 6d.

*SINNETT (A. P.)—*

**ESOTERIC BUDDHISM.** A New Edition. [*In the Press.*]

*SMITH (MAJOR R. MURDOCK), R.E.—*

**PERSIAN ART.** Second Edition, with additional Illustrations. Large crown 8vo, 2s.

*SNOAD (MRS. FRANK)—*

**ECHOES OF LIFE.** Including 2nd Edition (revised) of "Clare Peyce's Diary," and "As Life Itself." Crown 8vo, 6s.

*STORY (W. W.)—*

**ROBA DI ROMA.** Seventh Edition, with Additions and Portrait. Crown 8vo, cloth, 10s. 6d.

**CASTLE ST. ANGELO.** With Illustrations. Crown 8vo, 10s. 6d.

*SUTCLIFFE (JOHN)—*

**THE SCULPTOR AND ART STUDENT'S GUIDE** to the Proportions of the Human Form, with Measurements in feet and inches of Full-Grown Figures of Both Sexes and of Various Ages. By Dr. G. SCHADOW, Member of the Academies, Stockholm, Dresden, Rome, &c. &c. Translated by J. J. WRIGHT. Plates reproduced by J. SUTCLIFFE. Oblong folio, 31s. 6d.

*TANNER (PROFESSOR), F.C.S.—*

**HOLT CASTLE;** or, Threefold Interest in Land. Crown 8vo, 4s. 6d.

**JACK'S EDUCATION; OR, HOW HE LEARNT FARMING.** Second Edition. Crown 8vo, 3s. 6d.

*TOPINARD (DR. PAUL)—*

**ANTHROPOLOGY.** With a Preface by Professor PAUL BROCA. With numerous Illustrations. Large crown 8vo, 7s. 6d.

*TRAILL (H. D.)—*

**THE NEW LUCIAN.** Being a Series of Dialogues of the Dead. Demy 8vo, 12s.

## TROLLOPE (ANTHONY)—

AYALA'S ANGEL. Crown 8vo. 6s.

LIFE OF CICERO. 2 vols. 8vo. £1 4s.

THE CHRONICLES OF BARSETSHIRE. A Uniform Edition, in 8 vols., large crown 8vo, handsomely printed, each vol. containing Frontispiece. 6s. each.

THE WARDEN and BAR-  
CHESTER TOWERS. 2 vols.  
DR. THORNE.  
FRAMLEY PARSONAGE.

THE SMALL HOUSE AT  
ALLINGTON. 2 vols.  
LAST CHRONICLE OF  
BARSET. 2 vols.

## UNIVERSAL—

UNIVERSAL CATALOGUE OF BOOKS ON ART.

Compiled for the use of the National Art Library, and the Schools of Art in the United Kingdom. In 2 vols. Crown 4to, half-morocco, £2 2s.

Supplemental Volume to Ditto.

## VERON (EUGENE)—

ÆSTHETICS. Translated by W. H. ARMSTRONG. Large crown 8vo, 7s. 6d.

## WALE (REV. HENRY JOHN), M.A.—

MY GRANDFATHER'S POCKET BOOK, from 1701 to 1796. Author of "Sword and Surplice." Demy 8vo, 12s.

## WESTWOOD (J. O.), M.A., F.L.S., &amp;c.—

CATALOGUE OF THE FICTILE IVORIES IN THE SOUTH KENSINGTON MUSEUM. With an Account of the Continental Collections of Classical and Mediæval Ivories. Royal 8vo, half-morocco, £1 4s.

## WHIST HANDBOOKS. By AQUARIUS—

THE HANDS AT WHIST. 32mo, cloth gilt, 1s.

EASY WHIST. 32mo, cloth gilt, 1s.

ADVANCED WHIST. 32mo, cloth gilt, 1s.

WHITE (WALTER)—

A MONTH IN YORKSHIRE. Post 8vo. With a Map.  
Fifth Edition. 4s.

A LONDONER'S WALK TO THE LAND'S END, AND  
A TRIP TO THE SCILLY ISLES. Post 8vo. With 4 Maps. Third Edition. 4s.

WICKEN (H. F.)—

THE KINGSWOOD COOKERY BOOK. Crown 8vo, 2s.

WILL-O'-THE-WISPS, THE. Translated from the German  
of Marie Petersen by CHARLOTTE J. HART. With Illustrations. Crown 8vo,  
7s. 6d.

WORNUM (R. N.)—

ANALYSIS OF ORNAMENT: THE CHARACTER-  
ISTICS OF STYLES. With many Illustrations. Ninth Edition. Royal 8vo,  
cloth, 8s.

WORSAAE (J. J. A.)—

INDUSTRIAL ARTS OF DENMARK, FROM THE  
EARLIEST TIMES TO THE DANISH CONQUEST OF ENGLAND.  
With Maps and Illustrations. Crown 8vo, 3s. 6d.

YEO (DR. J. BURNEY)—

HEALTH RESORTS AND THEIR USES: BEING  
Vacation Studies in various Health Resorts. New Edition. *[In the Press.]*

YOUNGE (C. D.)—

PARALLEL LIVES OF ANCIENT AND MODERN  
HEROES. New Edition. 12mo, cloth, 4s. 6d.



# SOUTH KENSINGTON MUSEUM

## DESCRIPTIVE AND ILLUSTRATED CATALOGUES.

*Royal 8vo, half-bound.*

BRONZES OF EUROPEAN ORIGIN. By C. D. E. FORTNUM.  
£1 10s.

DYCE'S COLLECTION OF PRINTED BOOKS AND  
MANUSCRIPTS. 2 vols. 14s.

DYCE'S COLLECTION OF PAINTINGS, ENGRAVINGS,  
&c. 6s. 6d.

FURNITURE AND WOODWORK, ANCIENT AND  
MODERN. By J. H. POLLEN. £1 1s.

GLASS VESSELS. By A. NESBITT. 18s.

GOLD AND SILVER SMITH'S WORK. By J. G. POLLEN.  
£1 6s.

IVORIES, ANCIENT AND MEDIÆVAL. By W. MASKELL.  
21s.

IVORIES, FICTILE. By J. O. WESTWOOD. £1 4s.

MAIOLICA, HISPANO-MORESCO, PERSIAN, DAMAS-  
CUS AND RHODIAN WARES. By C. D. E. FORTNUM. £2.

MUSICAL INSTRUMENTS. By C. ENGEL. 12s.

SCULPTURE, ITALIAN SCULPTURE OF THE MIDDLE  
AGES. By J. C. ROBINSON. Cloth, 7s. 6d.

SWISS COINS. By R. S. POOLE. £2 10s.

TEXTILE FABRICS. By Rev. D. ROCK. £1 11s. 6d.

WATER-COLOUR PAINTING. By S. REDGRAVE. £1 1s.

UNIVERSAL CATALOGUE OF BOOKS ON ART. 2 vols.  
Small 4to, £1 1s. each.

UNIVERSAL CATALOGUE OF BOOKS ON ART. Supple-  
mentary vol. 8s. nett.

## SOUTH KENSINGTON MUSEUM SCIENCE AND ART HANDBOOKS.

Handsomely printed in large crown 8vo.

*Published for the Committee of the Council on Education.*

RUSSIAN ART AND ART OBJECTS IN RUSSIA. By  
ALFRED MASKELL. With Illustrations. 4s. 6d.

FRENCH POTTERY. By PAUL GASNAULT and EDOUARD  
GARNIER. With Illustrations and marks. 3s.

ENGLISH EARTHENWARE: A Handbook to the Wares  
made in England during the 17th and 18th Centuries. By PROF. CHURCH. With  
Illustrations. 3s.

INDUSTRIAL ARTS OF DENMARK. From the Earliest  
Times to the Danish Conquest of England. By J. J. A. WORSAAE, Hon. F.S.A.,  
&c. &c. With Illustrations. 3s. 6d.

INDUSTRIAL ARTS OF SCANDINAVIA IN THE PAGAN  
TIME. By HANS HILDEBRAND, Royal Antiquary of Sweden. With Illustrations.  
2s. 6d.

PRECIOUS STONES. By PROFESSOR CHURCH. With Illus-  
trations. 2s. 6d.

INDUSTRIAL ARTS OF INDIA. By Sir GEORGE C. M.  
BIRDWOOD, C.S.I. With Map and Illustrations. Demy 8vo, 14s.

HANDBOOK TO THE DYCE AND FORSTER COLLEC-  
TIONS. By W. MASKELL. With Illustrations. Large crown 8vo, 2s. 6d.

INDUSTRIAL ARTS IN SPAIN. By JUAN F. RIANO.  
With Illustrations. Large crown 8vo, 4s.

GLASS. By ALEXANDER NESBITT. With Illustrations. Large  
crown 8vo, 2s. 6d.

GOLD AND SILVER SMITH'S WORK. By JOHN HUNGER-  
FORD POLLEN. With Illustrations. Large crown 8vo, 2s. 6d.

TAPESTRY. By ALFRED CHAMPEAUX. With Illustrations. 2s. 6d.

BRONZES. By C. DRURY E. FORTNUM, F.S.A. With Illustrations.  
Large crown 8vo, 2s. 6d.

PLAIN WORDS ABOUT WATER. By A. H. CHURCH, M.A.,  
Oxon. With Illustrations. Large crown 8vo, sewed, 6d.

SOUTH KENSINGTON MUSEUM SCIENCE & ART HANDBOOKS—*Continued.*

ANIMAL PRODUCTS: their Preparation, Commercial Uses, and Value. By T. L. SIMMONDS. With Illustrations. Large crown 8vo, 7s. 6d.

FOOD: A Short Account of the Sources, Constituents, and Uses of Food. By A. H. CHURCH, M.A., Oxon. Large crown 8vo, 3s.

ECONOMIC ENTOMOLOGY. By ANDREW MURRAY, F.L.S. APTEA. With Illustrations. Large crown 8vo, 7s. 6d.

JAPANESE POTTERY. Being a Native Report. Edited by A. W. FRANKS. With Illustrations and Marks. Large crown 8vo, 2s. 6d.

HANDBOOK TO THE SPECIAL LOAN COLLECTION of Scientific Apparatus. Large crown 8vo, 3s.

INDUSTRIAL ARTS: Historical Sketches. With Illustrations. Large crown 8vo, 3s.

TEXTILE FABRICS. By the Very Rev. DANIEL ROCK, D.D. With Illustrations. Large crown 8vo, 2s. 6d.

JONES COLLECTION IN THE SOUTH KENSINGTON MUSEUM. With Portrait and Illustrations. Large crown 8vo, 2s. 6d.

COLLEGE AND CORPORATION PLATE. By WILFRED CRIPPS. With Illustrations. Large crown 8vo, cloth, 2s. 6d.

IVORIES: ANCIENT AND MEDIÆVAL. By WILLIAM MASKELL. With Illustrations. Large crown 8vo, 2s. 6d.

ANCIENT AND MODERN FURNITURE AND WOODWORK. By JOHN HUNGERFORD POLLEN. With Illustrations. Large crown 8vo, 2s. 6d.

MAIOLICA. By C. DRURY E. FORTNUM, F.S.A. With Illustrations. Large crown 8vo, 2s. 6d.

THE CHEMISTRY OF FOODS. With Microscopic Illustrations. By JAMES BELL, Principal of the Somerset House Laboratory. Part I.—Tea, Coffee, Cocoa, Sugar, &c. Large crown 8vo, 2s. 6d.  
Part II.—Milk, Butter, Cereals, Prepared Starches, &c. Large crown 8vo, 3s.

MUSICAL INSTRUMENTS. By CARL ENGEL. With Illustrations. Large crown 8vo, 2s. 6d.

MANUAL OF DESIGN, compiled from the Writings and Addresses of RICHARD REDGRAVE, R.A. By GILBERT R. REDGRAVE. With Illustrations. Large crown 8vo, 2s. 6d.

PERSIAN ART. By MAJOR R. MURDOCK SMITH, R.E. Second Edition, with additional Illustrations. Large crown 8vo, 2s.

## CARLYLE'S (THOMAS) WORKS.

CHEAP AND UNIFORM EDITION.

*In 23 vols., Crown 8vo, cloth, £7 5s.*

THE FRENCH REVOLUTION :  
A History. 2 vols., 12s.

OLIVER CROMWELL'S LET-  
TERS AND SPEECHES, with Eluci-  
dations, &c. 3 vols., 18s.

LIVES OF SCHILLER AND  
JOHN STERLING. 1 vol., 6s.

CRITICAL AND MISCELLA-  
NEOUS ESSAYS. 4 vols., £1 4s.

SARTOR RESARTUS AND  
LECTURES ON HEROES. 1 vol., 6s.

LATTER-DAY PAMPHLETS.  
1 vol., 6s.

CHARTISM AND PAST AND  
PRESENT. 1 vol., 6s.

TRANSLATIONS FROM THE  
GERMAN OF MUSÆUS, TIECK,  
AND RICHTER. 1 vol., 6s.

WILHELM MEISTER, by Goethe.  
A Translation. 2 vols., 12s.

HISTORY OF FRIEDRICH THE  
SECOND, called Frederick the Great.  
7 vols., £2 9s.

## LIBRARY EDITION COMPLETE.

Handsomely printed in 34 vols., demy 8vo, cloth, £15 3s.

SARTOR RESARTUS. With a Portrait, 7s. 6d.

THE FRENCH REVOLUTION. A History. 3 vols., each 9s

LIFE OF FREDERICK SCHILLER AND EXAMINATION  
OF HIS WORKS. With Supplement of 1872. Portrait and Plates, 9s.

CRITICAL AND MISCELLANEOUS ESSAYS. With Portrait.  
6 vols., each 9s.

ON HEROES, HERO WORSHIP, AND THE HEROIC  
IN HISTORY. 7s. 6d.

PAST AND PRESENT. 9s.

## CARLYLE'S (THOMAS) WORKS.

OLIVER CROMWELL'S LETTERS AND SPEECHES. With  
Portraits. 5 vols., each 9s.

LATTER-DAY PAMPHLETS. 9s.

LIFE OF JOHN STERLING. With Portrait, 9s.

HISTORY OF FREDERICK THE SECOND. 10 vols.,  
each 9s.

TRANSLATIONS FROM THE GERMAN. 3 vols., each 9s.

EARLY KINGS OF NORWAY; ESSAY ON THE POR-  
TRAITS OF JOHN KNOX; AND GENERAL INDEX. With Portrait  
Illustrations. 8vo, cloth, 9s.

## PEOPLE'S EDITION.

*In 37 vols., small crown 8vo. Price 2s. each vol., bound in cloth; or in sets of  
37 vols. in 19, cloth gilt, for £3 14s.*

SARTOR RESARTUS.

FRENCH REVOLUTION. 3 vols.

LIFE OF JOHN STERLING.

OLIVER CROMWELL'S LET-  
TERS AND SPEECHES. 5 vols.

ON HEROES AND HERO  
WORSHIP.

PAST AND PRESENT.

CRITICAL AND MISCELLA-  
NEOUS ESSAYS. 7 vols.

LATTER-DAY PAMPHLETS.

LIFE OF SCHILLER.

FREDERICK THE GREAT.  
10 vols.

WILHELM MEISTER. 3 vols.

TRANSLATIONS FROM MU-  
SÆUS, TIECK, AND RICHTER.  
2 vols.

THE EARLY KINGS OF NOR-  
WAY; Essay on the Portraits of Knox;  
and General Index.

## SIXPENNY EDITION.

*4to, sewed.*

SARTOR RESARTUS. Eightieth Thousand.

HEROES AND HERO WORSHIP.

ESSAYS: BURNS, JOHNSON, SCOTT, THE DIAMOND NECKLACE.

*The above are also to be had in 1 vol., in cloth, 2s. 6d.*

## DICKENS'S (CHARLES) WORKS.

## ORIGINAL EDITIONS.

*In demy 8vo.*

THE MYSTERY OF EDWIN DROOD. With Illustrations by S. L. Fildes, and a Portrait engraved by Baker. Cloth, 7s. 6d.

OUR MUTUAL FRIEND. With Forty Illustrations by Marcus Stone. Cloth, £1 1s.

THE PICKWICK PAPERS. With Forty-three Illustrations by Seymour and Phiz. Cloth, £1 1s.

NICHOLAS NICKLEBY. With Forty Illustrations by Phiz. Cloth, £1 1s.

SKETCHES BY "BOZ." With Forty Illustrations by George Cruikshank. Cloth, £1 1s.

MARTIN CHUZZLEWIT. With Forty Illustrations by Phiz. Cloth, £1 1s.

DOMBEY AND SON. With Forty Illustrations by Phiz. Cloth, £1 1s.

DAVID COPPERFIELD. With Forty Illustrations by Phiz. Cloth, £1 1s.

BLEAK HOUSE. With Forty Illustrations by Phiz. Cloth, £1 1s.

LITTLE DORRIT. With Forty Illustrations by Phiz. Cloth, £1 1s.

THE OLD CURIOSITY SHOP. With Seventy-five Illustrations by George Cattermole and H. K. Browne. A New Edition. Uniform with the other volumes, £1 1s.

BARNABY RUDGE: a Tale of the Riots of 'Eighty. With Seventy-eight Illustrations by George Cattermole and H. K. Browne. Uniform with the other volumes, £1 1s.

CHRISTMAS BOOKS: Containing—The Christmas Carol; The Cricket on the Hearth; The Chimes; The Battle of Life; The Haunted House. With all the original Illustrations. Cloth, 12s.

OLIVER TWIST and TALE OF TWO CITIES. In one volume. Cloth, £1 1s.

OLIVER TWIST. Separately. With Twenty-four Illustrations by George Cruikshank. Cloth, 11s.

A TALE OF TWO CITIES. Separately. With Sixteen Illustrations by Phiz. Cloth, 9s.

\* \* \* *The remainder of Dickens's Works were not originally printed in demy 8vo.*



## DICKENS'S (CHARLES) WORKS.

## LIBRARY EDITION.

*In post 8vo. With the Original Illustrations, 30 vols., cloth, £12.*

								<i>s.</i>	<i>d.</i>
PICKWICK PAPERS ... ..	43	Illustrns., 2 vols.	16	0					
NICHOLAS NICKLEBY ... ..	39	„ 2 vols.	16	0					
MARTIN CHUZZLEWIT ... ..	40	„ 2 vols.	16	0					
OLD CURIOSITY SHOP & REPRINTED PIECES	36	„ 2 vols.	16	0					
BARNABY RUDGE and HARD TIMES ... ..	36	„ 2 vols.	16	0					
BLEAK HOUSE ... ..	40	„ 2 vols.	16	0					
LITTLE DORRIT ... ..	40	„ 2 vols.	16	0					
DOMBEY AND SON ... ..	38	„ 2 vols.	16	0					
DAVID COPPERFIELD ... ..	38	„ 2 vols.	16	0					
OUR MUTUAL FRIEND ... ..	40	„ 2 vols.	16	0					
SKETCHES BY "BOZ" ... ..	39	„ 1 vol.	8	0					
OLIVER TWIST ... ..	24	„ 1 vol.	8	0					
CHRISTMAS BOOKS ... ..	17	„ 1 vol.	8	0					
A TALE OF TWO CITIES ... ..	16	„ 1 vol.	8	0					
GREAT EXPECTATIONS ... ..	8	„ 1 vol.	8	0					
PICTURES FROM ITALY & AMERICAN NOTES	8	„ 1 vol.	8	0					
UNCOMMERCIAL TRAVELLER ... ..	8	„ 1 vol.	8	0					
CHILD'S HISTORY OF ENGLAND ... ..	8	„ 1 vol.	8	0					
EDWIN DROOD and MISCELLANIES ... ..	12	„ 1 vol.	8	0					
CHRISTMAS STORIES from "Household Words," &c.	14	„ 1 vol.	8	0					
THE LIFE OF CHARLES DICKENS. By JOHN FORSTER. With Illustrations.									
Uniform with this Edition. 1 vol. 10s. 6d.									

A NEW EDITION OF ABOVE, WITH THE ORIGINAL ILLUSTRATIONS, IN CROWN 8vo, 30 VOLS. IN SETS ONLY.



## DICKENS'S (CHARLES) WORKS.

## THE "CHARLES DICKENS" EDITION.

*In Crown 8vo. In 21 vols., cloth, with Illustrations, £3 16s.*

								<i>s. d.</i>
PICKWICK PAPERS	...	...	...	...	...	8 Illustrations	...	4 0
MARTIN CHUZZLEWIT	...	...	...	...	...	8	„	4 0
DOMBEY AND SON	...	...	...	...	...	8	„	4 0
NICHOLAS NICKLEBY	...	...	...	...	...	8	„	4 0
DAVID COPPERFIELD	...	...	...	...	...	8	„	4 0
BLEAK HOUSE	...	...	...	...	...	8	„	4 0
LITTLE DORRIT	...	...	...	...	...	8	„	4 0
OUR MUTUAL FRIEND...	...	...	...	...	...	8	„	4 0
BARNABY RUDGE...	...	...	...	...	...	8	„	3 6
OLD CURIOSITY SHOP	...	...	...	...	...	8	„	6
A CHILD'S HISTORY OF ENGLAND	...	...	...	...	...	4	„	3 6
EDWIN DROOD and OTHER STORIES	...	...	...	...	...	8	„	3 6
CHRISTMAS STORIES, from "Household Words"	...	...	...	...	...	8	„	3 6
SKETCHES BY "BOZ"	...	...	...	...	...	8	„	3 6
AMERICAN NOTES and REPRINTED PIECES	...	...	...	...	...	8	„	3 6
CHRISTMAS BOOKS	...	...	...	...	...	8	„	3 6
OLIVER TWIST	...	...	...	...	...	8	„	3 6
GREAT EXPECTATIONS...	...	...	...	...	...	8	„	3 6
TALE OF TWO CITIES	...	...	...	...	...	8	„	3 0
HARD TIMES and PICTURES FROM ITALY	...	...	...	...	...	8	„	3 0
UNCOMMERCIAL TRAVELLER	...	...	...	...	...	4	„	3 0
THE LIFE OF CHARLES DICKENS. Numerous Illustrations.	2 vols.	7	0					
THE LETTERS OF CHARLES DICKENS...	...	...	...	...	...	2 vols.	8	0

## DICKENS'S (CHARLES) WORKS.

## THE ILLUSTRATED LIBRARY EDITION.

*Complete in 30 Volumes. Demy 8vo, 10s. each; or set, £15.*

This Edition is printed on a finer paper and in a larger type than has been employed in any previous edition. The type has been cast especially for it, and the page is of a size to admit of the introduction of all the original illustrations.

No such attractive issue has been made of the writings of Mr. Dickens, which, various as have been the forms of publication adapted to the demands of an ever widely-increasing popularity, have never yet been worthily presented in a really handsome library form.

The collection comprises all the minor writings it was Mr. Dickens's wish to preserve.

SKETCHES BY "BOZ." With 40 Illustrations by George Cruikshank.

PICKWICK PAPERS. 2 vols. With 42 Illustrations by Phiz.

OLIVER TWIST. With 24 Illustrations by Cruikshank.

NICHOLAS NICKLEBY. 2 vols. With 40 Illustrations by Phiz.

OLD CURIOSITY SHOP and REPRINTED PIECES. 2 vols. With Illustrations by Cattermole, &c.

BARNABY RUDGE and HARD TIMES. 2 vols. With Illustrations by Cattermole, &c.

MARTIN CHUZZLEWIT. 2 vols. With 40 Illustrations by Phiz.

AMERICAN NOTES and PICTURES FROM ITALY. 1 vol. With 8 Illustrations.

DOMBEY AND SON. 2 vols. With 40 Illustrations by Phiz.

DAVID COPPERFIELD. 2 vols. With 40 Illustrations by Phiz.

BLEAK HOUSE. 2 vols. With 40 Illustrations by Phiz.

LITTLE DORRIT. 2 vols. With 40 Illustrations by Phiz.

A TALE OF TWO CITIES. With 16 Illustrations by Phiz.

THE UNCOMMERCIAL TRAVELLER. With 8 Illustrations by Marcus Stone.

GREAT EXPECTATIONS. With 8 Illustrations by Marcus Stone.

OUR MUTUAL FRIEND. 2 vols. With 40 Illustrations by Marcus Stone.

CHRISTMAS BOOKS. With 17 Illustrations by Sir Edwin Landseer, R.A., Maclise, R.A., &c. &c.

HISTORY OF ENGLAND. With 8 Illustrations by Marcus Stone.

CHRISTMAS STORIES. (From "Household Words" and "All the Year Round.") With 14 Illustrations.

EDWIN DROOD AND OTHER STORIES. With 12 Illustrations by S. L. Fildes.

DICKENS'S (CHARLES) WORKS.

THE POPULAR LIBRARY EDITION  
OF THE WORKS OF  
CHARLES DICKENS,

*In 30 Vols., large crown 8vo, price £6; separate Vols. 4s. each.*

An Edition printed on good paper, containing Illustrations selected from the Household Edition, on Plate Paper. Each Volume has about 450 pages and 16 full-page Illustrations.

SKETCHES BY "BOZ."

PICKWICK. 2 vols.

OLIVER TWIST.

NICHOLAS NICKLEBY. 2 vols.

MARTIN CHUZZLEWIT. 2 vols.

DOMBEY AND SON. 2 vols

DAVID COPPERFIELD. 2 vols.

CHRISTMAS BOOKS.

OUR MUTUAL FRIEND. 2 vols.

CHRISTMAS STORIES.

BLEAK HOUSE. 2 vols.

LITTLE DORRIT. 2 vols.

OLD CURIOSITY SHOP AND REPRINTED PIECES. 2 vols.

BARNABY RUDGE. 2 vols.

UNCOMMERCIAL TRAVELLER.

GREAT EXPECTATIONS.

TALE OF TWO CITIES.

CHILD'S HISTORY OF ENGLAND.

EDWIN DROOD AND MISCELLANIES.

PICTURES FROM ITALY AND AMERICAN NOTES.

## DICKENS'S (CHARLES) WORKS.

## HOUSEHOLD EDITION.

*Complete in 22 Volumes. Crown 4to, cloth, £4 8s. 6d.*

- MARTIN CHUZZLEWIT, with 59 Illustrations, cloth, 5s.
- DAVID COPPERFIELD, with 60 Illustrations and a Portrait, cloth, 5s.
- BLEAK HOUSE, with 61 Illustrations, cloth, 5s.
- LITTLE DORRIT, with 58 Illustrations, cloth, 5s.
- PICKWICK PAPERS, with 56 Illustrations, cloth, 5s.
- OUR MUTUAL FRIEND, with 58 Illustrations, cloth, 5s.
- NICHOLAS NICKLEBY, with 59 Illustrations, cloth, 5s.
- DOMBEY AND SON, with 61 Illustrations, cloth, 5s.
- EDWIN DROOD ; REPRINTED PIECES ; and other Stories, with 30 Illustrations, cloth, 5s.
- THE LIFE OF DICKENS. By JOHN FORSTER. With 40 Illustrations. Cloth, 5s.
- BARNABY RUDGE, with 46 Illustrations, cloth, 4s.
- OLD CURIOSITY SHOP, with 32 Illustrations, cloth, 4s.
- CHRISTMAS STORIES, with 23 Illustrations, cloth, 4s.
- OLIVER TWIST, with 28 Illustrations, cloth, 3s.
- GREAT EXPECTATIONS, with 26 Illustrations, cloth, 3s.
- SKETCHES BY "BOZ," with 36 Illustrations, cloth, 3s.
- UNCOMMERCIAL TRAVELLER, with 26 Illustrations, cloth, 3s.
- CHRISTMAS BOOKS, with 28 Illustrations, cloth, 3s.
- THE HISTORY OF ENGLAND, with 15 Illustrations, cloth, 3s.
- AMERICAN NOTES and PICTURES FROM ITALY, with 18 Illustrations cloth, 3s.
- A TALE OF TWO CITIES, with 25 Illustrations, cloth, 3s.
- HARD TIMES, with 20 Illustrations, cloth, 2s. 6d.

## DICKENS'S (CHARLES) WORKS.

## MR. DICKENS'S READINGS.

*Fcap. 8vo, sewed.*

CHRISTMAS CAROL IN PROSE. 1s.	STORY OF LITTLE DOMBEY. 1s.
CRICKET ON THE HEARTH. 1s.	POOR TRAVELLER, BOOTS AT
CHIMES: A GOBLIN STORY. 1s.	THE HOLLY-TREE INN, and MRS. GAMP. 1s.

A CHRISTMAS CAROL, with the Original Coloured Plates,  
being a reprint of the Original Edition. Small 8vo, red cloth, gilt edges, 5s.

*The Cheapest and Handiest Edition of*

## THE WORKS OF CHARLES DICKENS.

The Pocket-Volume Edition of Charles Dickens's Works.

*In 30 Vols. small fcap. 8vo, £2 5s.**New and Cheap Issue of*

## THE WORKS OF CHARLES DICKENS.

In pocket volumes.

- PICKWICK PAPERS, with 8 Illustrations, cloth, 2s.  
 NICHOLAS NICKLEBY, with 8 Illustrations, cloth, 2s.  
 OLIVER TWIST, with 8 Illustrations, cloth, 1s.  
 SKETCHES BY "BOZ," with 8 Illustrations, cloth, 1s.  
 OLD CURIOSITY SHOP, with 8 Illustrations, cloth, 2s.  
 BARNABY RUDGE, with 16 Illustrations, cloth, 2s.  
 AMERICAN NOTES AND PICTURES FROM ITALY, with 8 Illustrations, cloth, 1s.6d.  
 CHRISTMAS BOOKS, with 8 Illustrations, cloth, 1s. 6d.  
 MARTIN CHUZZLEWIT, with 8 Illustrations, cloth, 2s.

## SIXPENNY REPRINTS.

(I.)

A CHRISTMAS CAROL AND THE HAUNTED MAN.

By CHARLES DICKENS. Illustrated.

(II.)

READINGS FROM THE WORKS OF CHARLES DICKENS.

As selected and read by himself and now published for the first time. Illustrated.

(III.)

THE CHIMES: A GOBLIN STORY, AND THE CRICKET ON  
THE HEARTH. Illustrated.

(IV.)

THE BATTLE OF LIFE; A LOVE STORY, HUNTED DOWN,  
AND A HOLIDAY ROMANCE. Illustrated.

*List of Books, Drawing Examples, Diagrams, Models,  
Instruments, etc.,*

INCLUDING

THOSE ISSUED UNDER THE AUTHORITY OF THE SCIENCE  
AND ART DEPARTMENT, SOUTH KENSINGTON, FOR THE  
USE OF SCHOOLS AND ART AND SCIENCE CLASSES.

---

CATALOGUE OF MODERN WORKS ON SCIENCE  
AND TECHNOLOGY. 8vo, sewed, 1s.

*BENSON (W.)—*

PRINCIPLES OF THE SCIENCE OF COLOUR.  
Small 4to, 15s.

MANUAL OF THE SCIENCE OF COLOUR. Coloured  
Frontispiece and Illustrations. 12mo, 2s. 6d.

*BRADLEY (THOMAS), of the Royal Military Academy, Woolwich—*

ELEMENTS OF GEOMETRICAL DRAWING. In Two  
Parts, with 60 Plates. Oblong folio, half-bound, each part 16s.  
Selections (from the above) of 20 Plates, for the use of the Royal Military  
Academy, Woolwich. Oblong folio, half-bound, 16s.

*BURCHETT—*

LINEAR PERSPECTIVE. With Illustrations. Post 8vo, 7s.

PRACTICAL GEOMETRY. Post 8vo, 5s.

DEFINITIONS OF GEOMETRY. Third Edition. 24mo,  
sewed, 5d.

*CARROLL (JOHN)—*

FREEHAND DRAWING LESSONS FOR THE BLACK  
BOARD. 6s.

*CUBLEY (W. H.)—*

A SYSTEM OF ELEMENTARY DRAWING. With  
Illustrations and Examples. Imperial 4to, sewed, 3s. 6d.

*DAVISON (ELLIS A.)—*

DRAWING FOR ELEMENTARY SCHOOLS. Post  
8vo, 3s.

MODEL DRAWING. 12mo, 3s.

*DELAMOTTE (P. H.)—*

PROGRESSIVE DRAWING-BOOK FOR BEGINNERS.  
12mo, 3s. 6d.

*DYCE—*

DRAWING-BOOK OF THE GOVERNMENT SCHOOL  
OF DESIGN : ELEMENTARY OUTLINES OF ORNAMENT. 50 Plates.  
Small folio, sewed, 5s. : mounted, 18s.

INTRODUCTION TO DITTO. Fcap. 8vo, 6d.

*FOSTER (VERE)—*

DRAWING-BOOKS :

Forty-six Numbers, at 3d. each.

DRAWING-CARDS :

Freehand Drawing : First Grade, Sets I., II., III., 1s. each.

Second Grade, Set I., 2s.

*HENSLOW (PROFESSOR)—*

ILLUSTRATIONS TO BE EMPLOYED IN THE  
PRACTICAL LESSONS ON BOTANY. Post 8vo, sewed, 6d.

*JACOBSTHAL (E.)—*

GRAMMATIK DER ORNAMENTE, in 7 Parts of 20  
Plates each. Unmounted, £3 13s. 6d. ; mounted on cardboard, £11 4s. The  
Parts can be had separately.



*JEWITT—*

HANDBOOK OF PRACTICAL PERSPECTIVE. 18mo,  
1s. 6d.

*LINDLEY (JOHN)—*

SYMMETRY OF VEGETATION: Principles to be  
Observed in the Delineation of Plants. 12mo, sewed, 1s.

*MARSHALL—*

HUMAN BODY. Text and Plates reduced from the large  
Diagrams. 2 vols., £1 1s.

*NEWTON (E. TULLEY), F.G.S.—*

THE TYPICAL PARTS IN THE SKELETONS OF A  
CAT, DUCK, AND CODFISH, being a Catalogue with Comparative De-  
scriptions arranged in a Tabular Form. Demy 8vo, 3s.

*OLIVER (PROFESSOR)—*

ILLUSTRATIONS OF THE VEGETABLE KINGDOM.  
109 Plates. Oblong 8vo. Plain, 16s.; coloured, £1 6s.

*POYNTER (E. J.), R.A., issued under the superintendence of—*

THE SOUTH KENSINGTON DRAWING SERIES.

FREEHAND—ELEMENTARY ORNAMENT: books 6d., cards,  
9d. each.

FREEHAND—FIRST GRADE: books 6d., cards 1s. each.

FREEHAND—SECOND GRADE: books 1s., cards 1s. 6d. each.

FREEHAND—PLANTS FROM NATURE: books 6d., cards,  
1s. each.

FREEHAND—HUMAN FIGURE, ELEMENTARY: books 6d.

FREEHAND—HUMAN FIGURE, ADVANCED: books 2s.  
each.

FREEHAND—FIGURES FROM THE CARTOONS OF  
RAPHAEL: four books, 2s. each.

FREEHAND—ELEMENTARY PERSPECTIVE DRAWING.

By S. J. CARTLIDGE, F.R.Hist.S. Books 1s. each; or one  
volume, cloth, 5s.

*REDGRAVE—*

MANUAL AND CATECHISM ON COLOUR. Fifth Edition. 24mo, sewed, 9d.

*ROBSON (GEORGE)—*

ELEMENTARY BUILDING CONSTRUCTION. Oblong folio, sewed, 8s.

*WALLIS (GEORGE)—*

DRAWING-BOOK. Oblong, sewed, 3s. 6d.; mounted, 8s.

*WORNUM (R. N.)—*

THE CHARACTERISTICS OF STYLES: An Introduction to the Study of the History of Ornamental Art. Royal 8vo, 8s.

ELEMENTARY DRAWING COPY-BOOKS, for the Use of Children from four years old and upwards, in Schools and Families. Compiled by a Student certificated by the Science and Art Department as an Art Teacher. Seven Books in 4to, sewed:

Book I. Letters, 8d.	Book IV. Objects, 8d.
„ II. Ditto, 8d.	„ V. Leaves, 8d.
„ III. Geometrical and Ornamental Forms, 8d.	„ VI. Birds, Animals, &c., 8d.
	„ VII. Leaves, Flowers, and Sprays, 8d.

\* \* Or in Sets of Seven Books, 4s. 6d.

PRINCIPLES OF DECORATIVE ART. Folio, sewed, 1s.

DIAGRAM OF THE COLOURS OF THE SPECTRUM, with Explanatory Letterpress, on roller, 10s. 6d.

## COPIES FOR OUTLINE DRAWING:

LARGE FREEHAND EXAMPLES FOR CLASS TEACHING. Specially prepared under the authority of the Science and Art Department. Six Sheets. Size 60 by 40. 9s.

DYCE'S ELEMENTARY OUTLINES OF ORNAMENT, 50 Selected Plates, mounted back and front, 18s.; unmounted, sewed, 5s.

WEITBRICHT'S OUTLINES OF ORNAMENT, reproduced by Herman, 12 Plates, mounted back and front, 8s. 6d.; unmounted, 2s.

MORGHEN'S OUTLINES OF THE HUMAN FIGURE, reproduced by Herman, 20 Plates, mounted back and front, 15s.; unmounted, 3s. 4d.

TARSIA, from Gruner, Four Plates, mounted, 3s. 6d., unmounted, 7d.

ALBERTOLLI'S FOLIAGE, Four Plates, mounted, 3s. 6d.; unmounted, 5d.

OUTLINE OF TRAJAN FRIEZE, mounted, 1s.

WALLIS'S DRAWING-BOOK, mounted, 8s., unmounted, 3s. 6d.

OUTLINE DRAWINGS OF FLOWERS, Eight Plates, mounted, 3s. 6d., unmounted, 8d.

## COPIES FOR SHADED DRAWING :

COURSE OF DESIGN. By CH. BARGUE (French), 20 Sheets, £2 9s.

ARCHITECTURAL STUDIES. By J. B. TRIPON. 10 Plates, £1.

MECHANICAL STUDIES. By J. B. TRIPON. 15s. per dozen.

FOLIATED SCROLL FROM THE VATICAN, unmounted, 5d.; mounted, 1s. 3d.

TWELVE HEADS after Holbein, selected from his Drawings in Her Majesty's Collection at Windsor. Reproduced in Autotype. Half imperial, £1 16s.

LESSONS IN SEPIA, 9s. per dozen.

## COLOURED EXAMPLES :

A SMALL DIAGRAM OF COLOUR, mounted, 1s. 6d.; unmounted, 9d.

COTMAN'S PENCIL LANDSCAPES (set of 9), mounted, 15s.

„ SEPIA DRAWINGS (set of 5), mounted, £1.

ALLONGE'S LANDSCAPES IN CHARCOAL (Six), at 4s. each, or the set £1 4s.

## SOLID MODELS, &amp;c. :

\*Box of Models, £1 4s.

A Stand with a universal joint, to show the solid models, &c., £1 18s.

\*One Wire Quadrangle, with a circle and cross within it, and one straight wire. One solid cube. One Skeleton Wire Cube. One Sphere. One Cone. One Cylinder. One Hexagonal Prism. £2 2s.

Skeleton Cube in wood, 3s. 6d.

18-inch Skeleton Cube in wood, 12s.

\*Three objects of *form* in Pottery :

Indian Jar,	} 18s. 6d.
Celadon Jar,	
Bottle,	

\*Five selected Vases in Majolica Ware, £2 11s.

\*Three selected Vases in Earthenware, 18s.

Imperial Deal Frames, glazed, without sunk rings, 10s. each.

\*Davidson's Smaller Solid Models, in Box, £2, containing—

2 Square Slabs.		Octagon Prism.		Triangular Prism.
9 Oblong Blocks (steps).		Cylinder.		Pyramid, Equilateral.
2 Cubes.		Cone.		Pyramid, Isosceles.
Square Blocks.		Jointed Cross.		Square Block.

SOLID MODELS, &c.—*Continued.*

\*Davidson's Advanced Drawing Models, £9.—The following is a brief description of the Models:—An Obelisk—composed of 2 Octagonal Slabs, 26 and 20 inches across, and each 3 inches high; 1 Cube, 12 inches edge; 1 Monolith (forming the body of the obelisk) 3 feet high; 1 Pyramid, 6 inches base; the complete object is thus nearly 5 feet high. A Market Cross—composed of 3 Slabs, 24, 18, and 12 inches across, and each 3 inches high; 1 Upright, 3 feet high; 2 Cross Arms, united by mortise and tenon joints; complete height, 3 feet 9 inches. A Step-Ladder, 23 inches high. A Kitchen Table, 14½ inches high. A Chair to correspond. A Four-legged Stool, with projecting top and cross rails, height 14 inches. A Tub, with handles and projecting hoops, and the divisions between the staves plainly marked. A strong Trestle, 18 inches high. A Hollow Cylinder, 9 inches in diameter, and 12 inches long, divided lengthwise. A Hollow Sphere, 9 inches in diameter, divided into semi-spheres, one of which is again divided into quarters; the semi-sphere, when placed on the cylinder, gives the form and principles of shading a dome, whilst one of the quarters placed on half the cylinder forms a niche.

\*Davidson's Apparatus for Teaching Practical Geometry (22 models), £5.

\*Binn's Models for Illustrating the Elementary Principles of Orthographic Projection as applied to Mechanical Drawing, in box, £1 10s.

Miller's Class Drawing Models.—These Models are particularly adapted for teaching large classes; the stand is very strong, and the universal joint will hold the Models in any position. *Wood Models*: Square Prism, 12 inches side, 18 inches high; Hexagonal Prism, 14 inches side, 18 inches high; Cube, 14 inches side; Cylinder, 13 inches diameter, 16 inches high; Hexagon Pyramid, 14 inches diameter, 22½ inches side; Square Pyramid, 14 inches side, 22½ inches side; Cone, 13 inches diameter, 22½ inches side; Skeleton Cube, 19 inches solid wood 1¾ inch square; Intersecting Circles, 19 inches solid wood 2¼ by 1½ inches. *Wire Models*: Triangular Prism, 17 inches side, 22 inches high; Square Prism, 14 inches side, 20 inches high; Hexagonal Prism, 16 inches diameter, 21 inches high; Cylinder, 14 inches diameter, 21 inches high; Hexagon Pyramid, 18 inches diameter, 24 inches high; Square Pyramid, 17 inches side, 24 inches high; Cone, 17 inches side, 24 inches high; Skeleton Cube, 19 inches side; Intersecting Circles, 19 inches side; Plain Circle, 19 inches side; Plain Square, 19 inches side. Table, 27 inches by 21½ inches. Stand. The set complete, £14 13s.

Vulcanite Set Square, 5s.

Large Compasses, with chalk-holder, 5s.

\*Slip, two set squares and T square, 5s.

\*Parkes's Case of Instruments, containing 6-inch compasses with pen and pencil leg, 5s.

\*Prize Instrument Case, with 6-inch compasses pen and pencil leg, 2 small compasses, pen and scale, 18s.

6-inch Compasses, with shifting pen and point, 4s. 6d.

\* Models, &c., entered as sets, can only be supplied in sets.

## LARGE DIAGRAMS.

### ASTRONOMICAL :

TWELVE SHEETS. By JOHN DREW, Ph. Dr., F.R.S.A. Sheets, £2 8s.; on rollers and varnished, £4 4s.

### BOTANICAL :

NINE SHEETS. Illustrating a Practical Method of Teaching Botany. By Professor HENSLOW, F.L.S. £2; on rollers and varnished, £3 3s.

CLASS.	DIVISION.	SECTION.	DIAGRAM.
Dicotyledon .. ..	Angiospermous ..	{ Thalamifloral ..	.. 1
		{ Calycifloral ..	.. 2 & 3
		{ Corollifloral ..	.. 4
		{ Incomplete ..	.. 5
Monocotyledons ..	Gymnospermous ..	{ .. ..	.. 6
		{ Petaloid .. ..	.. 7
		{ Superior .. ..	.. 8
		{ Inferior .. ..	.. 9
	Glumaceous .. ..	.. ..	.. 9

\* Models, &c., entered as sets, can only be supplied in sets.

### BUILDING CONSTRUCTION :

TEN SHEETS. By WILLIAM J. GLENNY. In sets, £1 1s.

LAXTON'S EXAMPLES OF BUILDING CONSTRUCTION, containing 32 Imperial Plates, £1.

BUSBRIDGE'S DRAWING OF BUILDING CONSTRUCTION. 36 Sheets, 9s. Mounted on cardboard, 18s.

### GEOLOGICAL :

DIAGRAM OF BRITISH STRATA. By H. W. BRISTOW, F.R.S., F.G.S. A Sheet, 4s.; on roller and varnished, 7s. 6d.

### MECHANICAL :

DIAGRAMS OF THE MECHANICAL POWERS, AND THEIR APPLICATIONS IN MACHINERY AND THE ARTS GENERALLY. By Dr. JOHN ANDERSON. 8 Diagrams, highly coloured, on stout paper, 3 feet 6 inches by 2 feet 6 inches. Sheets £1; mounted on rollers, £2.

DIAGRAMS OF THE STEAM-ENGINE. By Prof. GOODEVE and Prof. SHELLEY. Stout paper, 40 inches by 27 inches, highly coloured. 41 Diagrams (52½ Sheets), £6 6s.; varnished and mounted on rollers, £11 11s.

MACHINE DETAILS. By Prof. UNWIN. 16 Coloured Diagrams. Sheets, £2 2s.; mounted on rollers and varnished, £3 14s.

SELECTED EXAMPLES OF MACHINES, OF IRON AND WOOD (French). By STANISLAS PETTIT. 60 Sheets, £3 5s.; 13s. per dozen.

BUSBRIDGE'S DRAWINGS OF MACHINE CONSTRUCTION. 50 Sheets 12s. 6d. Mounted, £1 5s

## PHYSIOLOGICAL :

ELEVEN SHEETS. Illustrating Human Physiology, Life Size and Coloured from Nature. Prepared under the direction of JOHN MARSHALL, F.R.S., F.R.C.S., &c. Each Sheet, 12s. 6d. On canvas and rollers, varnished, £1 1s.

1. THE SKELETON AND LIGAMENTS.
  2. THE MUSCLES, JOINTS, AND ANIMAL MECHANICS.
  3. THE VISCERA IN POSITION.—THE STRUCTURE OF THE LUNGS.
  4. THE ORGANS OF CIRCULATION.
  5. THE LYMPHATICS OR ABSORBENTS.
  6. THE ORGANS OF DIGESTION.
  7. THE BRAIN AND NERVES.—THE ORGANS OF THE VOICE.
  - 8 & 9. THE ORGANS OF THE SENSES.
  - 10 & 11. THE MICROSCOPIC STRUCTURE OF THE TEXTURES AND ORGANS
- 

HUMAN BODY, LIFE SIZE. BY JOHN MARSHALL, F.R.S., F.R.C.S. Each Sheet, 12s. 6d.; on canvas and rollers, varnished, £1 1s. Explanatory Key, 1s.

- 1, 2, 3. THE SKELETON, Front, Back, and Side View.
  - 5, 6, 7. THE MUSCLES, Front, Back, and Side View.
- 

## ZOOLOGICAL :

TEN SHEETS. Illustrating the Classification of Animals. By ROBERT PATTERSON. £2; on canvas and rollers, varnished, £3 10s.

---

## PHYSIOLOGY AND ANATOMY OF THE HONEY BEE.

Two Diagrams. 7s. 6d.



# NEW NOVELS.

(To be had at all Libraries.)

BY A. P. SINNETT.

KARMA. By A. P. SINNETT, Author of "Esoteric Buddhism."

BY GEORGE MEREDITH.

DIANA OF THE CROSSWAYS. By GEORGE MEREDITH,  
Author of "The Shaving of Shagpat," "The Ordeal of Richard Feverell," &c.  
3 vols. Crown 8vo.

BY MRS. EDWARD KENNARD.

STRAIGHT AS A DIE. By Mrs. EDWARD KENNARD, Author  
of "The Right Sort." 3 vols.

BY HAWLEY SMART.

TIE AND TRICK: A Melodramatic Story. By HAWLEY  
SMART. 3 vols.

BY M. W. BREW.

THE CHRONICLES OF CASTLE CLOYNE: or, Pictures  
of the Munster People. By M. W. BREW, Author of "The Burtons of Dunroe."  
3 vols. Crown 8vo. [In April.]

BY M. J. COLQUHOUN.

PRIMUS IN INDIS: A Romance. By M. J. COLQUHOUN  
2 vols.

BY LADY VIOLET GREVILLE.

CREATURES OF CLAY. By Lady VIOLET GREVILLE,  
Author of "Zoe," "Keith's Wife," &c. 3 vols. Crown 8vo.  
"The chief merit of the book is the brisk and natural dialogue."—*Spectator*, Feb. 14th.  
"Lady Violet Greville again gives us one of her *aperçus* of present-day society set as a  
novel, and is the best work she has yet achieved. . . . The book is excellent."—*Daily*  
*Mall Gazette*.

BY THE HON. MRS. HENRY W. CHETWYND.

BEEES AND BUTTERFLIES. By the Hon. Mrs. HENRY  
W. CHETWYND, Author of "A March Violet," "Dutch Cousin," &c. 3 vols. Crown  
8vo.

"Mrs. Chetwynd's sketch of a thorough plausible and well-born villain, as typified by  
Mr. George Drysdale, is the most striking feature in her new book, 'Bees and Butterflies,'  
and suffices to place it above the average run of novels. This is an excellent character study,  
drawn throughout with remarkable consistency."—*Morning Post*.

BY ARTHUR GRIFFITHS.

FAST AND LOOSE. By ARTHUR GRIFFITHS, Author of  
"The Chronicles of Newgate." 3 vols. Crown 8vo.

"'Fast and Loose' is so unmistakably one of the best of its class that it will assuredly  
become popular. There is not a page of this clever book that is not well worth reading;  
has not a single dull chapter. Its tone is forcible without being painfully realistic, and its  
incidents are both varied and dramatic."—*Morning Post*.



# THE FORTNIGHTLY REVIEW.

Edited by T. H. S. ESCOTT.

THE FORTNIGHTLY REVIEW is published on the 1st of every month, and a Volume is completed every Six Months.

*The following are among the Contributors:—*

SIR RUTHERFORD ALCOCK.  
MATHEW ARNOLD.  
PROFESSOR BAIN.  
SIR SAMUEL BAKER.  
PROFESSOR BEESLY.  
PAUL BERT.  
BARON GEORGETON BUNSEN.  
DR. BRIDGES.  
HON. GEORGE C. BRODRICK.  
JAMES BRYCE, M.P.  
THOMAS BURTT, M.P.  
SIR GEORGE CAMPBELL, M.P.  
THE EARL OF CARNARVON.  
EMILIO CASTELAR.  
RT. HON. J. CHAMBERLAIN, M.P.  
PROFESSOR SIDNEY COLVIN.  
MONTAGUE COOKSON, Q.C.  
L. H. COURTNEY, M.P.  
G. H. DARWIN.  
SIR GEORGE W. DASENT.  
PROFESSOR A. V. DICEY.  
RIGHT HON. H. FAWCETT, M.P.  
EDWARD A. FREEMAN.  
SIR BARTLE FRERE, BART.  
J. A. FROUDE.  
MRS. GARRET-ANDERSON.  
J. W. L. GLAISHER, F.R.S.  
M. E. GRANT DUFF, M.P.  
THOMAS HARE.  
F. HARRISON.  
LORD HOUGHTON.  
PROFESSOR HUXLEY.  
PROFESSOR R. C. JEBB.  
PROFESSOR JEVONS.  
ANDREW LANG.  
EMILE DE LAVELEYE.

T. E. CLIFFE LESLIE.  
SIR JOHN LUBBOCK, M.P.  
THE EARL LYTTON.  
SIR H. S. MAINE.  
DR. MAUDSLEY.  
PROFESSOR MAX MÜLLER.  
G. OSBORNE MORGAN, Q.C., M.P.  
PROFESSOR HENRY MORLEY.  
WILLIAM MORRIS.  
PROFESSOR H. N. MOSELEY.  
F. W. H. MYERS.  
F. W. NEWMAN.  
PROFESSOR JOHN NICHOL.  
W. G. PALGRAVE.  
WALTER H. PATER.  
RT. HON. LYON PLAYFAIR, M.P.  
DANTE GABRIEL ROSSETTI.  
LORD SHERBROOKE.  
HERBERT SPENCER.  
HON. E. L. STANLEY.  
SIR J. FITZJAMES STEPHEN, Q.C.  
LESLIE STEPHEN.  
J. HUTCHISON STIRLING.  
A. C. SWINBURNE.  
DR. VON SYBEL.  
J. A. SYMONDS.  
THE REV. EDWARD F. TALBOT  
(WARDEN OF KEBLE COLLEGE).  
SIR RICHARD TEMPLE, BART.  
W. T. THORNTON  
HON. LIONEL A. TOLLEMACHE.  
H. D. TRAILL.  
ANTHONY TROLLOPE.  
PROFESSOR TYNDALL.  
A. J. WILSON.  
THE EDITOR.

&c. &c. &c.

THE FORTNIGHTLY REVIEW is published at 2s. 6d.

CHAPMAN & HALL, LIMITED, 11, HENRIETTA STREET,  
COVENT GARDEN, W.C.







