PART I.] PRICE ONE SHILLING. [MAY.

THE

POULTRY BOOK:

INCLUDING

PIGEONS AND RABBITS;

COMPRISING THE

CHARACTERISTICS, MANAGEMENT, BREEDING, AND MEDICAL TREATMENT OF POULTRY;

BEING

THE RESULTS OF PERSONAL OBSERVATION AND PRACTICE OF THE REV. W. WINGFIELD, G. W. JOHNSON, ESQ.,

AND OTHER CELEBRATED BREEDERS OF THE DIFFERENT VARIETIES.

RE-ARRANGED AND EDITED BY W. B. TEGETMEIER.

THE PIGEONS AND RABBITS BY MR. HARRISON WEIR,

AND OTHER MEMBERS OF THE PHILOPERISTERON SOCIETY.

WITH

COLOURED REPRESENTATIONS OF THE MOST CELEBRATED PRIZE BIRDS, AND FAC-SIMILES OF ALL THE MOST ESTEEMED VARIETIES OF PIGEONS AND RABBITS,

DRAWN FROM LIFE

BY MR. HARRISON WEIR,

And Printed in Colours under his Superintendence.

LONDON:
WM. S. ORR AND CO., AMEN CORNER, PATERNOSTER ROW.
MDCCCLVI.

A

GALLERY OF PORTRAITS

OF THE MOST DISTINGUISHED

CONTEMPORARY SCIENTIFIC MEN AND NATURALISTS

OF THE NINETEENTH CENTURY.

DRAWN ON STONE, FROM LIFE,

BY T. H. MAGUIRE, ESQ.

DEDICATED, BY PERMISSION, TO HER MAJESTY AND PRINCE ALBERT.

In the year 1847 an Institution was opened at Ipswich, the history of which cannot be too widely circulated. It was, like all great and useful undertakings in this country, the work of private individuals; and the projector had the good fortune to witness its successful completion. The Ipswich Museum is the Institution in question, and a private individual has the merit of having accomplished what Legislators and Corporations have been talking about. The Ipswich Museum consists of a Collection of Specimens in British Natural History and other kindred objects. It is intended to facilitate the instruction of the working classes in Natural History, by rendering them familiar with the forms, the principles, and the general appearance of the materials which they are accustomed to deal with in their daily avocations.

The objects of this Institution no sooner became known, than the most cordial offers of co-operation and assistance reached its projector from the most eminent men of science and naturalists—not of the neighbourhood only, but of the whole kingdom, so that in a very short time there were few names distinguished in the world of science who had not become honorary members of the Museum. Nor was the Institution without Royal support, Her Majesty and the Prince Consort having graciously become its patrons. It is in commemoration of the gratuitous patronage and services rendered by these gentlemen to the Institution, that these Portraits owe their origin.

Under a grateful sense of the disinterested assistance rendered by these distinguished persons to a cause which he had so much at heart, the late Honorary Secretary—having first obtained their consent to sit to Mr. Maguire for the purpose—determined, at his own cost, to present their Portraits to the supporters of the Institution, at once as a tribute of gratitude to them, and a record of the success which they had been the means of securing to it. It was originally intended strictly to confine the issue of these Portraits to Members of the Institution, but, in course of time, they became known far beyond its limited circle. The Portraits generally representing men of European fame, and being characteristic, as well as correct likenesses, it has been determined to meet the demand thus created by a more formal publication of them, and at a very moderate price.

The impressions hitherto taken from the stones have been limited very nearly to the presentation copies, they are all therefore in excellent condition; and as the impressions are taken on India paper,

GEORGE C. LEIGHTON'S, CROMATIC PROCESS.

DUCK WINGED GAME,

THE PROPERTY OF THURNALL ESQ, OF ROYSTON.

GEORGE C. LEIGHTON'S, CROMATIC PROCESS.

SILVER SPANGLED HAMBURGHS,

THE PROPERTY OF HARRISON WEIR, ESQ.

HER MAJESTY'S POULTRY-HOUSE AT THE HOME FARM, WINDSOR.

THE POULTRY BOOK.

CHAPTER I.

POULTRY HOUSE AND YARD.

THE first, and by no means the least important, consideration of every prospective poultry keeper is the situation and construction of the houses and yards. It is true that poultry may be kept almost anywhere; first-rate specimens of Cochins have been reared in an attic, and many very fine ones have never known there was any world beyond a small back-yard in the street of a country town. These, however, are extreme cases; and such success could only be achieved by constant attention and great judgment in supplying artificially those requirements of the birds which the place of confinement did not afford.

The best of all soils on which to establish a poultry yard is gravel or sand, resting on chalk or a substratum of gravel. If the soil is clayey, or from other causes retentive of wet, the whole should be well drained, and a good breadth of it raised artificially by carting on to it a foot depth of chalk or gravel, to be covered over with a few inches depth of sand. This is more than desirable—it is almost essential to success—stagnant wet in the soil being more inducive of cramp and some other diseases that any other circumstance.

The best of all aspects is south or south-east; and the side of a gently rising hill, if sheltered from the north and east, by plantations, leaves little to be desired on this point. If the birds can have access to those plantations and to a grass field, and the soil is such as we have described, then, so far as the ground and situation are concerned, nothing remains to be desired.

The houses and yards must be constructed according to the purposes of the proprietor. Those who keep a cock and three or four hens merely for home supply, will require a very simple building; but the proprietor who breeds for sale and profit must have a more elaborate arrangement.

Whatever plan may be requisite, it may be observed that the cheapest and warmest materials of which to construct the house are weather-boarding, lined with straw, with a slated roof similarly lined. The straw is smoothed as for thatching, placed between the upright posts to which the weather-boarding is nailed, and between the rafters under the slates, and retained in its proper position by laths nailed over it and to the same posts and rafters. The neatness is increased by a layer of reeds in front of the straw. Houses constructed in this way with brick foundations, and raised floors of chalk rammed hard and covered over with sand, are unexceptionable.

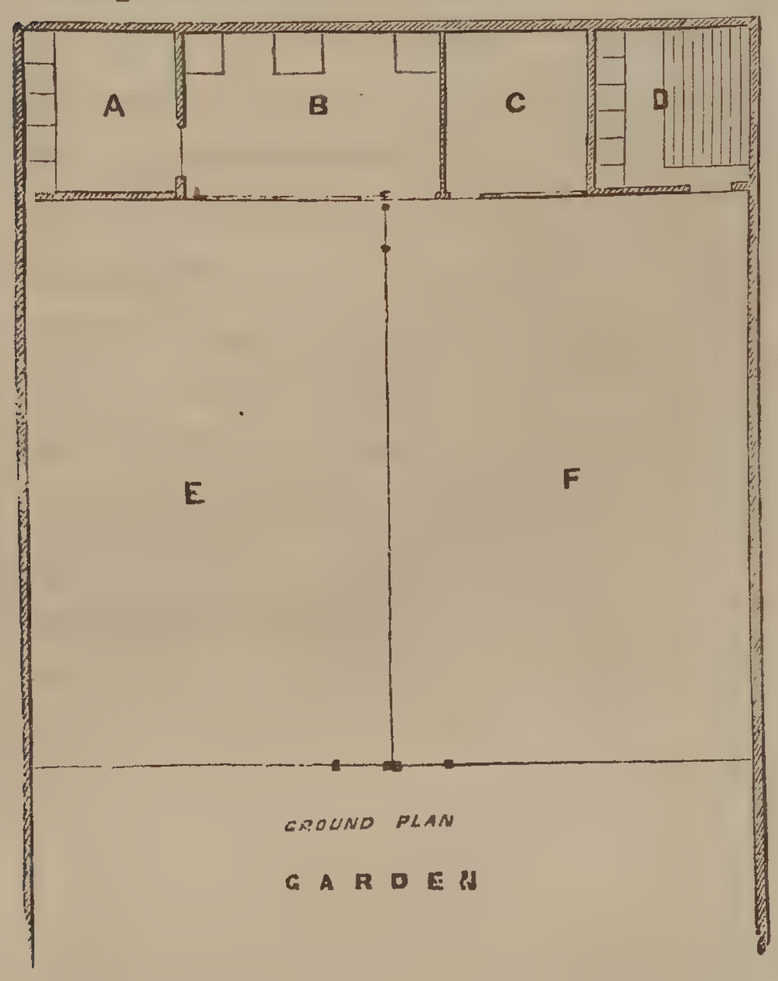
From the variable character of our English climate, it is evident that any one rule for the precautions to be taken against our poultry suffering from insufficient housing would be open to many exceptions. Where boarding is employed for the sides, the straw lining, or, what would be still better, one made from the marsh reeds, so durable for thatching, is unnecessary in the milder parts of England; and thus we avoid the hazard of affording a shelter to rats, or smaller but not less obnoxious vermin, who covet such a retreat beyond any other locality. Wherever, therefore, these are found requisite in winter, we would suggest their being made in panels, so as to be removed at pleasure; as, if permanent, they provide far too comfortable an abode for mice, even where doors and walls are proof against the rats. For the roof, a rough ceiling of lath and plaster possesses many advantages, especially as it is readily lime-washed, an operation which should be performed at least once in the course of the year. Those who have insisted on this cleansing process know well how amply the trouble is repaid, by the increased comfort and consequent health of their stock. Brick-work should certainly have the preference for walls; but wherever wood is employed for that purpose, it should be tongued thus:—

a very inexpensive method for providing against warping by heat, or admitting wind or rain; lying flat against the uprights, there is an economy of material, and an external appearance far superior to any other method of boarding; and if the second coat of paint is rough-cast over with sand, such buildings will not be objected to even in the more ornamental parts of the grounds. Railroad sheds, of various kinds, are frequently on this principle; and if we also borrow from them their corrugated roof of galvanized iron, we should

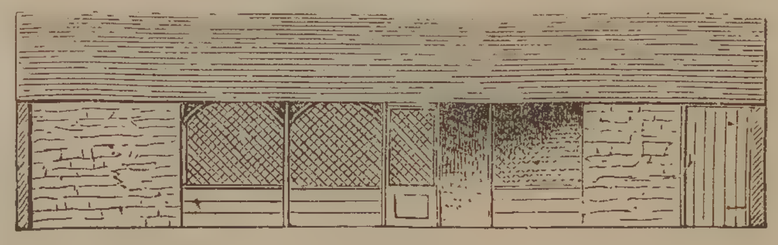
be enabled to dispense with the heavier portion of the timber required for the roof; but then, for warmth's sake, a ceiling would be indispensable.

Bricks, unless covered with a thick layer of ashes or sand, may be regarded as the worst of all materials for the floor; they retain moisture, whether atmospheric or arising from insufficient drainage; and thus the temperature is kept low, when warmth is most essential, and disease too often follows.

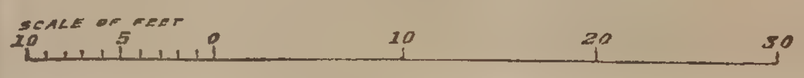
The following plan for a poultry yard is suitable for a confined situation—for example, the end of a garden in a town. It is arranged for keeping Cochins, but



A, House for setting hens.—B, Shed for hens and their chickens.—C, Shed for fowls (stock).—D, Roosting-house for stock.—E, Yard for chickens.—F, Yard for fowls (stock).

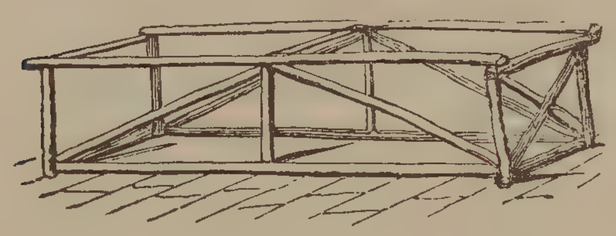


ELEVATION

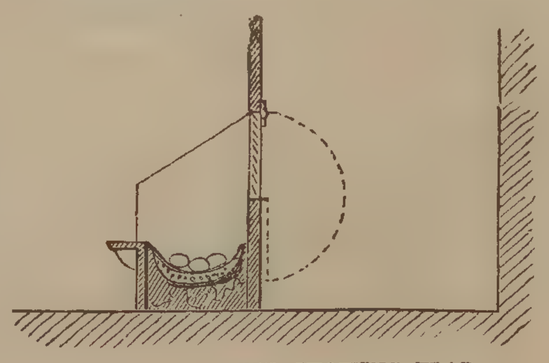


it would answer for any other sort, by having the nests smaller, and poles instead of a barred floor for the roost.

The arrangement given chiefly applies to the breeding season. Afterwards the yards and houses should be used for keeping the sexes separate until the next season. The front of the shed for chickens should be of wire. The fences to the yard should also be of wire. The arrangement for the laying nests, &c., is the same as in plan at p. 4. The design on the following page is for a poultry-yard for breeding Dorking, Cochins, and Spanish fowls in a limited space, and yet keeping the breeds pure. The yard should have about a quarter of an acre of grass near it, in which the fowls may be turned out on alternate days. The Cochins should be placed in the centre, as they are not so likely to quarrel with their neighbours as the others. The yards should be inclosed by wire-fencing, six feet high, and the fences between the yards should be close boarded to about two feet six inches from the ground. The roosting-house for the Cochins should have a barred floor, and the others roost-frames, which should be moved out when the floors are being cleaned.

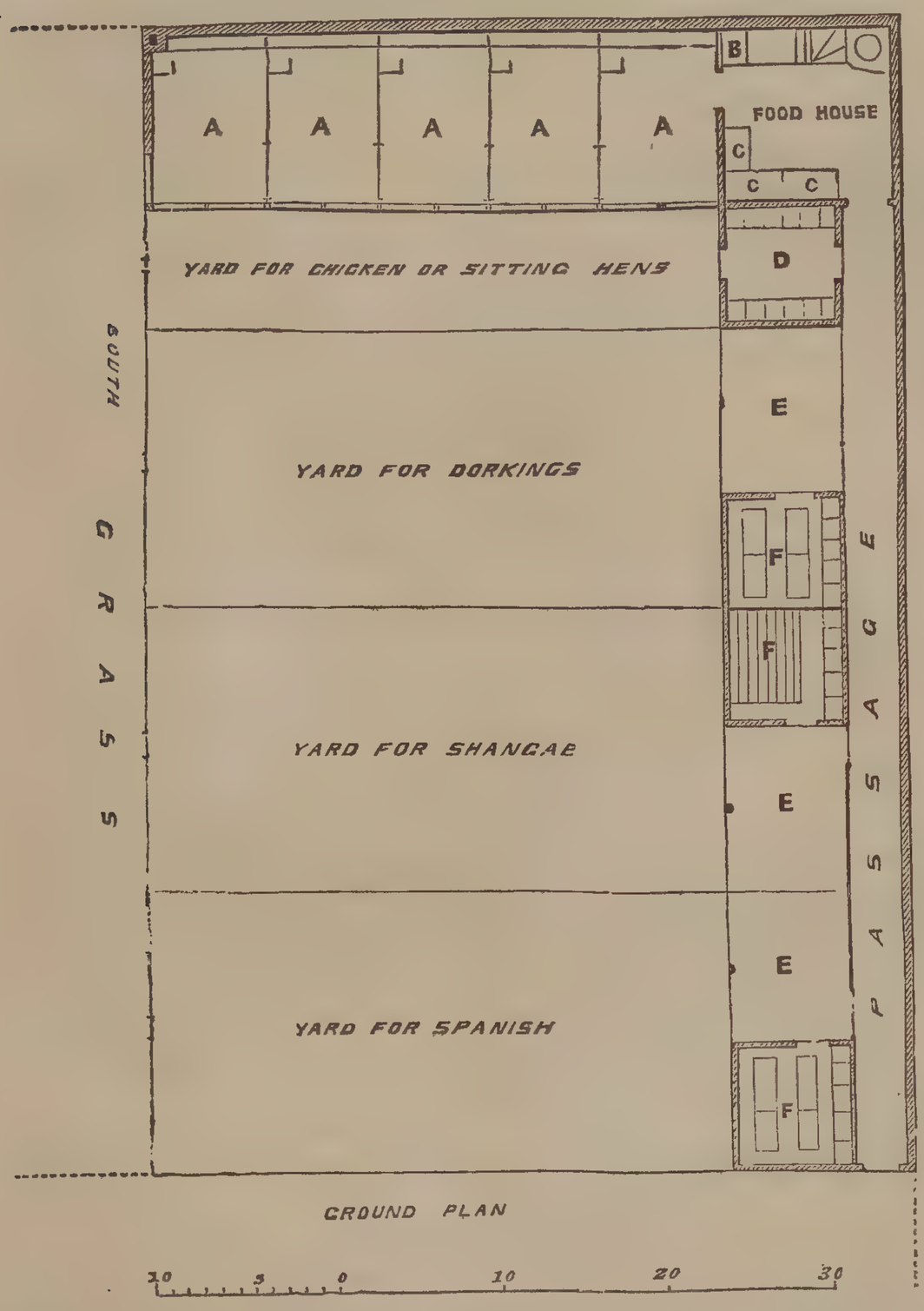


FRAME FOR ROOST.

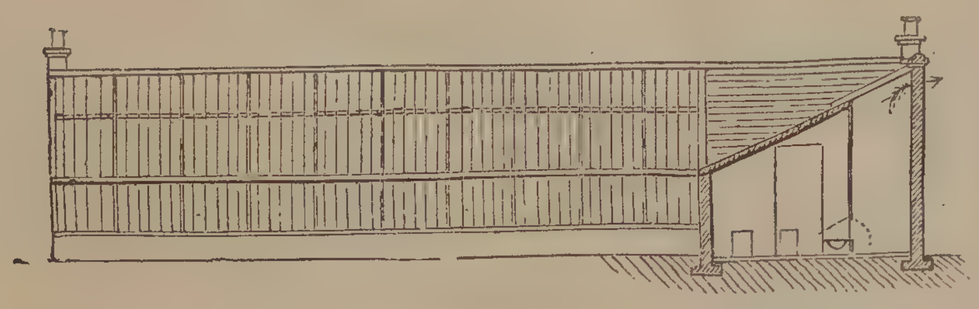


SECTION OF NEST, SHOWING FLAP.

The nests in the roosting-houses should be for laying only; and a wooden flap should be hung in the passage, at the back of the nests, so as to enable a person to remove the eggs without going into the roosting-houses. The walls should be built of brick, nine inches thick, and built hollow. If expense was not an object, the long passage and the pens for chickens might be covered with glass, and grapes grown on the rafters. The sheds, E, should have a layer of sand six inches deep. The floors of the roosting, the food, and sitting houses, should be paved with chalk, laid on dry coal-ashes to absorb the moisture.



A A A A A. Pens forhens and their chickens separated by wire. A flue should run the whole length of these from the fire-place B. C C C, Bins for food. — D. Setting hens. — E E E, Sheds.— F F F, Roosting-houses.



SECTION.

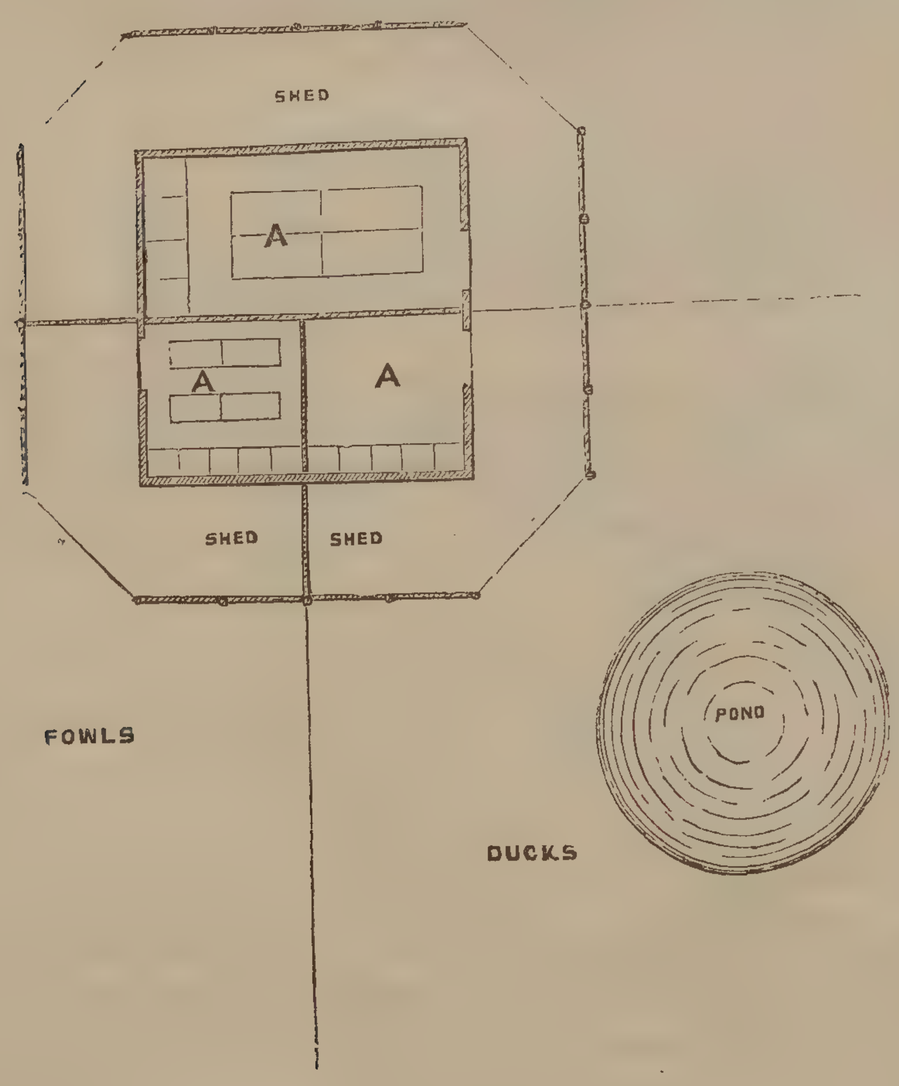
The plan on page 5 is for a poultry yard for breeding fowls, ducks, turkeys or geese, and pigeons. It is intended to stand on a piece of grass-land or park. The yards should be fenced with wire six feet high; the walls of the roosting-houses built of brick nine inches thick, and hollow; the front of the shed may be formed of larch-fir, in a rustic manner. By this arrangement the poultry must either be allowed to sit in the roosting-houses (which is not advisable), or be removed to some convenient out-house. A A A are the roosting-houses.

The roosts, laying-nests, &c., are the same as in the previous plan.

The plan of the poultry house, &c., erected by Mr. Charles Punchard, Blunts Hall,

Haverhill is given on page 6. The copper, *a*, heats the chicken houses, C H, by hot water during the winter.—*b*, Wall, four feet high.—*c*, Wire fence three feet high.—R H, Roosting-houses, with perches, *d*, arranged in a sloping form.—N H, Nest houses. The Elevation page 6, shows the windows, *e*, running on cast-iron rollers, the openings being wired inside to admit air at pleasure; and the ventilators, *f*, with moveable louvre boarding. Perforated zinc tubes, from each end of the building, communicate with the ventilator, and give any degree of coolness. In winter they are closed. The roof of the buildings is slate, nailed on boarding.

The skilful arrangement of the houses at Knowsley, as given in the following sketches, will be useful to many intending poultry-keepers. These breeding-houses face to the south, and look into the kitchen garden. They have iron espaliers for fruit-trees in front of them; and though enjoying a warm aspect, they are well sheltered from wind. Each building has a ventilator and two windows facing south. The inside is fitted with four slate laying-places, into which wicker nests slide; so that the latter may occasionally be removed and scalded. One side has broad perches above the nests, with a slide to receive the droppings. On the other side is a platform with a false bottom, which is littered with straw whenever Cochins may be the occupants. All the ground occupied by these buildings and yards was excavated three feet deep, and then filled up with broken bricks, the surface being covered with fine gravel. Each enclosure has its fountain, and a dusting-box filled with sifted ashes, and lime rubbish. North of the building are a meadow and plantation, into which the members of each compartment

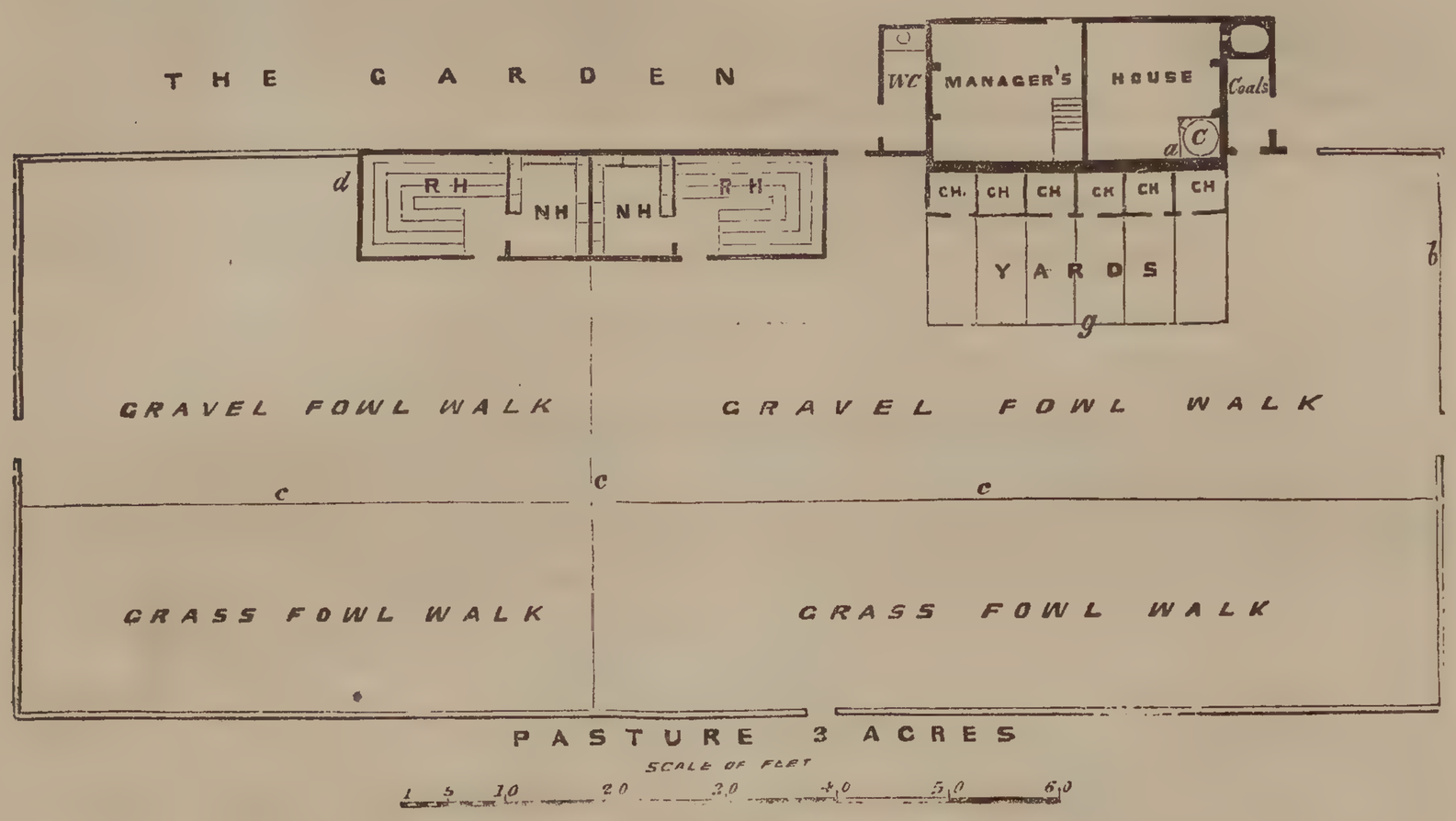


GROUND PLAN.

are admitted for one and a half or two hours every day; but the time of exercise is constantly varied, and it is surprising how soon they seem to know their own habita-

ELEVATION OF MR. PUNCHARD'S POULTRY HOUSES.

tions. The interval of a foot or so between the cages prevents their fighting. Should this plan not be adopted, it would be absolutely necessary to board up the



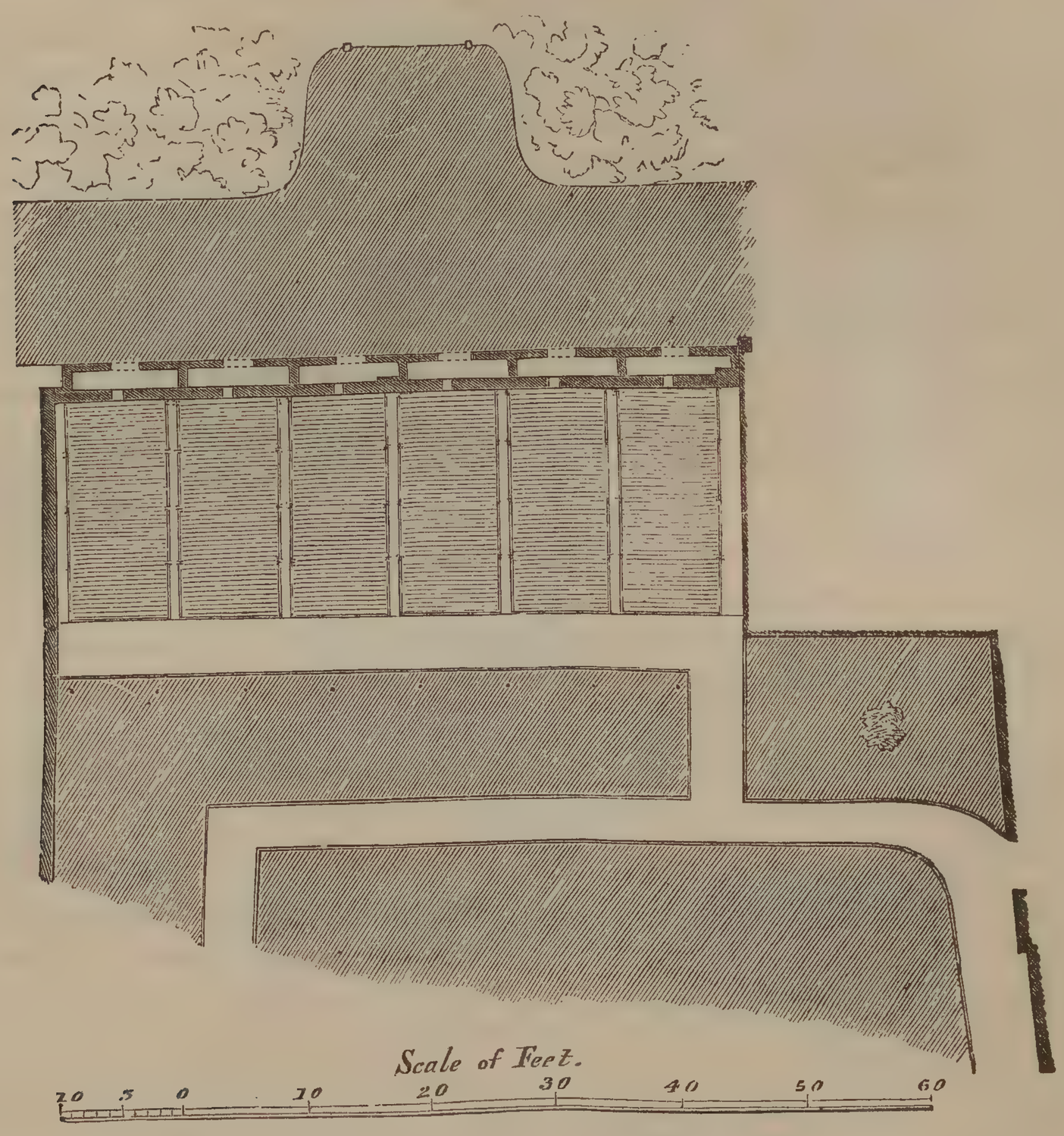
GROUND PLAN OF MR. PUNCHARD'S HOUSES AND RUNS.

sides between the runs to three feet high, in order to prevent fighting through the wire-work. The nests are supplied with nest-eggs of white wood.

ELEVATION OF BACK OF CAPTAIN HORNBY'S POULTRY HOUSES.

The houses that we have described are adapted to those who can afford to ride their hobby regardless of expense; but the amateur of more moderate, or even

limited means, may erect a poultry house, not perhaps as ornamental, but in every respect as efficient, for a less number of shillings than those that we have been describing cost pounds. A lean-to may be erected with weather boarding, against the west or south side of any wall, the roof being formed with inch deal boards, laid close together up and down the slope, and projecting in front, and even over the sides, so to protect the walls from the drip. In order to render this

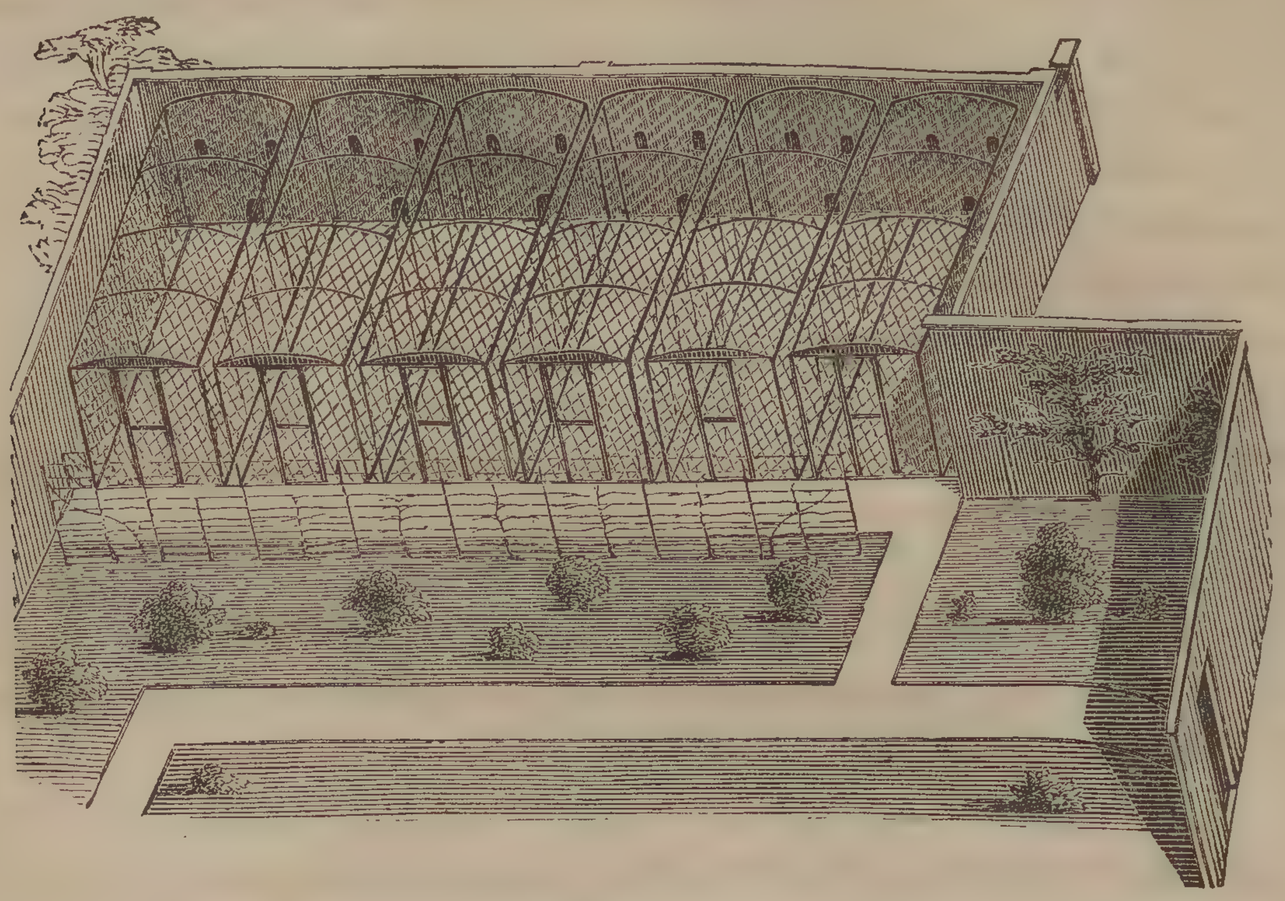


GROUND PLAN OF CAPTAIN HORNBY'S HOUSES AND RUNS.

waterproof, some of the thinnest waste calico, or old sheeting may be tightly stretched over it, and a coating of tar applied hot, after having been boiled with a little lime, may be applied with a brush; this soaking through the calico cements it to the roof, and the whole is rendered impervious to the weather. The perches may be arranged as shown in the sketch at page 9, only one incline of these perches being adopted, rising from the front of the house towards the back, and they should also be considerably shorter than the house is long, in order

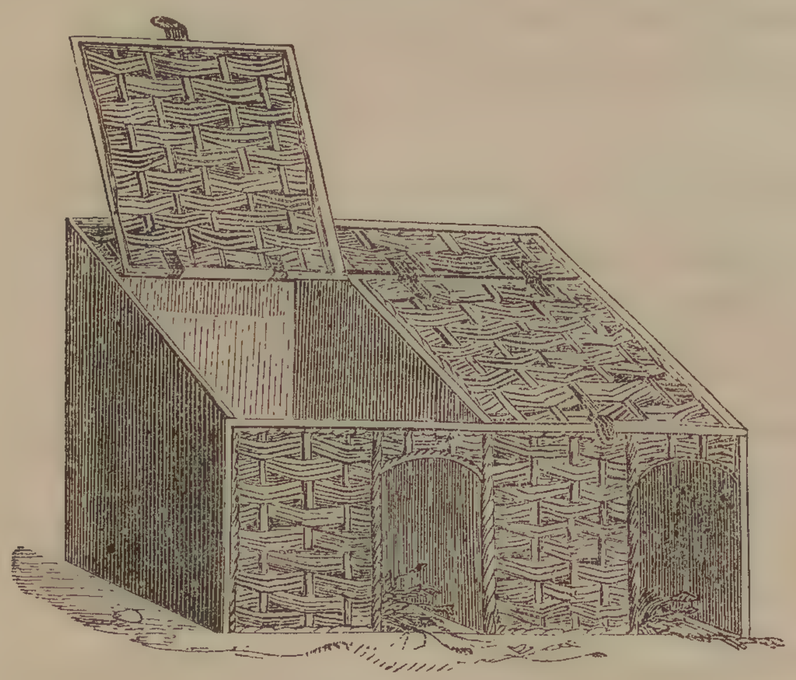
to leave a space at each end for the nests, which may be advantageously made on the floor.

It is not essential to success that the nests should be upon the ground, though



FRONT VIEW (IN ISOMETRICAL PERSPECTIVE) OF CAPTAIN HORNBY'S POULTRY HOUSES.

many persons always so construct them for the use of their hens, in conformity with the general observation that fowls, when left to themselves, usually do so. But whether on the ground, or raised somewhat above it, they should be warm and somewhat secluded. For a soft material to place within them we like straw, cut into short lengths by a chaff-cutting machine, as well as anything; though good authorities prefer heath similarly treated. In cold weather, a thick bed of ashes, under the straw, will be found to retain the heat of the hen more completely, and to yield more satisfactory results.



OUT-DOOR NEST BOXES.

Twenty-three inches square; height in front, one foot; height behind, one foot and a-half; height of door, twelve inches; breadth, nine inches.

A well-known writer, a very practical man, recommends nests of wicker-work, with wooden divisions, and the following dimension:—

He says:—"I have used most contrivances in this way, but never found any to answer so completely as these. The hens take to them, and we require no better judgment than that. An auger, a saw,

a bill-hook, a clasp-knife, a stout piece of leather for hinges, some iron tacks, a few poles, two inches diameter, cut fresh from the water-willow, some strips, and a few seasoned pieces of larch, or any other boards, are all the implements and material I made use of in their construction. Rive the willow rods into laths two-eighths of an inch thick, and wattle them on the frame as in the engraving. I give the preference to these wattled boxes over those formed of solid boards, because they admit of a constant circulation of air going on through the interstices. This has a great deal more to do with the health and comfort of the hens, and the prospective 'counting of the chickens before they are hatched,' than a great many people are aware of. In nine cases out of ten, sitting-boxes are too *hot, close,* and *dry.* Draw a comparison between them and the stolen, or, if you will, more natural, nest in the open air—which are notorious for producing numerous and healthy offspring?" We shall enter more fully into this part of the subject in our chapter upon the management of the hen whilst sitting.

Perches, although essential to the lighter varieties, are not necessary for Cochins. We prefer having them on a floor littered down warmly with straw, the same as for a horse, the straw being gathered up in the morning as is done by the groom. Mr. Sturgeon has a latticed floor, without even straw. Mr. Punchard has also, to a considerable extent, adopted the same plan. Other breeders we know who have latticed benches raised about six inches from the floor; and some give the birds nothing but a bed of sand to rest upon. All these unite with us in the opinion that resting on narrow perches is only productive of twisted breast-bones—a result that might be anticipated, as the pressure is unavoidably in one place during the whole roosting-time, but a most serious defect in any specimen of poultry.

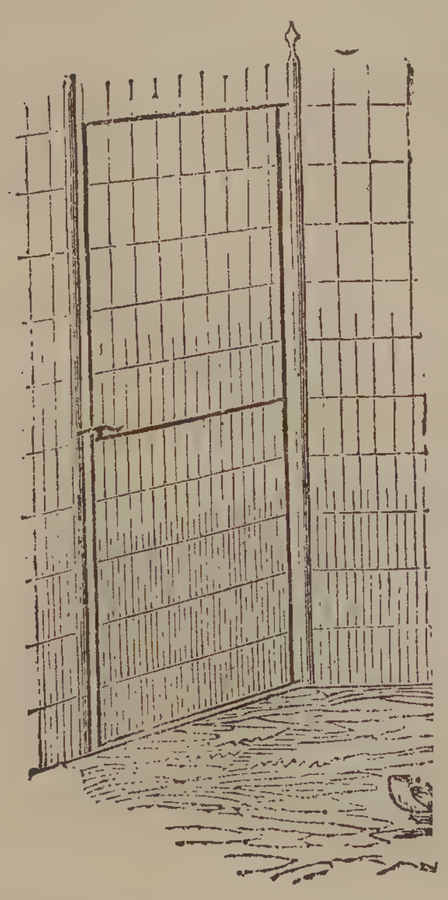
If perches are adopted, they should not be more than two feet from the ground; for, if higher, these weighty birds, with defective wings, are very liable to be lamed in descending. We would have the perch made of larch or fir poles split in half, with the rounded side upwards, and not less than three inches in diameter. Wherever perches are employed, their graduated arrangement has merits as regards the comfort of the birds, the economical arrangement of space, and facility for cleaning the house. Each perch forms a step to the one above; and if the floor beneath be well sanded, a common road-scraper, or similar implement, removes the dirt with the least possible labour, if arranged as shewn. In the annexed sketch the highest of the perches should be three feet from the ground, and they should drop into niches formed by nailing pieces of wood on the bar that carries them, on which they should be placed two feet apart. High perches are exceedingly injurious in a small house, as the fowls in descending from them have to drop nearly perpendicularly, being unable to take the long inclined flight which they naturally adopt to lessen the force of their descent.

Latticed floors do not seem comfortable to poultry; and what falls through not being always visible, is apt to remain longer than it should; while a portion constantly adheres to the upper surface, and hinders that perfect cleanliness which should greet our entrance into a fowl house, whether it be the abode of half a dozen or a hundred.

LIGHTING.—Whoever has the intention of building a fowl house, or already possesses one without the means of admitting sufficient light, should either introduce a pane or two of thick glass in the sides, or substitute a few glass tiles or slates as a skylight. In wet weather the birds will be the more induced to take shelter within if light be there, and the master's inspection of the state of their domicile is the more readily performed.

VENTILATION.—When the littering system is used for Cochins, we are better enabled to ventilate the abode thoroughly, without exposing the fowls to any risk of passing their nights on perches exposed to a constant current of cold air. A rough application of the Venetian shutter, fitted to the highest part of the interior, excludes weather, and secures the egress of the heated air within, while carpenters are seldom so accurate in the door and fittings of such edifices, as not to leave sufficient apertures for admitting what is required to take its place.

Neglect of ventilation is a sure forerunner of disease, and if every poultry-keeper was compelled himself to unlock the doors of the house every morning for a week, there would be fewer complaints on this head; but the unfortunate cocks and hens are usually either condemned to shiver in an open out-house, or are else imprisoned in an atmosphere like the hold of a slaver. However easy the remedy, and evident its necessity, not one fowl house in twelve, even of those of most pretension, are properly arranged in this respect.



GREENING'S PATENT FENCING.

YARD.—For enclosing the yard, netting formed of galvanized iron wire is usually employed, as it has the great advantage of neither rusting nor requiring any kind of paint for a considerable length of time.

An enclosure of this wire-work, three feet high, is amply sufficient for the confinement of Cochins; whereas seven feet in height would not be too much for the lighter of the other varieties. We use it stretched to oak posts eight feet apart, and to which it is fastened by means of small staples of the same galvanized metal. Care must be taken not to have a bar or rail along the top of the wire-work, for, although when fastened to such a rail it has a more finished appearance, yet it offers a resting-place, which often tempts the fowls to perch upon it, and thence to descend into the grounds from which we wish them to be excluded.

By far the most elegant and durable wire fencing that has come under our notice is that made by Greening and Co., Manchester. Below it is sufficiently close to be proof alike against the ingress of rats or the egress of chickens, and, being spiked above, it affords no resting-place for the fowls, who consequently do not attempt to fly over it.

Chickens are often unwilling, in the mild weather of summer and early autumn, to retire to their homes as evening approaches; on these occasions, thinking no great harm can happen to them, or disliking the trouble of driving them in, they are constantly allowed to remain on the branches of the laurels or other shrubs that have induced them to play truant. Once indulged with this license of selecting their sleeping-places according to their own pleasure, they are afterwards most difficult to be restrained; and although fowls roosting in shrubs and low trees are exposed to the severity of the weather, it is astonishing, however, to see how little they appear generally to suffer. The peacock and the Guinea fowl, for instance, natives of a much warmer climate than our own, are rarely heard of as seeking the shelter of a roof; and young fowls of different varieties, in the highest possible condition, are often found who have, even up to as late a period as Christmas, never been within a building of any kind.

CHAPTER II.

FEEDING, INCLUDING THE COMPARATIVE VALUE OF THE DIFFERENT FOODS.

However uncertain may be the prices hereafter to be given for fancy poultry, whether, as some think, their present value will be long maintained, or, on the other hand, gradually fall as their numbers increase—one point is clear, namely, that good eggs and well-fed chickens will be marketable produce so long as the human appetite remains in its present state. The Royal Agricultural Society, by their premium awarded to Mr. Trotter for the best essay on poultry, and the Yorkshire Agricultural Society, by their prize given to Mr. Tegetmeier for the best essay on fattening market fowls, are clearly of opinion that more attention might profitably be given by the English farmer to this hitherto neglected portion of his stock. The farmer and the cottager, indeed, are the most interested in the contents of our present chapter, since they are the persons from whom our markets must derive their supplies, and the marketable value of such produce is the sum to be placed on the credit side of their poultry account.

The Times of January 13, 1853, in speaking of the Metropolitan Poultry Show, expresses a hope that "that exhibition, like all other exhibitions, great and small, is directed to some practical good." "Every material improvement in the breed of animals," it continues, "has originated in a certain degree of *mania*. If rich amateurs had not lavished their money upon the turf, we should never have had such good horses commonly available; and the same may be said of short-horns, and south-downs, of prize sheep, and priceless pigs."

The article we have quoted is so cleverly written, that, although we dissent from some of its conclusions, we must place another portion of it before our readers:—

"We speak with the more earnestness on account of the very considerable margin for improvement actually existing in the present state of our poultry markets. The price paid for fowls in London is preposterous, even according to their present rate of multiplication and increase, and if, by crossing the breed with these interesting importations, the productiveness of the general stock should be augmented, it will be out of all question that such charges should continue. If the poultry fanciers of the present season are really discharging any public duty, they must needs anticipate greater cheapness and greater abundance in the breed of our domestic fowls. We really feel compelled to assume that the Cochin Chinese variety cannot, even in the eyes of fashion, be considered simply ornamental, and that its merits must needs reside mainly in its uses. More eggs, therefore, and more fowls—of a better description—ought to be ultimately producible; and this improvement ought to act on the markets of the country. There is no reason why poultry should not be considered as a species of agricultural stock, and turned to as good account both for producers and consumers. The consumption of fowls, in fact, is exceedingly large, and, but for their unnecessary costliness, would be larger still. For this unnatural price there is no kind of excuse. The means of transport provided by railways so completely answer all purposes, that every county in England may either transmit its produce to London, or select its own market elsewhere, at a very small cost of time or money. Fowls, too, travel more easily than any other animals. They can be despatched alive or dead with equal facility, and there are no gate dues or taxes to heighten their price on a metropolitan stall. Yet, although 2*s.* 6*d.* a couple would, according to all calculable expenses, be a remunerative charge, we are compelled to pay at least double."

If the author of this article will insist on fowls at 2*s.* 6*d.* a couple, he may be able to gratify his economical determination by a visit to any of the more remote country markets; but we are greatly mistaken if, on his return to the metropolis, he will not gladly pay the 5*s.* or 6*s.* per couple that his poulterers will then demand. "A fowl," without any specification of weight, is a very indefinite term, and since we cannot as yet see how a couple of fat *fowls*—any way deserving that appellation—can be sold at 2*s.* 6*d.*, we must ask him to consider whether he will object to pay from 10*d.* to 1*s.* per pound, according to the season, for his poultry, while his butcher's-

meat is at 8*d.* to 9*d.* for such joints as he would wish to see on his table. But a writer in the "Agricultural Gazette" of about the same date, who is evidently thoroughly acquainted with the markets, thus gives his opinion as to the London prices. For good poultry, he says:—

"There is in London always a demand. Like all other provisions, there are different prices for different periods, and here it is that Poultry Shows do much good in offering premiums for early maturity. If those who have facilities for rearing chickens will do so in January, or even December, and bring them to market in a fat state in April, May, and June, they cannot fail to receive a remunerating price. Three pounds per dozen is then a common value for fowls four months old; and less than two guineas would be ridiculously low."

But in rearing fowls with any prospect of profit a correct system of feeding is of the first importance, and we think it most desirable to enter thus early on the subject, especially as the scientific principles of feeding are so generally ignored; we have, therefore, no hesitation in making a quotation respecting them from the prize essay before alluded to:—

"The purposes served by food when taken into the body are of several distinct kinds: there is the production of animal warmth; the provision for the growth and waste of the body; the supply of mineral and saline substances; and, lastly, the supply of fat.

"The warmth natural to living animals depends upon the consumption of a certain portion of the food in the process of breathing. The substances consumed in this manner are chiefly those which contain a large quantity of carbon, which passes off in the breath, in the form of carbonic acid.

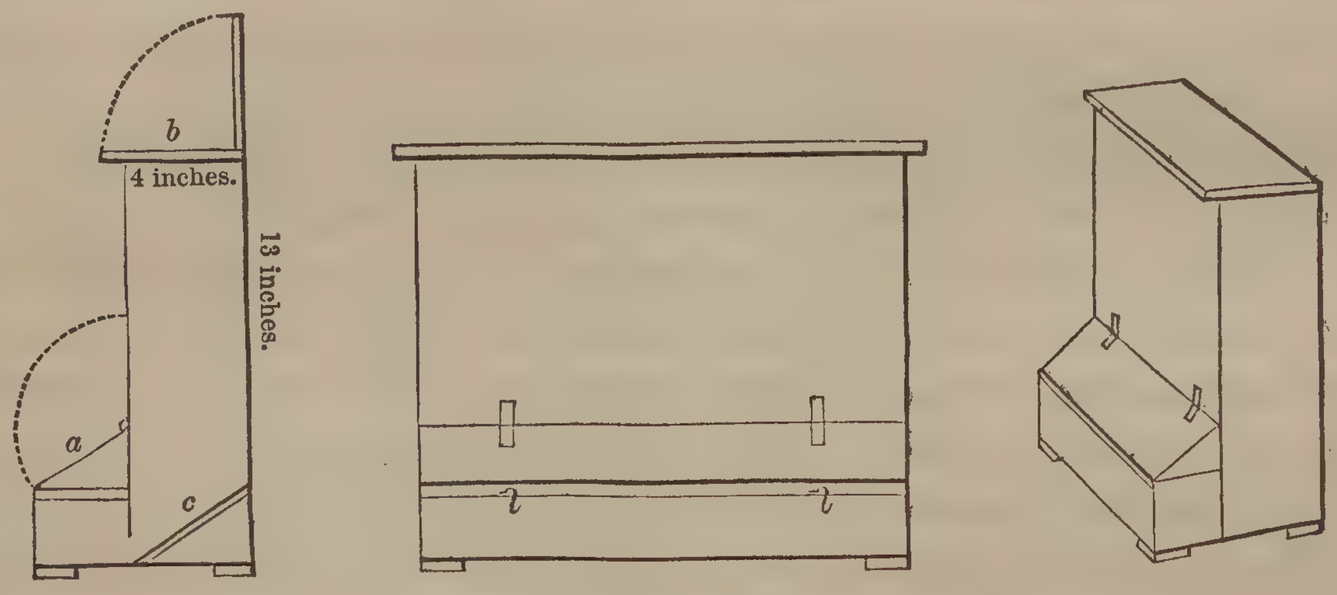
"The most important warmth-giving foods are—starch, sugar, gum, the softer fibres of plants, and oily or fatty substances. As the natural warmth of an animal in health remains the same at all times, it necessarily follows that a larger supply of warmth-giving food is required in cold situations than in warm ones.

"To supply the materials of the growth of young animals, the formation of eggs, &c., and to repair the waste arising from the daily action of the limbs, and other causes, a second variety of food is required; for the starch and other substances before enumerated have been proved, by direct experiment, to have not the slightest action in supplying these wants. Substances possessing this power may be termed flesh-forming foods. The most important are the gluten, and similar substances, existing in variable quantities in different grains; and, in larger proportion, in the varieties of pulse, as beans, peas, &c.; and in the materials which form the solid parts of the flesh of animals, of eggs, of milk, &c. In consequence of their containing the element of nitrogen, which is wanting in the other varieties of food, these flesh-forming substances are frequently termed nitrogenous foods; whilst the fat-forming and warmth-giving are called carbonaceous foods.

"The mineral and the saline substances contained in the bones, and in other parts of the bodies of animals, occur in larger proportion in the bran than in the inner part of the grain. A due supply of bone-making and saline materials is absolutely requisite to the growth of a healthy animal; as, if wanting in the food, the bones become soft, and the general health speedily fails.

"With regard to those substances which supply the materials for replacing the waste or the increase of fat; it is still a point unsettled, amongst scientific authorities, whether the starchy materials before spoken of as warmth-giving food, are, or are not, capable of being converted, by the living forces of the body, into fat; although there is but little doubt that under favourable circumstances they are so, but it is unquestioned that where it is desired to fatten animals rapidly (or supply fat to be consumed in generating warmth, as is necessary in all cold regions) it is the absolute requisite that the food eaten should contain oily and fatty matters which can be readily absorbed by the digestive organs, and either stored up or applied to the immediate wants of the body."

If we apply the principles above stated to the examination of the various substances employed in feeding poultry, we shall arrive at a far more satisfactory knowledge of their real value for the purposes required than by acting on any empirical opinion as to this or that variety of food being more valuable.



FEEDER FOR GRAIN.

a. A flap to be opened or shut at pleasure.—*b.* Hinged cover, through which the feeder is supplied.—*c.* An incline, throwing the corn, as wanted, into the feeding trough.

Grain of different kinds forms the chief article in the poultry dietary, and of the different varieties of corn, barley is unquestionably more used than any other. This is evidently dependant on the fact that its cost by weight is less than that of either wheat or oats. Barley possesses a very fair proportion of flesh-forming substances, about eleven per cent., and is remarkable as containing a less amount of fatty matters than the other varieties of corn. Barley-meal is identical in composition with the whole grain, as the latter is ground without the removal of the husk; but it should be remembered that it is the inferior and cheaper samples which

are so used. Wheat is dearer both by measure and weight than barley, and in a sound state is seldom employed, its capability of putting on flesh is not so much greater than that of barley as is usually imagined, and hence its employment is not so advantageous as is generally supposed; the amount of flesh-forming food in wheat averages about twelve per cent. It fortunately happens for the poultry-keeper that the small wheat usually purchased for fowls is in every respect the more desirable. To quote from the late Professor Johnston, "It is a point of some interest that the small or tail corn which the farmer separates before bringing his grain to market, is richer in gluten (flesh-forming food) than the plump full-grown grain, and is therefore more nutritious."—("Chemistry of Common Life.")

Oats are not so frequently used as barley, which they exceed in cost by weight. In purchasing oats it is exceedingly desirable to procure the heaviest samples, as they contain very little more husk than the lightest, and are consequently much cheaper, if the proportion of meal is taken into consideration; for example, a bushel of oats weighing thirty pounds, consists of sixteen pounds of meal, and fourteen of husk, whereas one of thirty-six pounds contains upwards of twenty pounds of meal, and less than sixteen of husk. The lighter oats are frequently refused by fowls, and hence the low estimation in which the grain is sometimes held, but if soaked in water over night, so as to swell the kernel none are refused. The amount of flesh-forming food is greater in oats and oatmeal than in any other grain, being about fifteen to eighteen per cent. and the amount of fatty substances is double that contained in wheat.

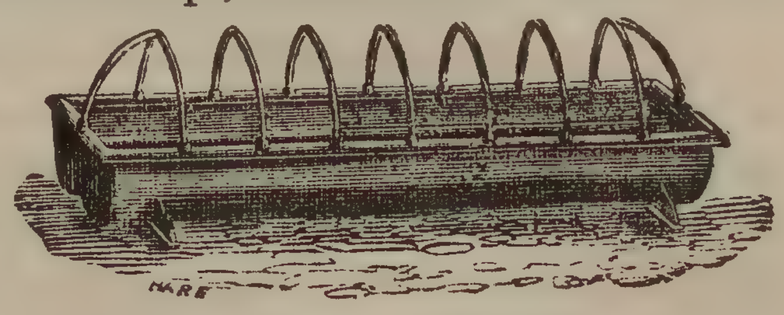
Indian corn is chiefly remarkable for the quantity of oil it contains, and rice for consisting almost entirely of starch, the amount of flesh-forming food being only seven per cent; as rice swells enormously when boiled, it is often imagined to be a cheap food, but erroneously—granting that one pound of rice will, in boiling, absorb five pounds of water, it does not follow that there are six pounds of food, there is really still but one pound, and that of inferior value. Buck-wheat is about equal to barley in the amount of gluten it contains.

All the varieties of pulse, as peas, beans, and tares, are remarkable for the extraordinary quantity of flesh-forming food, and the small per centage of fat they contain, but we regard them as too stimulating for general use; if we required our fowls to undergo a great amount of bodily exertion, we would treat them as the mining proprietors of South America treat their labourers, and make them, even against their inclination, devour a feed of beans daily; but the result would be a hardening of the muscular fibres, and a firmness of flesh incompatible with a good table fowl.

Meal scarcely differs from the grain from which it is prepared, in the case of wheat and barley, but with oats there is a wide difference; the rejection of so large a portion of the husk, and the expulsion of moisture by kiln-drying, increases greatly the price of oatmeal, and most advantageous as its employment undoubtedly

is, it can only be used economically by confining it to the youngest chicken. It was remarked, however, by Professor Johnston, that middlings and pollard, which are also known as sharps and vandan, are very similar in their composition to oatmeal, and employed with boiled or steamed roots, they are most advantageously and economically used. For this purpose small potatoes boiled or steamed may be used, but in our own yard we employ mangold wurtzel, boiled with a very small quantity of water, until perfectly soft, and then thickened with middlings or pollard.

When soft food is used it is desirable to place it in a trough railed across at the top, to prevent it being trodden upon by the fowls. The iron troughs made by Barnard & Co., Norwich, with loose, removable tops, so constructed that the fowls cannot stand upon them, are exceedingly well adapted for this purpose.



BARNARD'S FEEDING TROUGH.

Animal food is sometimes given to poultry, and a little chopped raw meat is in many cases of sickness an admirable restorative, but when at large the insects and worms naturally obtained are far superior to any more artificial substitute. Certain London tallow-melters are constantly advertising greaves as a food for prize poultry, we merely mention the fact to warn our readers against the use of this substance, as it rapidly throws fowls out of condition, and renders them totally unfit for human food.

This chapter on feeding may be not disadvantageously concluded with a view of the composition of the various grains described, inasmuch as it may perhaps lead to an easier understanding of the relative value of the different kinds of food if their constituents are stated in a tabular form, it being born in mind that such statements are merely approximations to the truth, as the composition of grain varies with the character of the season and the soil.

Table showing the composition of the substances employed in feeding poultry.

Every 100 lbs. of	Fat or Oil.	Flesh-forming Food. (Gluten, &c.)	Warmth-giving Food. (Starch, &c.)	Mineral or Bone making Substances.	Husk or Fibre.	Water.
Oats contains	6	15	47	2	20	9
Oatmeal	6	18	63	2	2	9
Wheat	3	12	70	2	1	12
Middlings (fine bran). .	6	18	53	5	4	14
Barley	2	11	60	2	14	11
Indian Corn.	8	11	65	1	5	10
Rice	A trace.	7	80	A trace.	—	10
Beans and Peas	2	25	48	2	8	5
Milk	8	$4\frac{1}{2}$	5	$\frac{3}{4}$	—	87

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Yet, wildings of Nature, I doat upon you;
For ye waft me to summers of old,
When the earth teemed around with fairy delight,
And when daisies and buttercups gladdened my sight,
Like treasures of silver and gold."—CAMPBELL.

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"Nothing, I must confess," writes the Authoress, "would give me more pleasure than to see Botany as commonly taught in girls' schools, as French and music are at present; and I think it more than probable that in another generation it will be so—as, though the Linnæan system was unfit for females, there is nothing objectionable in the Natural Arrangement; and the prejudice against botanical names is every day declining, from the number of beautiful plants exhibited at flower shows, which have no English appellations. I sincerely hope the time may arrive, though probably I shall not live to see it, when a knowledge of Botany will be considered indispensable to every well-educated person."

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CHAPTER III.

MANAGEMENT OF BREEDING STOCK.

SUPPOSING our houses to be completed, our yards enclosed, and their occupants selected with sufficient deliberation. The next inquiry is, how shall we manage the latter, so that health and high condition may be maintained—and their progeny may be most likely to realize the expectations which the present ardour for poultry-keeping has encouraged ?

When separate enclosures are employed to divide the members of the poultry yard, in consequence of more than one or several lots of the same, variety, being kept to breed from, regulations are required that are not necessary where the stock is limited to a cock and a few hens, enjoying their liberty. Where yards such as we have already described are used, we should certainly limit the cock to three or four hens at the utmost, supposing the birds to be intended for exhibition; though a larger number—say seven or eight—might properly be put with him, where the ordinary supply of the farm or market is alone regarded. Wherever the natural advantages of a good run, with the stray grains of the rick-yard, or the shelter and insect-food of a shrubbery or plantation are attainable, the chickens produced, if otherwise well cared for, should certainly offer a greater chance of proving vigorous and handsome birds, than where the parents are limited to the narrow boundaries of an enclosed court, beyond which no excursions are permitted.

Such, generally speaking, is the case; but at the same time we must admit that there are numerous instances where breeding birds, constantly confined within a very limited space, have produced chickens equal to those whose advantages in this respect have been greater. But our readers must remember, that these results have only been attained by diligent perseverance and long experience in management, added to the most scrupulous avoidance of over-crowding and the most unremitting attention to cleanliness. In most cases where a high point of excellence has been reached, the owner himself has been the attendant; and hence the result. There was no trusting to "*strict orders over night,*" or any special directions as to what was to be done "*the very first thing in the morning*"—orders to be forgotten, and directions to be disregarded, whenever pleasanter thoughts or preferable employment were placed in competition.

Competent attendants are not always to be had; many do not like the labour in itself, and others do not possess the habits of regularity and order, by which everything that concerns the poultry yard should be ruled. Till within the last five or six years, little public interest was manifested generally in this subject; and

even now we must not be disheartened if many should look scornfully on our present task, for to quote the author of one of the most classical works on this subject:—"Poultry has been too much undervalued as a means of study and field of recreation. Insignificant, and to us valueless wild animals, brought from a distance, about whose history and habits we can learn little or nothing, are received with respectful attention by men of education and ability, are embalmed in spirits, treasured in museums, and portrayed by artists; but a class of creatures inferior to few upon the earth in beauty useful, companionable, and of great value in an economical point of view, are disregarded and disdained."

One rule may be safely given—a useful one, moreover, in many other matters besides those of which we are now speaking—and this is, never attempt to keep poultry unless it is worth your while to give them a fair share of your attention, or without satisfying yourself, if your time should be otherwise employed, that they have the attention of your servants. Never keep persons who do not show, by their activity and forethought, that they are attached to their employment, and think of it at other times besides the periods in which they are actually engaged about it. When you are fortunate enough to find a servant with these various qualifications united, you may hope for success, and will probably find that many a useful observation, as to the peculiar characteristics of the different breeds, and many a hint that may be profitably acted on, will reward your discrimination.

But let us now suppose that all these points have been attained, and that our yards are tenanted by birds possessing the necessary qualifications. The arrangements of their establishment are still to be proceeded with, as regards attendance and provision; and here we will detail the time and manner of feeding, with the other daily services they require at our hands, when kept in yards of limited extent.

Fowls, like some so-called intellectual beings, do not always comprehend, that enough is better than a feast; hence, when the over-careful master insists that his feeding-boxes or pans are to be kept supplied with food sufficient for more than one day's consumption, so that no hazard may be incurred by the forgetfulnes or negligence of servants, he will not improbably have to undergo the pang of witnessing, at times, a stiffened carcass *under* the perch instead of a healthy bird *upon* it.

Under certain circumstances, feeding-boxes and other similar contrivances may be desirable; but they should always have lids or covers, to be opened or shut at the discretion of the feeder. Some saving in food may, doubtless be effected by feeding-boxes, especially in wet weather, when the birds are not fed under cover. But fowls always appear to devour with more zest and satisfaction what is thrown to them on the ground.

The following would be a good system of feeding for fowls in confined runs:—The birds to be let out as soon after daybreak as possible, and supplied with a feed of grain, soft food, either barley-meal or middlings mixed with steamed potatoes. Boiled mangel wurzel, or other roots should be given once or twice during the course of the

day, and supper, whether it consists of whole corn or any preparation of pollard, meal, or rice, should be given immediately before roosting-time.

The following remarks are from a correspondent, whose birds are always in excellent condition, and therefore bear witness to the success of his management :— "I have always thought that the evening meal should be given immediately before the fowls retire for the night; in fact, that it should form the closing act of the day. My reason is this, by thus allowing them a full meal at that period you ensure their deriving the whole benefit of the heat produced by the consumption of the food, whereby warmth is kept up at a period when the tempetature of the air is at the lowest; and they are, in fact, made comfortable for the night."

Give a liberal allowance of cabbage leaves, or turnip-tops from the garden, or of mangel-wurzel, or swedes from the farm. A green turf, with six inches of soil attached to its roots, is a useful addition to their comforts, and affords amusement as well as food. This reminds us how we were once puzzled at seeing a quantity of loose straw lying about in some of the aviaries in the Regent's Park Zoological Gardens. On inquiry, we were told that it was so placed to give occupation to the birds; and certainly they appeared most busily employed with it, and they had, it was stated, improved in health since it had been given them.

In feeding your breeding stock, never forget that it is for breeding; and though you keep them generously, beware of the hens becoming fat. Soft eggs, inflammation of the egg-passage, and apoplexy, are the frequent consequences of over-fatness in the hen. It would be good practice to feed the cocks apart from their dames, for the former can hardly be fed too highly. Discrimination is required, however, even in feeding the hens; at moulting-time they may be put upon more generous diet.

The courts should be provided with water, deficient neither in quantity nor quality, any of the ordinary poultry fountains may be used, the most simple being equally efficacious with the most expensive, and all being open to the objection that they are with difficulty cleaned inside; a very large glazed flower-pot saucer, with one of smaller size, perforated with a small aperture in the bottom, and inverted in the larger, provides the cheapest and cleanest drinking-vessel we have seen.

Some convenient corner should contain a covered recess, part of which—say eighteen inches square—should be kept filled with sifted coal or wood ashes, dried earth, or sand; but the former seems most popular, and is probably most effectual in removing the insects that under various names infest our favourites. But let our readers take good care that this receptacle, so conducive to the good health and comfort of their pets, is secure against rain or other moisture; for if this be not attended to, the plumage of the fowls will suffer greatly in appearance.

Next comes the daily purification of both yards and houses. The latter should, without fail, be swept out every morning, and sanded down, which renders the former process much more easy, and at the same time prevents any portion of dirt from adhering to the floor. When sand is not to be had, peat charcoal, ashes, or even dried earth,

may be used; the charcoal would, of course, be beneficial, not only as a purifier but also as a most valuable fertilizer for the garden or farm. Where kept for this purpose, the sweepings should be placed under cover, and where the poultry are at all numerous, they yield a valuable stock of home-made guano—an item not to be disregarded on the credit side of the poultry account. The decomposed shell-sand, found on many of our coasts, is excellent, and appears to be well adapted to aid the process of digestion which the wonderful powers of the fowl's gizzard is enabled to carry on, as they are constantly picking it up with apparent relish. Access to a heap of old mortar rubbish (or if that is wanting, an allowance of calcined oyster shells), should not be forgotten.

The yard being effectually drained—both from surface and subsoil water—should be covered with gravel, to be daily raked; and where the space is at all limited, every three months we would advise the removal of four inches of the surface. Good gravel is the best of all materials; but as this is not always to be had, many substitutes can be made use of, which nevertheless require to be selected with caution, since there are several kinds of mineral refuse which may form capital walks, but are found most injurious to poultry, which indeed, as before mentioned, require small particles of stone or gravel to promote the digestion of their food. We have, indeed, known frequent instances where fowls, and even ducks, have been destroyed by the poisonous substance placed to prevent weeds from making their appearance on the walk, and thus saving the gardener's time, but proving destructive to life in the bird's stomach. In the neighbourhood of mines, where such materials are usually found in abundance, and extensively employed for making walks, this warning requires special attention. In Cornwall, *mundic* is the mineral from which fowls are most apt to suffer.

With such arrangements and such management as has been described, a healthy and vigorous stock should result, laying a large number of productive eggs. But if it were found convenient to allow the run, in addition of an exercising ground, such as a meadow or farm-yard, much less food would be consumed, and their good condition the more certainly secured.

When breeding stocks are kept in small confined yards, a supply of animal food, such as worms and insects, must not be forgotten; and every now and then, in their absence, a chance bone must be given as a substitute; but in confinement this diet must be very cautiously supplied. Many persons, indeed, of great experience in poultry matters, differ from us on this point; but we would remind them that such animal substances as can be procured by the fowls when at large, by no means resemble the tallow-melters greaves which are often given to compensate for the absence of Nature's supply. To young chickens, very early or very late in the season, to older birds when moulting, or where valuable specimens have been nursed through sickness and require some stimulus, it may be prudent to give a little chopped fresh meat daily. But as a general rule we should be unwilling to force the system with diet of so heating

a character, and one which, in their natural state, would be so differently administered. We cannot but suspect, that, from a desire thus to force on favourite birds, such food is too commonly given, and the consequence is not unfrequently shown in disease of various kinds. As a rule, therefore, let animal food be reserved for such cases only as we have alluded to. It is strange, but nevertheless true, that cochins are skilful catchers of mice, and like them as food. We first noticed this when moving some stacks infested by those vermin, and around which our fowls had assembled. If any one doubts their fondness for such meat, let him throw a dead mouse among them and watch the result.

Hitherto we have written for those who have taken up poultry-keeping as a fancy, and not from mere views of profit. Such persons will acknowledge that the foregoing remarks, once established as the rule of management, their regular observance will occupy less time than they now take to read. But there are other, and more important classes whose interest in such pursuits has received a recent stimulus, and who now look to it as a material addition to their other sources of income. So long, indeed, as present prices of first-class poultry continue, many experienced persons will be found to give their best attention to breeding fowls for sale; nor is it likely while the demand for good fowls of all varieties remains (a demand which, instead of diminishing, seems daily on the increase), that their exertions will cease. A regular market price appears now to be established, from which the periodical sales by auction and the transactions of the best known breeders are found to vary but in a trifling amount.

Since every occupier of land has unquestionable advantages, both as regards a cheap supply of home-grown food and other facilities, it is reasonable to suppose that, so soon as he shall turn his thoughts to the subject, he will be as anxious to obtain early maturity, and a good return from his poultry, as he has hitherto been in the selection of his Devons, Herefords, and Short-horns. But the care and minute attention required for the four or five cherished inhabitants of the court are seldom possible where the larger objects of a farm are concerned. The mere expense of the requisite separate accomodation for a large number would probably postpone the remunerative period too far to sanction the first outlay, although we happen to know of one agriculturist who has entered on poultry-keeping on a large scale, and with the successful results which have attended his other undertakings. To the farmer, therefore, we would earnestly recommend that a cock, with five or six hens—the best in all points that the yard contains—should be annually selected and kept apart, and *their eggs alone* used for hatching. When we come to speak of eggs, more will be said on this point; but, briefly, we would here observe that two points would be thus gained—the best breeds only would be propagated, and all crosses and similar mishaps avoided; and again, when the day for hatching arrives, fewer bad eggs would disappoint your expectations. Every second year a male bird from some other stock, but of the same variety, should be introduced; and the

fresh blood thus constantly infused will serve to maintain and improve those good points and character that first influenced the selection. According to the size of the farm, and the comparative demand for eggs or chickens, should be the number of hens thus kept apart. A labourer's cottage, however, with a good run, near which there are no other fowls, would be preferable; and such facilities are often at hand.

Too frequently have we noticed, that the feathered live-stock of a farm are thought well cared for, on those days when no rick is disturbed, and the flail and threshing-machine are silent, if a few handfuls of waste corn are sparingly bestowed on them. This is mistaken economy, and in the end must yield a poor return. Their daily perambulations and unceasing activity doubtless supply a considerable portion of what is necessary for subsistence, and they live on, but cannot be said to thrive, so as to rejoice the heart of a cook, or become the illustrious ancestors of a long line of first-class medallists. Favoured localities, on the other hand, are certainly found where, from feminine influence, urged by the prospect of a new gown or other habiliments at Christmas—the produce of the money arising from the sale of eggs and chickens, a more generous allowance is obtained, and excuses are eloquently pleaded for depredations on the corn stacks such as would often lead, if strictly taken into account, to an unfavourable computation of the profit and loss of the farmer's poultry yard.

Wherever fowls have the range of the homestead, the corn allowed them should be divided into two portions—half to be given as grain, and half as meal moistened to the crumbling consistency we have before spoken of. The former we would give in the morning and at mid-day; the latter at evening, when more leisure may be had for its preparation.

But poultry-keepers may be divided into three classes. The *amateur* and the *farmer* have had our views of what would be found most suitable to their requirements in the management of their breeding stock of poultry, the *cottager* now requires our opinion as to what may best suit his more limited means, wherever our former directions may not happen to apply to his case.

Now, were we asked to describe the situation in which the best returns might be expected, we should pronounce, without hesitation, for that locality where a cottager, with the run of a neighbouring common or brake, and without any adjoining poultry keepers, keeps some half-dozen breeding birds, which form their owner's entire stock. This pre-supposes, however, a thrifty wife and a fair allowance of food. All the advantages of our former arrangements are here combined—a limited number of birds, so that constant supervision can be exercised, with liberty to roam uncontrolled, and to enjoy all the numerous little luxuries that may fall in their way.

It is not every one who is in possession of such an abode for his poultry; but whenever, in addition to these advantages, discretion and judgment in the selection of the birds are shown, the fortunate individual will always be a dangerous competitor

both as regards the condition of his older birds, and the vigour, growth, and form of their offspring.

But, while expressing our opinion on this point, let us do full justice to those whose management of their fowls, even when restricted to very narrow limits, produces such specimens as in every way merit the honours of the prizes so frequently awarded them.

One of the most perfect cockerels, both in plumage and shape, that we have seen was a six months' old white Cochin, hatched and reared in a court not exceeding twelve feet by six, and where many of his brothers and sisters are in an equally enviable state of health. But his owner not only *knew how to manage* the birds, but *did manage them himself*, and though their numbers were very considerable, all was done with his own hands; and thus, trusting to nobody, mistakes and omissions were unknown.

But it is not often that the requirements of leisure and experience are thus united; and the instances are far more numerous where, after great outlay in courts, airing-grounds, and houses, disappointment has followed; and when the dearly-purchased favourites, so far from improving in their appearance, manifest the unmistakable signs of sickness and ill-health, the inquiry as to how it could have happened is made too late.

Cochins or Spanish fowls are probably those best suited to places where confinement must be enforced; and certainly they may be so kept in perfect health and a profitable termination secured to the speculation, by those who understand their business, especially where sales can be effected for them as breeding stock.

CHAPTER IV.

THE SITTING HEN.

THE cause of a hen's desiring to sit, or, to use the technical phrase, "becoming broody," is involved in the same mystery as other similar operations of Nature. That it is not dependent upon any particular sensation in the hen's body, which requires to be alleviated, would seem to be proved by the fact that instances are known of hens that would sit whenever required. We remember such a hen in the possession of Mr. Holroyd, who, about twenty-five years ago, was a chemist at Maldon, in Essex. She was perfectly tame, and would sit duly at any time that her owner chose to place her on a nest of eggs.

The hen's desire for incubation, from whatever cause proceeding, is frequently a great annoyance to the poultry keeper, who, perhaps, when most desirous of eggs, is

perplexed by this obstinate occupation of his nesting-places for other purposes. Many plans have been suggested to check this inclination; some of them cruel and absurd in the extreme—such as plunging the poor hen into a bucket of cold water, and keeping her there till half-drowned; but the cruelty that can tolerate such practices is, moreover, constantly disappointed of its object; for the immersion of her feverish body in the cold bath usually leaves the seeds of disease, which, in due time, bear their certain fruit, and justly punish the unfeeling owner.

If, from any cause, it is desired to prevent a hen sitting, the most effectual means we have yet discovered is to allow her to sit steadily on some nest eggs for a week. At the expiration of that time, the hen may be cooped for a few days; and if, on liberating her, she finds the nest that she was accustomed to destroyed, and the eggs removed, she seldom takes to another. But we do not believe that this provision of Nature can be frequently set aside without injury to the bird. Her due batch of eggs having been completed, a period of rest to the whole system, and its productive powers in particular, is now designed. This we disregard when we refuse to allow the hen to sit; and as she will again commence laying, long before the period she would have done, had she been allowed to hatch and rear her chickens, she is unduly stimulated, and a drain is caused on her constitution, which evidently must affect her at last. Occasionally, when we either want her eggs, or it happens at an improper time of the year, such as at the end of autumn or winter, we should not, of course, allow her to gratify her inclination; but with such fowls as manifest this desire, we should consider that one brood of chickens at least, in each year, is necessary to keep them in health and vigour. We have, indeed, often seen Cochin hens in apparent health, to whom this license has been again and again refused, and the immediate ill effect obviated by a judicious system of feeding. Yet we must still think that our birds would remain longer in a productive state, and be in better health, if they were permitted to enjoy an annual relaxation from the egg-depositing process.

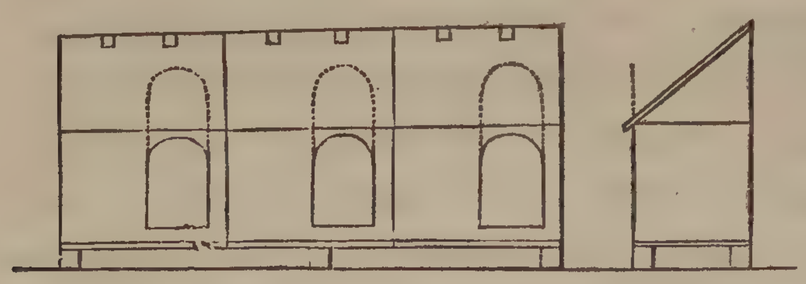
If the hen, now about to be entrusted with eggs, be of our own flock, she has probably made her own selection of the nest: and where this is not inconveniently situated, we should do well in allowing her to retain possession; or, if we move her, she may be rendered restless, and, in endeavouring to regain the place of her own choosing, may afterwards neglect her charge. Where, however, she is a stranger, brought to us for this special purpose and occasion, it is generally a matter of uncertainty how far she will approve the change and steadily discharge her duty. We have had hens that took immediately to their nests, when first brought to us; and some, on the other hand, that no arrangement for their comfort could induce to continue with us the occupation that they had commenced elsewhere. There is another inconvenience attached to hens thus brought to us from other places—and that is, when their chickens are hatched, they, as strangers to their companions, are liable to attack, or be attacked by every hen about the place, and manifold evil consequences to themselves and their progeny are the result.

In large fowl-houses, where hundreds of poultry are kept together, a sitting-house should be attached to their dormitories. If this could be so arranged as to be merely separated by wire or lattice-work from their usual abode, and the hens were placed in it so soon as they showed a tendency to sit, the neighbourhood of their companions would reconcile them more quickly to the change, and there would be less difficulty in getting them to sit closely. It is absolutely necessary, however, to secure them from the incursions of the other fowls; and this the intervention of the lattice or wicker-work would effect. Where three or four hens and a cock are the sole tenants of the house and yard, there are usually spare nests, where the eggs can be placed without risk of injury. To make them the more secure, however, it would be well to keep the hen shut in for a day or so, when any other fowls that might have been in the habit of laying there would have chosen another place.

It is the practice of many persons who have numbers of sitting hens, to remove them from the nests at a stated hour daily, the morning being the preferable time; they should then be supplied with barley, *ad libitum*, and clean water; if practicable, they should be permitted to have access to a grass run, and under all circumstances allowed to avail themselves of a dusting place; this latter luxury they are apt to indulge in for too long a period, so that it becomes necessary to ascertain that they have returned to their duties in about twenty or thirty minutes. Where there are many hens sitting the plan is advantageous, as it ensures each being fed, and prevents the eggs being cooled by the lengthened absence of the hen at times when no food is being given. Many persons also confine their sitting hens either by shades in front of the nests, or by placing coops over them if on the ground, the object being to prevent their being disturbed by the intrusion of fowls that are desirous of laying in the same nests.

As to the exact description of nest which would be most suitable for the sitting hens, almost every poultry keeper has some favourite arrangement of his own; and, provided some two or three requisites are complied with, no great harm is likely to result from his indulging in it. The next boxes we employ are raised about six inches from the ground, as shown in the accompanying engraving; they are fifteen inches square, inside measurement, and the same in height, are partially closed in front, to give greater privacy to the interior—a quality which is evidently much prized by the occupant; and have a sloping roof or cover, so that the other hens should not roost on it, the cover of each nest opening separately, so that the adjoining birds may not be disturbed when it is necessary to examine it, or to remove the hen. A ledge, two inches high, in front of the door, both prevents the eggs from rolling out, and is a safeguard to the newly-hatched chicks, before they are removed to their coop. The bottom of each nest consists of a sliding-board, as represented by double lines in the engraving, to facilitate thorough cleansing. The dimensions given above are adapted to Cochins; for the smaller breeds less room would, of course, be

required. But it will be prudent to allow full room in any case; for a cramped situation is a constant cause of eggs being broken, and of the first hatched chickens being crushed among the unhatched eggs, or entangled in the cast-off shells.



Such sitting-places as we have just described are found to answer well; but much must depend on local circumstances and the arrangements which can be carried out: many other plans are, no doubt, employed with equal success. The recess in the chimney-corner, the unused manger, and the concealed nook in the cart-shed, have great attractions to many hens; and, but for the chance of accident from the exposed situation, a better clutch may, perhaps, be expected than the more artificially-constructed nest will always ensure.

Many of the most successful breeders prefer having the nests formed on the ground, by placing a little soft straw, in a slight hollow; whereas others give a preference to nests raised some few inches from the ground, solely on account of the greater facility for the house being kept perfectly clean, by allowing the broom to reach beneath. Where the sliding wooden bottom rests on the floor, there is the chance of its quickly rotting; nor could it be so readily inserted or withdrawn. Be it remembered, however, the nest boxes are not to be fixtures, but each row removeable at pleasure, though fixed securely for the time.

In early spring place at the bottom of the nest a piece of thickly-folded flannel or drugget. This prevents the chill from any crack in the wood-work; and above this we use a frame, as it were, of wheaten straw, finished off with a little hay. The latter we cease to use in summer, when such precautions become unnecessary, the straw having the advantage in point of cleanliness and freedom from vermin over hay. Dried peat earth and ashes are also a favourite foundation for sitting nests with many, and are very advantageous from being retentive of heat.

But after all it cannot be denied, when we look at the secret places sometimes selected by the hen herself for incubation, and yet observe that at the expiration of the allotted time, the number of young led forth tallies pretty nearly with the eggs deposited, that fewer eggs are to be found in an addled state in such circumstances, than when they are selected and placed under the intended mother. We have reason to believe, indeed, that whatever care may be taken in keeping eggs, their vitality is better preserved when they are allowed to remain in the nest. Perhaps the periodical visits of the hen while adding to her store of eggs has a stimulating influence. The warmth communicated in the half hour during which she occupies the nest, may have a tendency to preserve the embryo in a vigorous state.

The Cochin fowl possesses one great recommendation as a sitter, in the soft and abundant supply of downy feathers that so specially distinguish their race, for

under no other hens do the eggs appear to maintain a higher or more constant temperature.

If removed out of their usual habitation for the purpose of incubation, close them in their nest by lowering the slide, which should be well perforated with air-holes; and in hot weather slightly raising the lid of the nest to ensure a full allowance of air. If this is done for two or three days, giving them liberty once in the twenty-four hours, there will be little risk of their mistaking their retreat.

From the shortness of their legs and the density of their fluff, the best breeds of Cochins are especially suited for sitting. They will thoroughly cover thirteen of their own eggs; and though the larger varieties might be equal to a greater number, thirteen would, in all cases, probably be a wise limitation, and result in the best and healthiest broods. An egg imperfectly covered by the hen while sitting, of course marks the excess beyond the proper number that should have been allowed her: and, as all in turn are likely to be thus more or less exposed, the whole brood often suffers from the unwise desire to get an extra chick.

When very early broods are required, either for exhibition in the chicken classes at the summer poultry shows, or for table use, every precaution should be taken to keep up an adequate temperature. The nest should be based on a deep foundation of ashes or earth, or a thick freshly-cut turf may be placed beneath the straw; by these means the escape of the heat is greatly prevented, and consequently a more uniform and higher temperature secured; the number of eggs also should be much reduced, seven or eight being an ample number during January and February, as, even supposing a larger number of chickens to be produced, they suffer greatly when about a month old, from being inadequately covered by the hen at night.

For the purpose of securing early broods, it is necessary to retain a sufficient number of early hatched pullets of the previous year, these generally begin to lay, if well-fed, about November or December, and become broody in January or February. The prejudice against setting young hens is not founded on observation, for we have invariably found that they sit equally well with older birds.

When hens lay away, and escape discovery in so doing, the number of eggs laid before they sit is usually found to vary from nine to eighteen. If there are more, it is almost always a partnership business. Where it is desirable to induce a hen to sit early, her eggs should be left with her; and so soon as the number, be it more or less, appears satisfactory to her, she is generally eager to commence her task; but this requires the bird to be kept by herself, or at least where others are not in the habit of laying in the same nest. When the hen takes to her nest, it is best to let her remain there, in most cases, for forty-eight hours, without giving her eggs; for at times they commence somewhat irregularly, coming off two or three times during the first day or so, and often going to perch the first night, though they had occupied the nest during the whole day. At the end of this period—or earlier if she manifests continued steadiness—the nest being duly pre-

pared, the eggs may be given her, and this is most quietly accomplished by lifting her off at night, when the eggs may be placed in the nest, and the hen replaced, without any risk of their being broken by her struggles.

It is essential, also, that a hen, when she manifests a disinclination to leave her eggs, should be taken off, as otherwise the functions of nature are either checked and her health injured, or else the interior of the nest suffers, and the eggs are put in jeopardy. Scanty, ill-conditioned broods are usually the production of hens with this habit.

Good sitters seldom or never leave their nests more than once a day, provided they are well fed when they come off; and they seldom remain away longer than from a quarter to half an hour, rarely exceeding the latter period, unless food has not been supplied and they have to forage for themselves.

The time a sitting hen may remain absent from the nest without injury to the eggs, depends on so many contingent causes, such as the season of the year, and the particular stage of development at which the embryo has arrived, that it would be impossible to give a decided statement. An absence of from twenty minutes to half an hour is as much as should be encouraged; but this may often be prolonged to several hours without the inevitable destruction of the brood. It is well known to comparative anatomists that, during development, the embryo passes through all the phases of animal life, beginning with the simplest, and gradually becoming more and more complex in its organization; so that if it were possible to arrest its growth at any intermediate day and sustain its life, an animal of lower class would be produced—a circumstance that yearly occurs before our eyes in the case of the common frog, the eggs of which hatch, not into air-breathing reptiles, with lungs, but into lungless fish, respiring by means of perfect gills, familiarly known to us as tadpoles. In the simplest forms of animal existence life can be maintained at a much lower temperature than in the higher; and, therefore, at the earlier periods of sitting the hen may be absent for a prolonged time without injury, whereas a much shorter neglect of her duties would be fatal nearer the day of hatching. But where we found a hen heedless of her charge, and requiring to be frequently driven towards her nest, we would avoid employing her again as a sitter. We have had hens, however, in our possession whom we have, day by day, been obliged to take off, as no inducement was sufficient to lead them to do so of their own accord. Doubtless the main object in this periodical excursion is to obtain the necessary sustenance for supporting life in the bird herself. But another object is also served; for by the contraction of the air in the air vesicle, when the hen leaves the nest, and the eggs are cooled, a fresh supply of air enters, which we may suppose advantageous to the enclosed chick; and it has been found desirable, by those who have employed artificial incubators, to remove the eggs from the machine during half an hour daily, so as to imitate, as far as possible, the natural cooling.

Daily examine each nest, when the hen is off. An egg may be broken, and the

fragments of shell may dry on the others, in places where the first efforts of the young chicks to free themselves may be attempted; and this double casing proving too much for their beaks, they eventually die in the shell. The hen, moreover—either unable to resist the gratification of her appetite, or to remove the offensive fragments—sometimes devours them, and is induced afterwards to try another whole one. Whenever the nest is found in a dirty state, from this or any other cause, take a bowl of tepid water, and with a piece of flannel wash the eggs, gently removing any substance that may be found adhering to them, replacing them again in the nest, having previously furnished it with clean straw. Do not let the temperature of the water exceed that of new milk, and, when perfectly dry, get the eggs under the hen at once, so that no chill may happen. It is unnecessary to add that, where this is neglected, the fetid atmosphere is as injurious to the hen as offensive to the proprietor. In this daily inspection, count the eggs over, so that if by accident another hen may have gained entrance into the forbidden precincts, her deposit may be at once removed, the originals having been duly marked by making a ring around their circumference, which is visible in every position of the egg. If from any cause the egg of a valuable fowl has been slightly cracked within a few days of hatching, it may be worth while to plaster up the fracture with a piece of paper and gum, as numerous instances are on record where such eggs have hatched in due time, and the progeny flourished.

Our own practice is to examine the eggs at the end of a week, and remove those not fertile; this is readily accomplished by taking a candle into the sitting-house at night, and on holding the eggs near the flame, sheltering the eye at the same time from the direct action of the light, the sterile eggs are readily distinguished, being correctly described by the adjective *clear*, which is usually applied to them; those which are fertile are at that time perfectly opaque. A little practice renders the distinction easy. The clear eggs being removed, more room remains for those that are fertile, and they receive a greater share of warmth. Those who follow this plan will find it advantageous to sit two hens on the same day, and if, on examining both nests at the expiration of a week, many sterile eggs are discovered, the whole of the remainder may be given to one hen, and a fresh setting placed under the other.

In Cornwall, it is usual to test the eggs on the eighteenth or nineteenth day, by placing them in a bowl of tepid water; the stronger ones are in immediate motion, bobbing and reeling on the smooth surface, for the vessel must be kept perfectly still. These wiped, and returned to the hen, the fainter movements of the rest should be watched, and similarly treated; but where no indication of life is given by any motion whatever, the sun or a candle is employed to reveal the contents, and finally a conclusive shake with a gurgling echo removes all doubt; but when the clear eggs are removed on the eighth day, the proceeding is not required, and from the hazard of chilling the eggs by too low, or injuring them by too high, a temperature, the plan is, in our opinion, decidedly objectionable.

Hens' eggs are said to hatch on the completion of the twenty-first day; but where the eggs are fresh, the sitter attentive, and the weather warm, this period is frequently reduced by several hours. We should think the brood an indifferent one, where the eggs were placed under the hen at roosting-time, if it did not present many billed eggs at least on the evening of the twentieth day; and the next morning the majority should be out and strong. The chickens are constantly heard chirruping within their prison some hours before the least sign of their beaks are visible, during which time they are at work upon their covering. Where the young bird is vigorous and healthy, it works round the top of the shell till it has cut out a sort of flap or cover, dividing it into two unequal parts; the smaller one is pushed back, though on one side it is attached by the interior membrane to the larger; in this manner exit is effected. In the morning the two parts are constantly found packed away, one within the other, occupying the smallest possible amount of room, if the hen has not already ejected them.

"Let *well* alone" is here a wise maxim; but our rule is to examine how matters stand, as the hour approaches, when the period of twenty-one days has passed; and if eggs are found billed, but the chickens within in a weak state, assistance should be given by widening the breach. If eggs are found without any indication of life within, but apparently not addled, break the shell cautiously and as near the usual position of the bill as possible; but we are commonly presented with a dead chick, or one where from weakness the yolk has not been properly absorbed. Its chances for life, therefore, are but slight. Strong, full-grown chickens are at times found lifeless, from inability to break the inner film, which in many cases would seem to present more difficulty than the shell itself.

But let us speak plainly, both as to *when* we are to assist the chicken in emerging from its shell, and *how* we are to perform this delicate operation.

The first should be at the expiration of the twenty-first day, when the shell is yet whole and the bird appears to be weak. A small pair of scissors, with rather blunted points, to prevent the hazard of punctures from a slip, is a good instrument to use. Gently removing back the edge of the shell to a sufficient distance, proceed to the inner film or membrane inclosing the bird, whose beak alone is often the only part visible. This must be cut, as rolling it back might rupture some of the small blood-vessels, not yet taken up, and which are situated in immediate contiguity to this covering; and a loss of blood is so severe a drain at this early period, that recovery is rarely witnessed when this has happened. Separating, and softly pushing back this skin, we release the head; and place the egg again beneath the hen; but having once begun, we must continue to aid nature; and every two hours, sometimes more frequently, till the bird is out or dead, we must inspect it, and further relieve it from the pressure of the membrane, which is so apt to dry and harden round the chick, as to require constant moistening to enable it to make its efforts with success. But this treatment must have a successful issue within three or four hours, or the

exhaustion of the prolonged operation proves fatal. In the case of the unbilled bird, the shell should be gently removed at the thick end of the egg, proceeding as before.

Whenever eggs are hatching *well*, or even *fairly*, leave them alone; but if, at the last, after the due period, you find some two or three eggs in this weakly state, while their brothers and sisters are active and vigorous in their new form, it may be worth while to give some cautious assistance—as the chance of life, if you withhold it, is faint indeed. The process is not an agreeable one, and a mummy from the Great Pyramid would be a more pleasant subject for unrolling than a weakly chicken from its egg.

If chickens thus treated survive the first night, there is a fair chance for rearing them; for injuries received during the hatching process, and the consequence of such assistance as we have now described, either prove fatal within the twenty-four hours, or, if the patient outlives that period, its natural vigour enables it to keep pace with the rest of the brood, which came into the world under happier circumstances. We have spoken of the twenty-first day as the limit; after which, if our chickens are not then out of the shell, we should only expect a weak and sickly brood, if indeed they are hatched at all.

It is convenient to have two hens hatching at the same time; for not only if accidents happen may the two broods be united, but on the hatching day it constantly occurs that, to prevent the newly-born chicks being crushed by eggs that are behind time, we wish to give all that are hatched to one hen, while the other takes charge of the eggs alone. Not only does this give security to the chicks, who run great hazard of being crushed by the eggs if they are kept for any prolonged space under their mother, but the unhatched eggs also stand a far better chance; for when a hen finds chickens under her, she sits higher from the eggs, and less warmth is afforded them at the time they require most.

So far, then, for the sitting hen, and her management at that interesting period; but we shall be expected to say something of those artificial contrivances that have been introduced for converting the egg into a chicken.

The Egyptians—both of ancient as well as modern days—were the first adepts in the artificial modes of hatching. Their apparatus was a large oven, with the means of regulating the temperature of the bed of sand in which the eggs were deposited. Mr. Cantelo's hydro-incubator is a substitute for the sand, and many a poultry-fancier has experimentally imitated this apparatus, in the lamp and hollow tin box, formed on the principle of a common glue pot, in which, surrounded by water, his dozen eggs were deposited, and day by day anxiously watched.

The hatching part of the business presents no difficulty, the principal point, of course, being the maintenance of a uniform temperature; but when the chickens attain the age of two or three weeks, then we are made aware how hard is the task of substituting other means for those designed by Providence. However strong before, then inevitably comes the drooping wing, the heavy eye, and the slouching

carriage, which tell their own tale—in spite of gutta-percha chicken-mothers, and a host of similar apologies for maternal warmth and care. With poultry as with game, we know how seldom the young are successfully reared in great quantities for two successive seasons on the same spot. To give artificial hatching a chance of proving a remunerative speculation, it *must* be done on a large scale. Here we find another obstacle: the ground is soon tainted, and before the chickens are sufficiently old to be sent out to walk, the seeds of disease are sown, and a rapid reduction of their numbers quickly ensues. We should find enough of disappointment in endeavouring to rear a dozen chickens so hatched; but far beyond the mere numerical proportion would be our dissatisfaction were the experiment made with full trays of even a moderate-sized apparatus, whether of Mr. Cantelo's or of any other description.

As an exceedingly clever mechanical imitation of a natural process, it certainly merits our approbation; but until we can *rear* as well as *hatch* them, chickens for the million must be reserved for the discoveries of future years. The present proprietors thus allude to the merits of their machine:—

"It is not pretended that the Patent Incubator will hatch and bring up every egg to a fowl. From 12 to 30 per cent., after great experience, has been found to be the discount. A one-tray machine will enable the party who properly attends to it to produce on an average 75 birds to the hatch—eighteen of these in the year being 1350 fowls—a very different result, indeed, to a hen which sits but twice in the twelve months, and does not rear up eight chickens at a hatch! A two-tray Incubator and one Mother will produce 2700 a-year, and so on in proportion—a thousand eggs' machine being capable of producing 13,500 full-grown fowls per annum. There is nothing in the principle to prevent millions of eggs being hatched eighteen times in a year, by one machine."

Nothing, let it be observed, is here said as to the main point of issue—the number of chickens actually reared.

Has poultry, we ask, been rendered cheaper by artificial hatching? Now the only evidence to prove this satisfactorily would be a balance sheet of poultry thus raised, fed, and sold; and this document is not forthcoming. Nor are we acquainted with any practical man who has continued to employ incubators for any length of time; and the poultry farm, originally established by the projectors, has been long relinquished.

Now Publishing, to be continued in Monthly Parts till completed,

Price Half-a-Crown each,

CONTAINING FOUR CAREFULLY-COLOURED GROUPS,

BRITISH WILD FLOWERS,

WITH THEIR DESCRIPTIONS.

ARRANGED ACCORDING TO THE NATURAL SYSTEM,

BY MRS. LOUDON.

ILLUSTRATED BY H. NOEL HUMPHREYS, ESQ.

"Ye Field Flowers! the gardens eclipse you, 'tis true;
Yet, wildings of Nature, I doat upon you;
For ye waft me to summers of old,
When the earth teemed around with fairy delight,
And when daisies and buttercups gladdened my sight,
Like treasures of silver and gold."—CAMPBELL.

THE present Work was undertaken under the impression that a selection of the more beautiful and attractive of our Wild Flowers, with Illustrations of them, would be useful to those who have neither time nor opportunity of consulting larger works on the subject. In order to confine herself within the necessary limits, the Authoress found she could only take the most ornamental Plants, avoiding, as interfering with her other Works, any Flowers commonly found in the Garden, her chief object being to enable the Amateur Botanist, who might find a pretty or interesting flower growing wild in their rambles, to ascertain its name and history. In addition to such details, a few remarks on the botanical construction of most of the plants have been offered, in the hope of inducing such readers as might be unacquainted with Botany to study so charming a science.

The volume presents to the reader almost all the information which is absolutely necessary for a general knowledge of this branch of the subject; the reader will likewise meet here with remarks regarding the great question of education, in which the Authoress indulges the hope that the botanical construction of plants, and the study of the science of Botany in general, may become a branch of general education.

"Nothing, I must confess," writes the Authoress, "would give me more pleasure than to see Botany as commonly taught in girls' schools, as French and music are at present; and I think it more than probable that in another generation it will be so—as, though the Linnæan system was unfit for females, there is nothing objectionable in the Natural Arrangement; and the prejudice against botanical names is every day declining, from the number of beautiful plants exhibited at flower shows, which have no English appellations. I sincerely hope the time may arrive, though probably I shall not live to see it, when a knowledge of Botany will be considered indispensable to every well-educated person."

In the systematic arrangement of the plants, the Authoress has followed Dr. Lindley's *Synopsis of the British Flora*, which few botanical students are without; and few genera are omitted, except such as do not contain any ornamental plants, or only include such plants as are rarely met with growing wild in Great Britain. While the Natural System is adopted in this work, it has also been borne in mind that many books of a leading character are arranged according to the Linnæan system; the Authoress has therefore added the Linnæan class and order of each genus, with a few words explanatory of the terms as they occur.

The volume is illustrated with sixty plates, representing nearly three hundred of the rarest ornamental wild flowers, drawn by Mr. Noel Humphreys, and carefully coloured after his drawings, grouped so as to form bouquets of flowers. The volume contains besides, descriptions of nearly all our known indigenous flowering plants, and a copious index, which completes the general attraction and utility of the work.

LONDON: WM. S. ORR & CO., AMEN CORNER, PATERNOSTER ROW.

PART III.] PRICE ONE SHILLING. [JULY.

THE POULTRY BOOK:

INCLUDING

PIGEONS AND RABBITS.

COMPRISING THE

CHARACTERISTICS, MANAGEMENT, BREEDING, AND MEDICAL TREATMENT OF POULTRY;

BEING

THE RESULTS OF PERSONAL OBSERVATION AND PRACTICE OF THE REV. W. W. WINGFIELD, G. W. JOHNSON, ESQ.,

AND THE MOST CELEBRATED BREEDERS OF THE DIFFERENT VARIETIES.

THE PIGEONS AND RABBITS BY MR. HARRISON WEIR,

AND OTHER MEMBERS OF THE PHILOPERISTERON SOCIETY.

THE WHOLE RE-ARRANGED, AND PARTLY RE-WRITTEN, BY

MR. W. B. TEGETMEIER.

WITH

COLOURED REPRESENTATIONS OF THE MOST CELEBRATED PRIZE BIRDS, AND FAC-SIMILES OF ALL THE MOST ESTEEMED VARIETIES OF PIGEONS AND RABBITS,

DRAWN FROM LIFE

BY MR. HARRISON WEIR,

And Printed in Colours under his Superintendence.

LONDON:
WM. S. ORR AND CO., AMEN CORNER, PATERNOSTER ROW.
MDCCCLVI.

GEORGE C. LEIGHTON'S, CHROMATIC PROCESS.

GREY DORKINGS,

THE PROPERTY OF CAPT. W. W. HORNBY, R. N.

GEORGE C. LEIGHTON'S, CROMATIC PROCESS.

GREY SHANGHAE,

THE PROPERTY OF FOX ESQ.

CHAPTER V.

STRUCTURE AND DEVELOPMENT OF THE EGG.

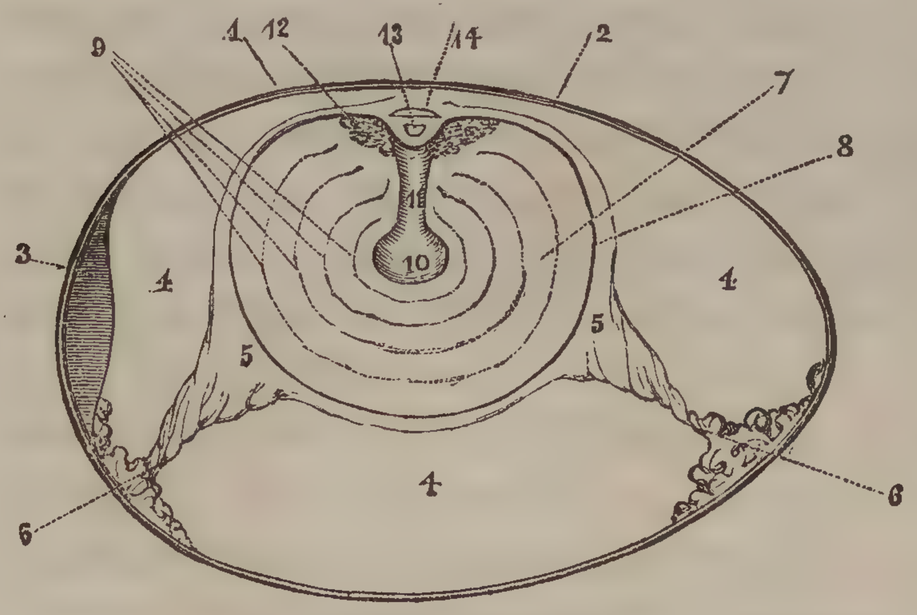
BEYOND the fact that an egg consists of yolk, white, and shell, little is popularly known respecting its structure; and even a less amount of knowledge prevails regarding the changes that occur in it during the development of the embryo. In these, as in all other cases, ignorance leads to serious errors in management, and consequently to severe losses in practice. We have, therefore, deemed it desirable to enter, somewhat more fully than is usually done in popular works, into this interesting and comparatively unknown subject.

The most important structures in the egg are—the yolk, with its canal and central cavity, surrounded by the concentric halones, so readily seen after it has been boiled ten or twelve minutes; upon the yolk is placed the cicatricula or germinal membrane, with the several delicate accessory structures indicated in the following diagram. The yolk is surrounded by a distinct membrane, and is kept in such a position that the cicatricula is always on its upper surface; this is accomplished by its being balasted by the two chalazæ, which are heavier than the fluid albumen in which they are placed, the yolk being lighter. The albumen, or white of the egg, is surrounded by the membrane of the shell, the two layers of which divide at the large end, leaving a cavity known as the air-vesicle; this is small in a new-laid egg, but gradually enlarges as the fluid portion of the albumen evaporates through the pores of the shell; and thus by its increasing size affords an approximate but unfailing indication of the length of time the egg has been laid.

The shell itself consists chiefly of carbonate of lime, which is secreted in polygonal prisms regularly packed together, their ends forming the outer and inner surfaces of the shell; they are so placed as to leave spaces, through which the air readily enters to support the life of the growing chick. During the process of incubation, a very remarkable change occurs in the shell, its structure being almost entirely broken up—the arrangement of the prisms becoming confused and irregular in the highest degree. This change of structure occasions the cracked sound given out on moving together eggs that are nearly hatched; and the object of the alteration is evidently to allow an easier escape to the young bird.

When a fecundated egg is placed under a hen, or deposited in an incubator and subjected to a temperature of about 100° Fah., the cicatricula undergoes a remarkable series of alterations, being gradually developed into the perfect chick. During the period required for the complete development, various chemical and physical changes occur, the most important of which may be briefly alluded to; the air-vesicle at the

end gradually becomes larger, the fluid portion of the albumen evaporates, and the remainder, much thickened, mingles with the yolk, passing through an aperture in the membrane of the latter. During the development of the chicken, its nourishment is derived chiefly from the yolk; and shortly before birth the remainder of the yolk is drawn into the abdomen, and passing into the digestive canal, constitutes the first food of the newly-hatched animal. During incubation the blood of the chick is aerated by passing through a series of vessels in a temporary respiratory membrane which lines the porous shell; this makes its appearance on the third day, and gradually extending, gives rise to that opacity of the fertile egg which has been already alluded to. It is not until the nineteenth day of incubation that the beak of the chick ruptures the enlarged air-vesicle, and it then first commences to breathe by means of its lungs. This is accompanied by a peculiar sound; and we feel much indebted to Dr. Horner, of Hull, for the following abstract of a paper on this subject which was read by him before the British Association for the Advancement of Science:—



STRUCTURE OF THE EGG.

1. Shell.
2. Shell membrane, composed of two layers, splitting at the broad end to form the air-chamber.
3. Air-chamber.
4. Third albumen.
5. Consistent albumen.
6. Chalazæ.
7. Yolk.
8. Membrane of yolk.
9. Halones, seen in hard-boiled yolk.
10. Central cavity.
11. Canal.
12. Discus proligerus.
13. Nucleus cicatriculæ.
14. Cicatricula or germinal membrane.

"I think THE POULTRY BOOK the fittest medium for the promulgation of a fact, or rather discovery, on a subject concerning which views altogether erroneous prevail;—I mean the manner in which the chick first breaks, and liberates itself from, the shell.

"It is universally believed that the continued 'tapping'-like sound, so perceptible within the egg, is produced by the bill of the bird constantly striking or coming in contact with the shell, in its efforts to break it. Indeed, philosophers and naturalists, both of this and other countries,—even those who have most recently written on the development, &c., of the chick,—have stated that such is the case; whilst the latest authors on Domestic Poultry have, in their works, stated the same error. 'The tapping which is heard,' writes the Rev. Mr. Dixon, 'and which opens the prison doors, is caused by the bill of the inclosed chick;' similar language being employed by all others.

"Though opposed to the many great authorities who have written on this subject, and opposed, also, to the adopted views of all, I do not hesitate to assert, in contravention, the facts as observed by myself, especially as such facts can be so simply and so readily tested and substantiated by every one.

"Whilst recently engaged in some investigations concerning the young chick, at various periods of its growth in the egg, I was led to doubt the correctness of the common explanation of the (so-called) tapping-like sound, from observing, first, that it was so continuous, or prolonged, it being heard for about forty-eight hours before a fracture in the egg was made, thus involving an amount of labour and effort on the part of the young tenant not commensurate with the small effect produced—a small fracture; when the whole remaining circle of the egg could be seen to be broken often in from two to six hours; and, secondly, as the slightest scratch or tap with the nail, or similar hard substance, on an egg, produces, when the ear is applied, a very much louder sound than that made by the chick, I considered that the tapping, if really produced by strokes of the bill breaking the shell, ought to be threefold more distinct and louder than they really are.

"The facts are simply these:—The so-called repeated 'tapping' *is not caused by the stroke, nor by any other mode of contact of the chick's bill with the shell—it is simply respiratory*, and produced during the expiration of the breath. Perhaps the more homely words, 'clicking,' or 'smacking,' would more accurately define the sound; it exactly resembles that which may be made by puffing small quantities of air through the closed lips, as in the act of smoking; and, indeed, from my own observation, I conclude that it is produced in a manner analogous, by the air passing, at each expiration, through the lungs of the tender chick.

"It is further observable that the so-called 'tapping' (truly respiratory) sound begins to be heard, though indistinctly at first, at that very period of incubation, at which physiologists state that air first enters the lungs, viz. on the nineteenth day, or two days before hatching. I also remarked that the sound in question was sometimes heard, not as a single, but as a double sound; the latter of the two being louder than the former, and thus corresponding to the expiration and inspiration of the breath.

"I perceived that the egg was really broken (at first with a star-like fracture) by occasional smart blows with the horny tip of the bill, and which impinged, with no inconsiderable power, against the shell, as any one may satisfy himself by placing the ear close to the opening just made. At the period of hatching the chick obtains great additional space in the egg; by which it is enabled to make enlarged efforts. Thus, by the nineteenth day (by which I mean two days before it liberates itself), it is seen to occupy the smallest space in the egg; nearly one-third, at the larger end, is at this time filled with air only; but now, by its frequent struggling efforts, the chick gradually works itself up till it fills the whole space; and by this partial unpacking, as it were, of itself, acquiring more liberty for action.

On pressing the egg against the ear it will be found that the young chick breathes, when first heard, about eighty times in a minute, as denoted by the 'tapping,' or respiratory sound; but afterwards generally not more than sixty. It makes the struggling efforts five or six times per minute, while the sharp strokes

with the bill, by which it breaks the shell, are repeated at unequal intervals of from one to five minutes: I perceived that sometimes these strokes were repeated in immediate succession. The action of the heart is so rapid that it cannot be counted with accuracy; it is in ratio with the quick breathing.

"The chick gradually works itself round in the shell during its struggles, breaking it in its progress, till at length the upper portion, lid-shaped, is detached. In this process the 'tapping,' or breath sound, generally, though not always, continues; and any one may, at this stage, satisfy himself by observation that it is only by the occasional blows with the bill, suddenly and forcibly made, and generally at the commencement or at the termination of the struggle, that the shell is broken.

"I shall now detail the simple expedients by which I proved that the 'tapping' was not caused 'by the contact of the chick's bill with the shell.'

"I broke a small hole in the round end of the egg, when the 'tapping' was distinctly audible. M. Reamur, unluckily, satisfied himself with but holding the egg before the light of a candle; had he thus broken a hole in the shell, when he examined it, he would have avoided his error. By this means I saw the bill *in situ*, and plainly perceived that, though the sound continued, the bill itself did not come in contact with the shell. Nay, in some early instances, the sound was heard before the bill was visible, or had protruded through the enveloping membrane. To satisfy myself again I watched in other examples, till a small fracture had been made in the shell by the chick; this breach I then enlarged considerably, breaking away the shell so as to bring the bill of the chick into open view—*to isolate it, indeed, and to prevent the possibility of its coming in contact with the shell*—still the same 'tapping' sound continued as before; and, as I now clearly saw, was produced solely by the breathing of the chick. Further remark would be wholly superfluous.

"It appears to me probable that the reduction in the frequency of the tapping or noisy respiration, soon after I had made an enlarged opening in the shell, was dependent upon the free admission of the pure atmospheric air, by the vivifying influence of which the respiratory organs speedily gained a more perfect and normal action. In some cases the sound ceased for a while, when a free aperture had thus been made; and the chick gaped widely and repeatedly, as if expanding its lungs with air. In the weakest chickens I generally found that the respiratory sound was most continuous; indicative, I conceive, of less power in the respiratory organs to gain a more perfect action.

"As the yet strongest proof that this sound is respiratory, I found that by placing the ear or the stethoscope against the breast or back of the chick, the day after it was hatched, precisely the same sound was heard, proving incontestably that it is caused by the transmission of air through the lungs. It is, indeed, nothing more than the natural respiratory sound in the lungs of the young chick."—F. R. Horner, M.D., *Hull*.

CHAPTER VI.

MANAGEMENT OF CHICKEN.

WERE we to take a chick some three or four hours after leaving the shell—so soon, in fact, as it is dry—and compare it with an egg the same in size as that from which it had issued, we might well wonder how it could have been packed away in so limited an abode. One cause of this amazing increase of size is evident; the down covering it, while wet, is easily compressed, and lies flat on the body; but when dried by the mother's warmth it resembles plush, with a long thick pile, proving a most efficient protection against cold, and of great apparent bulk.

If some of the chickens have been withdrawn from the nest during the first day, while the hen is concluding her task with any rather backward eggs, let them, at all events, be returned to her when the houses are closed for the night. Do what you will—contrive the snuggest retreats of flannel, and place them in the warmest nooks—you cannot provide for them so well as the hen; and weakly as the little things may appear, if she is a good mother, and understands her business, we shall probably find them strong and hearty the next morning; but if otherwise, the chances most assuredly are that our coddling could have done no good.

When we find the hen careless, or trampling on her chickens before all are out of the shell, it is certainly prudent to withdraw them till night, both that her attention may be given exclusively to the remaining eggs, and that the juveniles may run no hazard from her ill-considered excitement and irritation. A hot-water plate, covered with several layers of flannel to moderate the heat, and placed in a basket in a warm room, is a good proxy for their mother till the approach of evening restores her to a safer state of composure. Food will be neither required nor beneficial; the favourite applications of warm beer, peppercorns, and other warming condiments, are worse than useless. Nature, it would seem, provides a sufficiency of nutriment in the yolk of the egg, taken up by the chick previously to quitting the shell, to last for the twenty-four hours after its exit. We have never seen food pressed upon them during this period with advantage; nor do we believe it is at all desirable to force the appetite, which is sure to make its wants known at a sufficiently early period. Impress this rule on your servant, and also act upon it yourself. Avoid all unnecessary handling of newly-hatched chicks; if they have been removed from the nest, keep them warm and quiet. If with the hen, it renders her at once anxious and fidgety; and more than once have we seen the blow, aimed at the fingers that were about to remove or replace the chickens, miss its aim, and fall upon the unoffending offspring.

The evening of the day on which a hen has hatched is the best time for changing chickens to and from different mothers; at a later period, many hens will have nothing to say to them, and even violently maltreat them; but now the more you can place beneath them, the better they seem pleased. Not that we would ask too much of one, and deprive another hen; for when the latter has completed the process of incubation, it seems but just that she should have her reward in the happiness that the attendant brood so palpably affords; so, where we found eight or nine chickens, we would leave them; nor should more than thirteen, or at the most fifteen, be given to any one mother. We all occasionally find ourselves "counting our chickens before they are hatched," and frequently the deficiency is serious. Not desiring, therefore, to see our favourite hens perambulating the court with too scanty a train, we take this opportunity of uniting them with some other brood; and, providing the chicks are nearly of an age, little danger is incurred. We are speaking, be it remembered, of hens that have just hatched. If two hens, indeed, hatch the same day, and their united progeny do not exceed thirteen or fifteen, our plan is to unite them, provided the weather is warm, for at an early period of the year the smaller number is more advantageous.

When mortality of any kind has so thinned a brood of ten days or a fortnight old, that it appears desirable to place them with some newly-hatched chickens, the hen, at first, frequently offers no opposition to this addition to her family; but her own rightful progeny, though but a day old, will often manifest so decided a disinclination to their foster-brothers and sisters, as to direct their mother's attention to the intruders, whose fate is soon decided, unless quickly removed.

Let our readers, however, remember that Cochins only are generally disposed to allow chickens to be thus palmed upon them; with other varieties a fractured skull is a common result of the experiment. Many, indeed, will at once attack your hand with the utmost exasperation, when introduced for any purpose into the nest.

On the day which follows hatching, the food of chickens becomes a matter of consequence. Although, on the whole, sloppy mixtures of any kind may be objectionable, a saucer of bread and new milk is at first decidedly useful,—care being taken that it is not left with them so long as to run any chance of its becoming sour. With this, coarse oatmeal made into a crumbly mass with milk or water, chickens' grits, bread-crumbs, a portion of hard-boiled egg, and dry fresh-made curd, are the safest diet for two or three days, when small refuse wheat should be added; the sweepings of a barn, for instance, where the grains have been partially broken, soon draw their attention to this new article of food, to which no other is preferred, and none administered with better effect. Rice—boiled for six minutes, kept well stirred when on the fire, and afterwards carefully drained—is also given; and all fowls of every age, whether of Eastern origin or otherwise, greedily devour it, and although very inferior as a nutritive food, is useful as a variation.

No poultry-keeper can have failed to notice the avidity with which a young

chicken pursues, and, if successful, devours the incautious fly or gnat that has ventured within its reach; and many, in consequence, are induced to add animal food to their chickens' bill of fare. This we cannot approve of, save only in special cases of a very cold season early in the year, and where close confinement has been necessary. We objected to it when speaking of the management of breeding stock, and do so still more strongly when it is proposed to administer it to chickens, believing that disease often arises from diet so wholly different from what nature would have provided, in the shape of worms or insects. Leeks and green onion-tops, shredded small, should not be omitted: they are excellent from the earliest days of chicken-hood, and are best mixed with bread-crumbs, or the meal which is given in the crumbly state, before spoken of.

In ten days or a fortnight good barley comes into use,—not such as has heated in the stack or sprouted in the field; but the best quality you can obtain, and the highest price given for it will probably be the best economy. Damaged corn may, indeed, be consumed by adult poultry; but we still think, even with their marvellous powers of digestion, that some hazard is thereby incurred, and we should always rather see our pigs devouring it, with the full satisfaction that the few shillings employed in procuring the best quality were profitably bestowed.

Whatever meal is used should be mixed with water—for very young chickens new milk would be preferable—till it becomes a crumbly mass, falling readily to pieces when thrown to them. Hemp-seed is often strongly recommended, but should be given only occasionally, and then with caution, lest its heating properties inflame the skin, and thus impede feathering. Buck-wheat, especially when boiled, and linseed are a useful change; for with poultry, as with all the other live-stock of our farm-yard, variety in food is essential to their well-doing. Of all green food, none exceeds the leaves of lettuce, to which many a vacant corner in the garden might be wisely devoted; and, next to these, the leaves of cabbage and mangel-wurzel have the preference. But few things of this sort come amiss to them; and when a grass exercising-ground is at hand, the smaller and finer the oft-topped blades, the more they are appreciated by both old and young alike.

"I quite agree with you," says a very successful breeder, "as to the uselessness—not to use a stronger term—of pressing nourishment of any kind upon the chicken for the first twenty-four hours after its liberation from the shell, and also of the inexpediency of those stimulants so frequently administered in the shape of pepper-corns, ale, &c. My own practice is to leave the brood quietly under the hen, unless I have reason to believe that they are hatching very irregularly, until the morning subsequent to that on which the first chick makes its appearance. I then remove the brood, with the mother, to some convenient building, and at once offer a hearty meal of corn and water to the latter, taking care to have a hard-boiled egg, well rubbed up with the crumbs of very stale wheaten bread, waiting the arrival of the long-expected strangers; water, in a shallow plate, is not omitted. I find a con-

siderable quantity of this food is soon demolished, and liberally do I supply them with it. I vary this mixture with a meal or two of groats, respecting which, as an article of food, I find it impossible to speak too highly. It is true that it is somewhat expensive; but as it is required only for a limited period,—until the brood is of an age to enjoy a handful of barley, or, still better, of wheat,—the difference in price is not great; and it has the advantage of being an excellent preparation for the coarser grain last alluded to. I am also accustomed to vary this dietary by an occasional meal of fried potatoes, slightly dusted with black pepper, which is always consumed with the greatest relish; indeed it is scarcely possible to give them enough of it. This dish, though well-known in the west of England, may not be equally so to residents in other counties; so I should state that the potatoes to be fried should first be boiled, and are usually those remaining from the dinner-table of the previous day, and that lard or dripping forms the best medium in which to fry them.

"With respect to animal food, I must express my conviction that, though it requires the exercise of care and judgment in its use, yet I have found it a most valuable adjunct; and it has a wonderful effect on those frequent cases of drooping so common in early broods which are confined almost entirely to the house from severity of weather, and thus debarred from insect food, for which a little lean beef or mutton I consider the best substitute. Care must, however, be taken that the meat is quite fresh, or disease may ensue."—P. GRENFELL, Esq., Gulval.

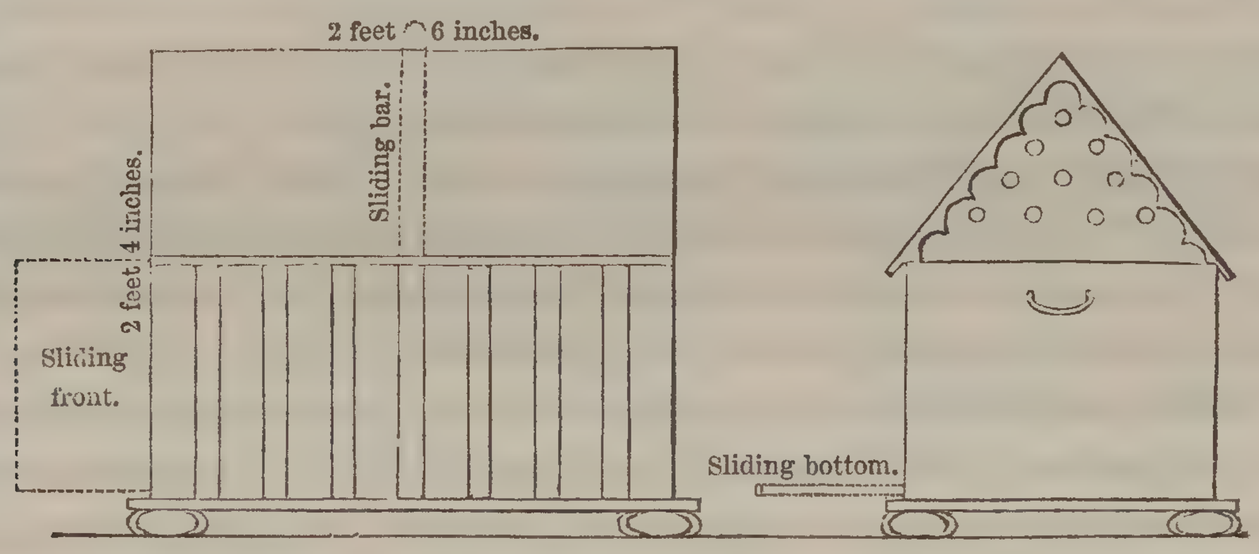
The cases mentioned by Mr. Grenfell are precisely those where we should consider the addition of meat judicious management, for our objections were directed to the use of it as a regular portion of the daily food, which, to our own knowledge, it often has been. When thus given medicinally, as it were, it has a most salutary effect; and the most consumptive-looking patients, to whom it is supplied, soon manifest a decided change for the better. Fresh water, so essential to the well-doing of the young birds, should be given in vessels of such a form that the chicken cannot become immersed in it; for this purpose nothing is superior to the contrivance described at page 19, only made of a proportionate size; another very effective contrivance is an earthen saucer of concentric troughs, sold at most earthenware shops, and used for this purpose as well as for growing early mustard.

For our own *very early* chickens we have used, with great success, small boarded floors, four feet by three feet, raised one above the other, in a spare corner of their house. In wet, cold weather we keep them here, with their floor well sanded; and being perfectly dry at all times, and thoroughly ventilated, we get them through unfavourable weather healthy and strong. Wherever a spare barn-floor, or that of a greenhouse, or any other dry shed, well lighted and secure from rats and other vermin, can be had, it would justly be preferred; but in their absence, the plan above recommended may be adopted. In such cases, however, it is essential that the greatest precautions should be taken to ensure cleanliness and the due admittance of fresh air,

All these, however, at the best, are but indifferent substitutes for such weather as may enable us to place them out on the day after hatching, in a coop of which a wooden slide forms the bottom, on a warm sheltered piece of gravel, where the full benefit of the sun's rays may reach them. Two or three hours of good sunshine are then worth a week of coddling and swaddling by the kitchen fire ; and rarely does a young chick seem to think the sun too powerful—though if the mother differs from them in this, she is always ready to call them within the coop, for their play-ground in front is but limited to a little court of laths or wire-work four feet square, which restrains their wanderings, and checks the incursions of other members of our flock. So soon as the day wanes in spring, and while the temperature is low, we remove them to the shelter of the house for the night; and the barred front of the coop closing altogether with a slide, they remain safe and warm till the next morning, when a similar move again takes place. The ends of the coop are perforated with air-holes, small enough to be secure against rats or weazels. In summer the coops stand out during the night.

Such coops we have used for several years ; but as our own birds have ever been selected with a view to get rid of all legginess, as far as may be, it would be necessary, when taller birds are not objected to, to add to their height in proportion to the increase of stature.

We consider that the extra expense of a sliding floor is well repaid by the avoidance of damp, and the greater facility of cleaning it ; for the interior of these and



other chicken-abodes is not always so entirely in view as to render it at once perceptible whether our poultry-woman or man (we incline, for many reasons, to the former functionary) has the same idea of the importance of scrubbing and purifying as we ourselves may think necessary ; but if a second slide is at hand, to be scoured on alternate days, and dried in the sun or by the fire before it replaces the one in use, we are safe, and the health of our chickens will soon satisfy us that they appreciate the care.

But do not let our readers be frightened by the minuteness of these directions, for at a later season the chickens may be left much more to themselves; only let

them remember that if in possession of good fowls, and desirous of having healthy chickens at an *early* period of the year, their chances of success will be infinitely increased by following our advice. In our own system of management we have always endeavoured to adopt as natural a course of treatment as might be; and if such daily care and attention to their dwelling-houses and food be insisted on as contrary to the natural provision they would meet with in a state of liberty, we can only reply that equally contrary to nature is their existence in a domesticated state. We have deprived them of what nature would have given; for which, therefore, some compensation must be made.

The common triangular coop is sufficient during summer, if we avoid placing it on grass anyways damp during the early days of its inmates, though it does not afford the same degree of shelter. But in every case where the hen is cooped, and cannot accompany her young in their rambles, we recommend a small court, as before described, in which both hen and chickens are together, with the coop to retreat to in bad weather. We say nothing of the poor hen's state of mind, while, confined herself, but with her young brood at large, she witnesses their erratic conduct, and their danger from hawks, cats, magpies, or even the ill-temper and spitefulness of some of her own race, which often terminates in her "scrabbling" to death (a truly emphatic term, indicative of her peculiar notions under excitement of this kind) those of her brood which first answer the summons of recall, while others are still truant. Her feelings, therefore, should be studied for our own sake, no less than for hers.

Chickens hatched during warmer weather we merely keep in the coop for one or two days; after which period we give them their liberty, and have found them thrive far better than when confined either in courts or coops.

A singular apparent dislike, and even animosity, is often shown by the hen to any of her young ones that may chance to be ill, however careful of them previously; her parental character then seems altogether forgotten, and they commonly share the fate that would so inevitably attend the intrusion of a stray chick from another brood. Fits, apparently of an epileptic character, are among the maladies of young chickens; and unless speedily rescued when thus attacked, the sprawling invalid has a rapid termination put to its sufferings by its mother's beak, and the assaults of its brothers and sisters. At times, also, a chicken gets entangled in its mother's feathers, and, if not at once strangled by its suspension, meets a like fate. The instinct that prompts such conduct is not easily explained, but it is probably at first a desire to relieve her young, and ignorance of the danger of such forcible means, that produces the catastrophe. We cannot think that the treatment, however apparently cruel, can be, according to all we observe in the habits of the animal creation, otherwise than well meant, though the poor chick indeed might well ask to be spared such serious kindness.

The young birds grow so rapidly, that it is prudent to provide their food at very frequent intervals; for the first week the quantity taken into the stomach at one

time is necessarily very small. This being considered in connexion with their increase in bulk, breakfasts, luncheons, dinners, teas, and suppers should have intermediate collations. From a week old we should not allow more than two hours to pass without providing for their wants; and, however hearty their appetite at the previous meal, they will surely be ready again when the next is offered to them. Nor will this be thought inordinate by any one who has witnessed the growth of a brood of chickens from the shell to the time when they are left to shift for themselves. Let us add, moreover, that such liberality would be equally advisable, in an economical point of view, in the case of poultry of every description. Vegetables, we know, to be good must have been rapidly grown. A head of asparagus, for instance, that had languished for a week or more in tardy progression towards maturity, would be most deservedly rejected, when placed in competition with one the growth of which had been completed without a check. Just so is it with poultry for our tables: if insufficiently fed when young, whether it be chickens, ducklings, geese, or turkeys, no amount of after-cramming ever compensates for previous meagre fare, nor ever produces a really good bird. So with breeding-stock: you can never, by after-feeding, make up the want of size, or the imperfections of form, which a niggardly provision of food has brought about when young. Not that we wish to have birds that are intended for stock kept fat; but there is a wide difference between over-feeding and the portions that are commonly considered sufficient to sustain the processes of growth and feathering in the inmates of a poultry-yard.

With all our care, and even the occasional removal of some inches of the surface soil, our poultry-yards are constantly liable to become *tainted*, as the expression goes, after an occupation of some few years; not that you cannot rear your chickens, for that evidences a far worse state of things than usually arises from the ground having been overstocked, but they do not grow vigorously, nor attain the size and perfection of form and plumage that a fresh locality would give them. How many winners at the various poultry-shows have had their health and condition improved by a timely change of air, and a new run; and how many a medal has proved the wisdom of this indulgence! Those of our readers who may possess a large number of poultry, and are anxious for first-rate chickens, will do well to seek such "walks." So much a-head per week is the usual arrangement; and the master's eye, on the weekly or fortnightly visit, will soon see whether things are going on favourably. A cottage, with a scarcity of young children and abundance of good water, with the run of an adjoining piece of dry furzy heath on a sandy bottom, would be perfection. We know how favourable a light porous soil is for rearing partridges and pheasants. Poultry are no less benefited by it; and in such a spot the diseases incident to a low, damp, or a clayey soil need not be apprehended.

Where the facility of a distant walk is wanting, the pullets and cockerels, at any rate, should then be divided by separate inclosures; and though they would doubt-

less improve still more if sent out, yet, if this be not practicable, pullets should be diligently guarded against all intercourse with the other sex. If not involving additional trouble, we should, moreover, keep them in this state of seclusion till fecundated eggs were required from them the following spring; and under such management we should not doubt our ability to obtain infinitely finer specimens, both male and female, than when they are allowed to run together.

"How long does chickenhood last?" is a question to be answered before this part of our subject is concluded. The majority of the poultry prize lists apply the term to such birds as are hatched during the year; this is done to avoid confusion in the different classes — birds of the year, and those *beyond* it, being the only distinctions recognized as to age.

In one sense, chickenhood might be restricted to the period during which they remained with the hen, and were dependent on her care; but then "*chickens*" would clearly be a term very commonly applied to birds of a much more advanced growth. But some general agreement in the terms employed to express the age of our fowls is undoubtedly required. Were they termed chickens till four months old, — above that, and under twelve months, cockerels and pullets,—and after the year, cocks and hens—we should possess a reasonable and serviceable distinction.

CHAPTER VII.

COCHINS OR SHANGHAES.

THE conclusion of the Chinese war in 1843, when the northern ports, including Shanghae, were thrown open to European vessels, may be stated as being the period of the first introduction of these remarkable fowls into this country. The date usually assigned to their importation is frequently some few years later, and there are several claimants to be regarded as the first holders of this variety; but the fact that a group of them belonging to Her Majesty were, under the name of Cochin-China fowls, represented in an engraving in the *Illustrated London News* for December 23, 1843, carries the period of their existence in this country back to, at least, some months antecedent to that date. They remained, however, comparatively unknown for some years. At the poultry show held at the Gardens of the Royal Zoological Society, Regent's Park, in May, 1845, there were prizes especially devoted to "Malays and other Asiatic breeds;" but these brought to the exhibition no other Oriental variety than Malays; and the celebrated and very superior stocks of Mr. Moody and Mr. Sturgeon were not obtained by them until the year 1847. Respecting the latter, Mr. Sturgeon gives the following details:—

"The history of my Cochins is a very absurd tale, and full of ill-luck, or perhaps

carelessness—a term for which ill-luck is often substituted. I got them in 1847, from a ship in the West India Docks. A clerk we employed at that time happened to go on board, and, struck by the appearance of the birds, bought them on his own responsibility, and at what I, when I came to hear of it, denounced as a most extravagant price—some 6s. or 8s. each! Judge of my terror, after my extravagance, when I found a younger brother had, immediately on their arrival, killed two out of the five, leaving me a cockerel and two pullets; nor was my annoyance diminished on hearing him quietly remark that they were very young, fat, and heavy, and would never have got any better! The cock shortly after died, and, beyond inquiring for another, which I succeeded in obtaining shortly after the original died, together with a number of hens which reached this country under peculiar circumstances, I personally took but little interest in them till the eve before their departure for Birmingham, 1850. Neither my brother nor myself, before we obtained these birds, had taken any particular interest in poultry, and why we came to prefer the light-coloured birds still remains a mystery to me: but so it was, for to Mr. Punchard, and to all others, we parted with none but the smaller and darker coloured birds. I have often laughed at the dreadful passes my now famous breed has been reduced to, and the very narrow escapes it has had of utter extinction,—first the attack of my brother, already narrated; then the death of the cock; and, in the third year, the incursions of some mischievous greyhound puppies, who killed, one morning, five young birds, just as they were getting feathered, besides many more on different occasions. Our birds all came from Shanghae, and were feather-legged. It is to the cock of the second lot that I attribute our great success. I have had fifty others since, in four or five lots, but not a bird worthy of comparison with my old ones, or that I would mix with them."

As in the case of many other varieties of fowls, they are known popularly by a name to which they have no claim. Mr. Robert Fortune, who has passed many years in various parts of China, says:—"The man who first gave these fowls the name of 'Cochin-Chinas' has much to answer for. I firmly believe that what are called 'Cochin-Chinas' and 'Shanghaes' are one and the same. One thing is certain,—the breed you have in this country as Cochin-Chinas are plentiful about Shanghae. They were discovered there after the war, and were frequently brought to this country, and taken to India, by captains of trading-vessels. Was not this the date of their introduction to England? And what grounds has any one for supposing the fowls ever saw Cochin-China?" It may be thought that this variety might have been earlier known, owing to our long-established commerce with Macao and Canton, but Mr. Fortune says that it is a breed but little known in those warmer parts of China, and that, "in fact, the southern Chinese were as much struck with the size of the breed as we were." He adds, "The Shanghae breed seems to be more common about Shanghae than anywhere else in the north; but I found it over all the low country of that part of China. The southern breeds have been long well

known to ship-captains and English residents; but there is nothing very marked in their character."

Having thus traced out the date of introduction and the place whence derived, let us next inquire something of the characteristics and treatment of the birds as they occur at Shanghae itself; and here Mr. Fortune again comes to our aid. In the letter already quoted, he says, "The Shanghae breed occurs both with feathered and unfeathered legs, but more frequently unfeathered. The most admired kinds there are the game-coloured ones. However, I am safe in saying that the Chinese do not attach so much importance as we do to purity of colour; large size and large eggs are what they most admire and prize. Some of the Shanghae fowls' eggs have double yolks. The young ones are most extraordinary-looking creatures. They may be frequently seen half-clad with feathers, and oftentimes have long tufts on their feet, making them seem to have several extra toes, when they are wet. The old gentlemen have, in Shanghae, as in this country, most abortive-looking tails, and they may be readily known all over the world by their 'sweet voice.'

"The Chinese are not particularly careful in managing their poultry. They feed them in the same way as our cottagers do in the country; that is, the birds are allowed to get as much as they can for themselves, and I need scarcely tell you they are not very particular. When the Chinese housewife feeds them, she generally gives them *paddy;* that is, unhusked rice."

It being certain that the true Shanghae fowl is met with in its native district with plain legs, even more frequently than with legs feathered, or *booted*, as it is technically termed, the point often disputed is now settled, as to whether this is any demonstration of a distinct breed. Henceforth it must be held to be a mere matter of taste; and we have seen plain-legged imported Shanghae fowls as superior in every important characteristic as those feathered on the legs, but fashion has decided in favour of the feather-legged birds, to which alone are now awarded prizes at our Poultry shows.

In accordance with the facts that these birds were imported from Shanghae, and comparatively unknown in Cochin-China, it has been thought desirable to endeavour to correct the popular but erroneous name of Cochins, and to substitute the port from whence they were originally obtained; but the effort has not been crowned with the success it deserves, and to the large majority of poultry breeders they are known only as Cochins. In the United States both names are employed; those birds that are feather-legged being termed Shanghaes, whilst the clean-legged specimens are known as Cochins.

We now come to enumerate the most important points of beauty and excellence in this bird, and shall begin with the Hen, taking Messrs. Johnson and Wingfield's description first, and concluding with the additions collected for the present edition:—

The HEN should have a slightly curved *beak* seven-eighths of an inch long,

measuring from the tip to the angle of the mouth, and the more yellow this is, the greater the improvement of her countenance; the *forehead* well arched; *comb* low, not more than half an inch high in its highest part, which should be towards the part furthest back,—single, erect, and slightly and evenly toothed; *wattles* small and curved inwards; and the *eye* bright and prominent, with an expression tempering the whole of motherly patience and contentment that is met with in no other fowl. The *neck* eight inches long, but appearing shorter from its curved bearing,—nine inches in circumference where it joins the shoulder, and six inches in circumference where it joins the head. The neck should be gently arched when held upright, and the head held at a right angle with it. The *body*, from the neck to origin of the tail-feathers, should be ten inches long and gently arched, the highest part of the arch being rather nearer to the tail than to the neck. The girth of the body, measuring over the wings and before the legs, should be twenty inches, and the girth similarly measured behind the legs eighteen inches. The greatest depth of the body, measuring from the shoulders to the point of the breast nearest the ground, nine inches. *Wings* well rounded outward, so as to increase the apparent diameter of the body; their shoulder well nestled in beneath the breast-feathers, and the end of the quill-feathers, which are remarkably short, buried closely under the mass of feathers which encompass the base of the tail. This mass of feathers is very peculiar, arching from the back to the tail, and sloping off so as to form a slight elevation round the sides, as it does round the base of the tail. The *thigh* six inches long, seven inches in circumference, and densely covered with fluffy feathers. *Shank of the leg* four inches long and two and a-half inches in circumference; colour pale yellow; if of the booted variety, thickly feathered quite down to the toe on the outer side. In the buff and other light varieties, these shank feathers should have no dark ones among them, and the more near to the colour of the body-feathers the better. *Middle toe* three and a-half inches long. The middle toe, in all pure breeds, is nearly double the length of the two side toes. *Tail* five inches long, but buried in the mass of feathers which surround it, so that no more than the tips of the real tail-feathers are visible. The *stern*, beneath the tail, densely fluffy, and rounded. *Feathers* of the entire body peculiarly smooth and regularly placed. *Weight*, when full grown, just before beginning to lay, and after moulting in the autumn, eight to ten pounds. Birds of these weights will be from one to two pounds lighter when moulting.

The Cock should have a *beak* an inch long, measuring from the tip of the upper half, or mandible, to the angle of the mouth; yellow, and slightly curved. *Forehead* broad, and well arched. *Eye* bright, large, and prominent. *Comb* single, erect, thick at the base, feathering off to the edge, which should be moderately and regularly toothed—following the arch of the head, about two inches high in the centre, and of a clear bright scarlet. *Face* of the same colour, but not coarse. *Wattles* broad, hanging loosely down about two inches, and same colour as the comb,

face, and *ear-lobe ;*—this last so folded forward as to appear like a second wattle. *Neck* nine inches long, held erect, and boldly arched, so as to place the beak at right angles when the bird stands upright. Girth of neck at the lowest part, thirteen inches, and close to the head, seven inches. The neck-hackle, or cape-feathers, hanging down deeply over the back and shoulders. *Body,* from the neck to the origin of the tail-feathers, fourteen inches ; back nearly flat ; greatest breadth across, at the shoulders of the wings, nine inches ; girth, over the wings and before the legs, twenty-four inches, and behind the legs nearly the same ; greatest depth, from the shoulder to the point of the breast nearest the ground, twelve inches. *Wings* well rounded outwards, so as to increase the apparent breadth of the body ; their shoulder well buried in the breast-feathers, and the ends of the quill-feathers, which are very short, buried under the body-feathers, and *saddle hackle,* which should be close and long. *Thighs* wide apart, eight inches long, and seven and a-half inches in girth round the thickest part ; feathered quite down to the hock or knee, and the feathers even projecting beyond it, as in the falcon. *Shanks* yellow, with a red tinge where the scales are absent, four inches long and three in girth ; in the booted sub-varieties, feathered thickly down the outer edge quite to the toes, and the feathers coloured like those of the body. *Tail-feathers* about five inches long, some few of them scimetar-shaped, and covered to within an inch or two of their tips by the body-feathers and saddle-hackle. *Middle toe* four inches long. *Stern* very fluffy. *Weight* of full-grown birds, in the spring, from ten to twelve pounds.

The *gait* of both the cock and hen, when walking slowly, is peculiarly precise and dignified, but when hurrying it is a heavy rolling waddle. When standing still the legs should be firm, and the hocks kept wide apart. Mr. Sturgeon, who is one of the breeders of our very best Shanghaes, has also favoured us with his opinion upon these points. He says :—

"A Shanghae, to please me, must have a stout curved and yellow beak, with plenty of substance at the base, and the shorter the better. The outline of the head should seem to be round in the hens when looked at from the side, and when the eye catches the comb and wattles ; and I like just so much comb of a fine quality as will stand up, and give that appearance of roundness. In the cock the comb will be larger ; but the most careless observer will easily note the great difference of quality —some races showing a close and smooth texture delicate as a lady's hand, and others a roughness which might more properly be compared to the outer rind of a horse-chestnut. The quality of the bird will peep out here. The eye should be red and full, for beauty and for use ; it gives a nice brisk look to a sufficiently quiet bird, harmonizes better with the general colour, denotes more constitution, and is less liable to disease. In all cases of contracted pupil and blindness, the pearl or broken-eyed birds have been the sufferers. The neck cannot be too short, nor the body too long, deep, and broad ; nor the shank and tail too short. But why need I take up time here on points that are obvious to all, beyond observing on what I believe to be the

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"Nothing, I must confess," writes the Authoress, "would give me more pleasure than to see Botany as commonly taught in girls' schools, as French and music are at present; and I think it more than probable that in another generation it will be so—as, though the Linnæan system was unfit for females, there is nothing objectionable in the Natural Arrangement; and the prejudice against botanical names is every day declining, from the number of beautiful plants exhibited at flower shows, which have no English appellations. I sincerely hope the time may arrive, though probably I shall not live to see it, when a knowledge of Botany will be considered indispensable to every well-educated person."

In the systematic arrangement of the plants, the Authoress has followed Dr. Lindley's *Synopsis of the British Flora*, which few botanical students are without; and few genera are omitted, except such as do not contain any ornamental plants, or only include such plants as are rarely met with growing wild in Great Britain. While the Natural System is adopted in this work, it has also been borne in mind that many books of a leading character are arranged according to the Linnæan system; the Authoress has therefore added the Linnæan class and order of each genus, with a few words explanatory of the terms as they occur.

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PART IV.] PRICE ONE SHILLING. [AUGUST.

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WHITE DORKINGS,

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LEIGHTON, BROTHERS', CHROMATIC PROCESS.

LIGHT CINNAMON SHANGHAE HEN,

BRED BY MR. PUNCHARD

true form and carriage of the body, which, both in the cock and hen, I like drooping forward, and with the hinder parts consequently raised. A great depth from the base of the neck above, to the point of the breast-bone, with its weight of flesh, tends to produce this form, and to show to advantage the fluff and feathers peculiar to the Shanghae. The length of the breast-bone is to be desired and looked to. With this form all will appreciate the neat head, short neck, and broadness of the back, continued from across the wings to the tail; and that redundant supply of feathers immediately before the tail, that gives the broad, square look that distinguishes the high-cast birds, and which makes their tails apparently so short. The small compact wing will accompany these qualities. On the back, before the tail, will be found a profusion of feathers, and that fluffiness about the thighs and the tail and hinder parts of the body, that forms with the feathered legs one of the chief characteristics of the race. Too much importance cannot be attached to straight, well boned, short shanks; and if you want appearance, weight, and constitution, they *must* be wide apart. To my mind, this is a capital requisite. For colour I prefer the light buffs; but I do not place colour first. It stands with me thus—form, size, colour; and for these reasons:—No bird can be perfect if exception can be taken to its form; and our standard here is arbitrary, for unless a bird (I speak of matured specimens) has attained a certain weight, I should say it ought not to be eligible for a *first* prize. I do not mean that birds are to be judged by the scales, but that they ought to show the size and form that would ensure those weights in fair condition. Now, in colour there must be more latitude, and different persons *will* prefer other shades, do what you will.

"As to dark hackle, although I prefer to have but little, I do not dislike that little, provided it be not of a dead black, or painted on, if I may so express myself; but if merely a tinge or stain of a darker hue, I would nearly as soon have it as not. I dislike very much a broken mealy appearance, either in cock or hen, but more especially in the former, which I prefer of a light red, deepening on the saddle. The comb should be indented, but not too deeply; and in both sexes the appearance of sprigs is very objectionable.

"In forming a standard for Shanghaes, we ought to insist on those points that are peculiarly theirs, and to discountenance those that in any way imply the possibility of an admixture with another breed. Take a stubby spriggy comb, a lengthy beak and head, a long neck, a long or clean shank, or a closely-feathered body, and you see qualities that distinguish or are at least found in the Malay, and which should be condemned accordingly in the Shanghae; and more especially as all the *opposites* are found distinguishing the best specimens of that race.

"In neither cock nor hen do I like to see the tail sticking up, but forming a nice agreeable line with the back, or very slightly elevated, and terminating in nice soft but somewhat longer and drooping feathers in the cock; the whole in the hen, from the feathers around it, wearing a much shorter appearance. I object to the

white ear-lobe. A tinge of red on the back of yellow legs, stout, short, and well-feathered, I like."

In preparing the present edition for the press, the editor has sought to avail himself of the experience of the most successful rearers of all the different varieties of poultry; to every breeder in the kingdom whose name and address was known, was forwarded a printed form, on which the characters of the various breeds could be detailed; each form contained the accompanying engraving—having no particular

A, neck-hackle; B, saddle; C, tail; D, breast; E, upper wing-coverts, or shoulder; F, lower wing-coverts, or bars; G, secondary quills (the primary quills, or those attached to the extremity of the wing, are not seen, being folded under the secondary quills when the wing is not in use); H, thighs; I, legs and feet; K, comb; L, wattles; M, ear-lobe.

reference to the variety to be described, but which was merely added as an indication of the various parts.

The number of these that have been most carefully filled up and returned, has been very great,—by far too numerous to enable him even to mention the names of all those to whom he is indebted: he is, therefore, constrained to publish, in the case of each variety, the characters as communicated by one amateur, and to state any difference of opinion that may have been expressed by others. To Edward Hewitt, Esquire, of Sparkbrook, Birmingham, so well known as one of the most honourable and able judges of the day, we are indebted for the following—

CHARACTERISTICS OF BUFF COCHINS.

Size and Weight.—*Cocks.* The larger the better, without coarseness. Some have attained the weight of thirteen pounds and a half; but from ten to eleven pounds and a half are fair average birds; if above the latter weight, they generally possess

some serious defect or other. *Hens*, from eight to ten pounds weight; if they continue healthy and are well fed, they generally increase in weight yearly.

Carriage and Form.—*Cock.* Fine, noble, and very majestic; the breast very broad and flat, forming a straight line from the crop to the thighs; the back short and wide; the tail only very slightly raised comparatively to other fowls; the wings exceedingly short, and held tightly to the sides; the legs, thighs, and saddle unusually large in proportion to the rest of the body. The head is small, and "carried well up" in the male birds. They are somewhat lethargic.—*Hen*, similar to the cock in general character, but the head is carried much lower, and the neatness and fine expression of face is extremely pleasing in really high-bred specimens.

General Character of the Plumage.—*Cock.* Very soft, owl-like, and exceedingly downy, which gives a peculiar softness to the general appearance; they possess a great bulk of feathers, each one being wider across than in other fowls. —*Hen.* The peculiarities of the plumage more marked than in the cock, especially on the thighs and saddle.

Neck-Hackle.—*Cock.* Extremely full, and of a rich but light bay colour, spreading over the base of the wings. It is always desirable there should not be *any* markings on the hackles whatever.—*Hen.* Clear ground-colour, a distinct buff; if no markings, the more approved; a slightly pencilled hackle far *less* objectionable than a clouded one.

Saddle.—*Cock.* Very full and strong, clear of all stain from pencillings of any kind. Cockerels of the year will sometimes moult out perfectly clear at two years old, though imperfect as chickens.—*Hen.* Saddle clear, without any disposition whatever to markings of any kind; colour a clear buff, from the extremity down to the *roots* of the feathers.

Tail.—*Cock.* Very short and compact; if the principal feathers are bronzed in colour, it adds much to their appearance, but a black tail is equally as admissible. The tail-coverts peculiarly brilliant, flexible, and fine.—*Hen.* Tail much less conspicuous than in the male; buff tails the most approved, though generally approaching black in the larger feathers.

Breast.—*Cock.* Clear buff, well furnished with feathers, each one of which is prone to run somewhat lighter in colour towards the tip; but the more *pure* the self-colour throughout, the better.—*Hen* as in cock.

Upper Wing-Coverts or Shoulder.—*Cock.* Clear, but a little darker than the body generally.—*Hen.* The same as the body.

Lower Wing-Coverts.—*Cock.* Approaching to clear deep-coloured bay. If light whilst in their first year, such fowls are apt to become "grizzled" with white after a few moultings: besides, a clear dark-winged cock *always* produces the best-coloured chickens.—*Hen*, same as body.

Primary and Secondary Quills.—Clear buff, without admixture of other colours.

THIGHS.—*Cock.* The strongest in the thighs of any known variety; exceedingly heavy in the feathering; all the feathers sit very loosely, and are peculiarly downy. The knees are all but concealed by these feathers, forming in part what is commonly called "the fluff." The shafts of these feathers are unusually weak and fragile, strongly contrasting with what is termed "vulture hocked"; the latter is not an advantage, but a defect.—*Hen.* These features are far more conspicuous in the hens than their male companions; and in well-grown pullets (on the point of laying) still more particularly.

LEGS AND FEET.—*Cock* and *Hen.* Legs and feet *perfectly* yellow, well feathered down the outside of the legs and the exterior toe; their feathers should be the same self-colour as the body, without any admixture of black or gray whatever. In very highly conditioned birds, the *inside* of the legs and webs of the feet assume a decidedly pinky hue. If short upon the legs, the stronger in the bone the better.

COMB.—*Cock* and *Hen.* Flat comb, evenly serrated; must stand perfectly erect on the head, without any inclination to either side: any curvature whatever is a serious defect.

WATTLES.—*Cock.* Thin, fine, and without coarseness; perfectly florid in colour. *Hen's* the same as the cock's.

EAR-LOBE.—*Cock* and *Hen.* Ear-lobe exceedingly well developed, very long, thin, and fine; in first-rate *male* specimens, I have frequently known it hang as low, or even lower, than the wattles; any disposition to white is a decided defect, it (and the wattles) being exceedingly florid in colour, and perfectly devoid of coarseness. In the hens the same traits of character exist, but not so apparently on a casual observation.

EYE AND BEAK.—*Cock.* Eye of cock "yellow-ochre" coloured; the bill also perfectly yellow.—*Hen.* The eyes of the hen a little darker than the cock's; exceedingly expressive, mild, and docile in general appearance.

The other varieties of Cochins will not require at our hands so lengthened a notice, inasmuch as their general characters are, or should be, precisely identical with those of the best-bred Buffs, differing only in the markings of the plumage. The most important of these varieties are the Partridge and Grouse-feathered, the Cinnamon, the White, the Black, the Cuckoo, the Grey, and lastly, that extraordinary variety known as the Silky Cochin. Originally the tide of fashion set so strongly in favour of the Buffs, that the other varieties were comparatively neglected; the *Partridge* birds, however, have always had their admirers, and deservedly so. At the present time, the best specimens of Partridge are fully equal to the Buffs in character; in truth, they may be described as rather exceeding them in weight, the hens being remarkably square and short-legged. The cocks have a bright-red bay hackle and saddle, which should be without dark markings; the tail bronze green, or greenish-black, with high metallic lustre. The breast of a pure Partridge cock is dark-brown, mottled; but owing to the fact that some of the adjudicators of the prizes at the

various shows have demanded a black breast, such birds have been bred by crossing a Partridge-feathered cock with a Black hen. The quills are generally maroon, the thighs of a dark rich brown, and the colour of the legs darker than in the Buff variety: they should have a gravel eye and a light-brown or horny-coloured beak.

In the *Partridge* hens the hackle has an orange rib with a dark edging; the saddle a rich brown ground, stippled with a darker colour; the tail with still darker stippling; and the breast-feathers should be deeply laced.

The *Cinnamon Cochins*, which are now usually classed with the Buffs at the poultry shows, may be described as being bright orange-chestnut in the hackle, saddle, and shoulders of the cocks; whilst the hens are of a light-brown sienna colour, which is even throughout, except on the shoulders, tail, and wings, which may be a little darker. In the variety of hen termed Silver Cinnamon, the body is pale buff with a darker hackle.

The *Whites* are very beautiful birds; scarcely, however, equaling the darker varieties in size. As exhibition fowls, it is imperative that their plumage should be free from any other colour, and that their legs (which have a strong tendency to become an ugly green) should be of a pale yellow.

The *Blacks* were originally bred by crossing a buff with a white, and an union of these birds will always be found to produce a certain proportion of black birds. The hens are often of an uniform colour, but the cocks are rarely, if ever, seen perfectly destitute of a golden tinge in the hackle. This variety is not in very great favour with amateurs; it is very difficult to get them of a good metallic black resembling that of the Spanish, which surpasses them also in possessing the striking contrast of the white ear-lobe and face, which gives so aristocratic an air to the Dons of the poultry-yard; and, moreover, they do not generally breed true to colour.

The *Cuckoo Cochins* are of a gray colour, resembling the markings of the bird from which they derive their name; they are inferior in character to the buff, and are not likely to come into general estimation.

The *Greys* will be spoken of in the following chapter on the Brahmas.

The *Silky Cochin*, which is of a dark buff colour, and perfectly distinct from the small white silk fowl with dark blue or black skin, was termed, on its first introduction to public notice, the *Emu fowl*. It is simply an accidental variation which not unfrequently occurs, and which may be perpetuated by careful breeding. The cause of the coarse fluffy appearance of these remarkable fowls, is to be discovered in the fact, that the barbs of the feathers, instead of being held together by a series of hooked barbules (so as to constitute a plane surface, as occurs in all ordinary feathers), are perfectly distinct; and this occasions the loose, fibrous, silky appearance from whence the fowl obtains its name.

Silk Cochins are usually inferior in size to the ordinary varieties; they are good layers and sitters, not differing in these respects from the other specimens of the breed from which they have evidently been derived.

Having spoken at some length on the characters of Cochins, we have now to consider their general habits and value as a profitable fowl; to E. Hewitt, Esq., we are indebted for the following notes on this breed:—

"These fowls are of extremely quiet, home-tarrying, and domestic dispositions. A very low fence, of three or four feet high, is quite prohibitory of their straying; hence their advantage where the range appropriated to them is scanty and confined. They are extraordinarily hardy (if not over-fed); the chickens are raised without any difficulty, and they are undoubtedly the very best layers of eggs in winter-time with which I am as yet acquainted. If properly managed, this latter propensity may be so arranged as to yield very remunerative returns. The most lucrative plan I have yet tried, is to obtain some strong and well-grown pullets that will commence laying about November; let these be comfortably housed at night, where they will be but little exposed to the vicissitudes of the weather, and be allowed to have access at pleasure into the same building during the daytime, of which they will *always* avail themselves for protection in case of sudden storms. Liberally supplied with food, if combined with the advantages of a field-run—for they consume a far greater quantity of grass than any other kind of fowls, which lessens the expense of keeping them very considerably—they will then continue laying very freely until about the middle or end of the following March; when, if *profit alone* be the consideration of the owner, they should all then be immediately disposed of, for if retained any longer, it will most undoubtedly curtail very considerably the receipts that have already arisen.

"The cause of this being so, is very easily explained. Every succeeding year of their lives, they commence laying later in spring, being retarded by, and altogether dependent upon, the completion of their annual moult; indeed, I have frequently known some of my old favourite hens that actually have not had their new-feathering altogether restored until after the winter-laying pullets I have just described had *entirely ceased laying*, and even commenced moulting. It is well known how comparatively more valuable eggs are during mid-winter than in the height of summer, even if precisely similar as to numerical amount, whether we view them as matters for sale in general market, or simply for home consumption; therefore, the advantages to be attained by production of eggs in winter, and not incurring any *further* expense from keeping the fowls after they have *ceased* laying, will be easily acknowledged, and need not be further insisted on. I am convinced there is very little, even if any difference respecting the productiveness of the different varieties of Cochins as to their colours; my own impression being, it depends more upon the *quantity and quality of their plumage, and the consequent general warmth of their bodies* during inclement seasons, than from the external colour of their plumage. The secret disclosing why *some Cochins lay so much better than others* is, that those that most abound with 'fluff,' as it is termed, or downy covering towards the roots of the feathers, are comparatively less influenced by sudden changes in the atmosphere; and

maintaining an equable heat throughout the system, they consequently suffer less from temporary hardships; and their laying is therefore unimpeded.

"I am still more confirmed in this opinion from the fact, that the best layers of Cochin fowls I ever yet met with were white ones—a colour generally reputed by those who keep *any kind of live stock* as being the most weakly in constitution. They were the fowls with which I obtained the first prize, or silver medal for Cochins, at our Birmingham Poultry Exhibition in December 1853. They were, however, most extraordinary fowls as to the superabundance of 'fluff,' and were pronounced by the gentlemen who then officiated as judges, 'as very far outvying (in *this* particular feature) any Cochins they had hitherto inspected.' My own opinion is concurrent on that point; nor have I ever seen them equalled since that period, having myself ceased to keep that variety. The Partridge-coloured ones are, as a general rule, especially noted for extreme quantities of feathers, and those I have tested have been good layers; but I have noted the rule as without exception, that diminution of plumage, and a scanty, 'weedy' build, *always* entailed proportionate *decrease* in the number of eggs produced. But, as with all other poultry, none of the Cochins will lay freely if *excessively* over-fed. Undue obesity, throughout all the animal creation, ever counteracts general productiveness; whilst, moreover, Cochin *hens* generally have a direct tendency to increase annually in weight, simply from internal fatness, as long as they live. But there is still another and far more cogent reason why Cochin fowls should *not* be unwarrantably forced by over-feeding. They are peculiarly prone to apoplexy; and, although I attribute many of the complaints under this head that we hear of so constantly, as the result of a folly from endeavouring to force nature beyond endurance, purposely to increase size only, it is equally certain that, in many instances, this has occurred were it could not have resulted from other than natural tendencies.

"Although the largest variety of domestic fowls, they endure the privations ever attendant on really close confinement better than any others; but, in all cases, they must be supplied with full abundance of green food, or they soon become ragged in their feathers, and their general constitution suffers proportionably. Whilst I unhesitatingly admit the superior advantages of the largest sized birds in the exhibition-pen, providing all other points are similar; long and carefully-managed trials prove, most decidedly, that birds of moderate size are the most prolific, whether we consider the number of eggs laid, or their subsequent fertility. It is best to breed from fowls a little darker in colour—more particularly the cock bird—than the chickens you are anxious to procure, as they generally 'breed lighter.' From my own experience, I am of opinion that the male bird has most influence on the colour of the chickens, and that in form and general characteristics they usually follow the female parent. To do well, the young growing chickens, *especially the cockerels*, require high feeding and considerable scope for *exercise*, or they very rarely become superior specimens.

"As exhibition fowls, no doubt the most opportune moment for their owner to hope for success in prize-taking, is the period when the pullets are just about to commence laying their first eggs. If they have been well attended, kept studiously from intercourse with the male bird, and all means used to prevent them laying early, they will then be as perfect in appearance as possible. The countenance of a Cochin pullet at this time of her existence possesses much beauty, that is by no means present in after-life; for at two years old, most Cochin hens appear really careworn and aged; besides which, in very many instances, the comb becomes irregular, not standing in a straight line, but what is technically termed "a waved" comb. Cockerels for exhibition should, if possible, be two or three months older than their companions, or they will certainly appear *comparatively* immature. As a general rule, young Cochins show to much greater advantage than old ones, for I do not know any fowls that seem so susceptible of injury to their plumage; and in very aged specimens the leg-feathers are almost invariably broken and irregular. In breeding chickens, those produced from the eggs of *old* hens, not only acquire their feathers *much more rapidly* than those hatched from the eggs of pullets, but mostly possess more bone, and consequently make larger birds. Old hens, and a one-year-old cock, are therefore the most useful stock birds.

"Cochin fowls are very attentive and indomitable sitters, and usually bring out any chickens that are confided to them very strong; they are apt, however, to lay again too speedily, and desert their offspring before they are sufficiently advanced to be left to themselves. They are, also, by their great weight, subject to more 'accidents and misfortunes' with very recently hatched chickens than other fowls, particularly those most heavily feathered upon their legs and feet."

These valuable remarks of Mr. Hewitt so nearly exhaust the subject, that little more remains for the present editor than to record his own opinion on some points not noticed by that gentleman;—namely, the cost of the keep of Cochins, and their value as table and market fowls.

In the first edition many tables were published, compiled from different authorities, some tending to prove that the cost of keeping Cochins was upwards of fourpence per week each, and others estimating the entire expenditure required as little more than a penny per head per week. As usual, the truth lies between the two extremes. At the average prices of corn, when Cochins are entirely hand-fed, and have not the advantage of the stray grains of the farm and rick-yard, it will be found that they cost each about twopence per week, provided they are confined to a not very extensive run. If, however, they have a free range, they supply themselves with a very considerable quantity of food, as they graze, if the term may be allowed, to a much greater extent than any of the other varieties,—the quantity of clover consumed by them in this way being very large. But with these advantages they still consume much more than smaller breeds would do in the same situation. It is contrary to all experience to imagine that a bird weighing from ten to twelve pounds

can be supported on the amount of nutriment required by one of half or two-thirds the weight.

Their value as a profitable fowl has already been insisted on by Mr. Hewitt; their strong point is their unrivalled excellence as winter layers. The opinion of the present editor regarding their value as table or market fowls, differs from that of his respected predecessors, inasmuch as he places Cochins at a very inferior position in the scale of merit. They have, in fact, many drawbacks to their value: instead of the fine thin bone of the Dorking, they possess coarse spongy bones of a larger size, and of a much greater weight. It is evident that all the food which has been required to form the extra quantity of bone has been uselessly employed, in a profitable point of view. The short-horn steer is not more superior in the quality of its frame-work to the coarse unimproved varieties, than is the Dorking, Polish, or Game, to the Cochin.

The yellowness of the skin and fat is a serious drawback to their saleable value. Again, they accumulate large quantities of fat internally, where it is useless; but on the breast they scarcely fat at all. From their terrestrial habits, the pectoral muscles are very slightly developed; consequently, there is little meat on the breast; and when dressed, the keel of the bone is prominent and ugly. It is frequently remarked that they make up in size of leg what is wanted on the breast. This is true; but it is no recommendation to a table-fowl to develop largely the inferior portions at the expense of the finer parts. In the improved breeds of cattle the best joints are developed, and the inferior lessened in size; there is small bone and very little offal. The same peculiarities should distinguish a table-fowl: it should be as nearly as possible all breast, with short limbs and thin bones. At the same time, the great value of Cochins, as furnishing poultry for home consumption, is not to be denied. They grow rapidly when chickens; they are so exceedingly hardy that they can be reared at all seasons, and in winter with an amount of accommodation under which a Dorking would perish. Broody Cochin hens are always to be obtained; and eggs for sitting are not wanting even in the coldest weather. Their flesh, though inferior in shortness to that of the Dorking, and of a more game-like flavour, is juicy to a high degree. It is frequently said by their advocates, that the pullets are at least equal to other fowls (a tacit acknowledgment that their cockerels are unequal); but it must be borne in mind that there is a tendency in Cochins to produce an extraordinary number of cocks in nearly every brood. Another recommendation they frequently receive is, that the feathers are equal, or nearly so, to those of the duck and goose. If old birds are killed, or chickens after they have completed their autumnal moult, this statement has some weight; but at this period of their lives they are valueless, or nearly so, as market fowls; and if killed at the age when they are in the highest condition, it will be found that the feathers are mixed with *stubs*, containing so much blood, that their value is very small; whereas in a duckling of from eight to ten weeks, the feathers of the breast are perfectly formed, and consequently valuable.

To sum up, it may be stated that the Cochins are most valuable from their hardihood, from the ease with which they are confined in a small space, and the manner in which they bear confinement; from their great prolificacy, in winter especially, from their docility and the readiness with which they sit in any required situation, and at any season of the year; also from the rapidity of growth and size as a family fowl; but as a first-class table and market fowl, it will be found that any attempt to breed them for this purpose will only end in disappointment.

In treating of each variety of fowl, it may be regarded as desirable to allude to a few of the more useful cross-bred birds, which, although generally valueless for exhibition, are frequently useful for table and economical purposes. When Cochins were first introduced, many persons were induced to turn down a cock into their poultry-yard with a view to the improvement of the ordinary farm-yard stock. Never was there a more fallacious idea: a half bred Cochin and common barn-door fowl are about the least useful variety of poultry that can be imagined; gaunt, weedy, stilty, big-boned, angular, yellow-legged birds are the produce of such a cross; and it is only requisite to ask the opinion of the poultry salesmen at Leadenhall, and of the higglers who collect the fowls for them from the country, to know the estimation in which such birds are held.

Many persons who keep laying varieties, such as Spanish, Polands and Hamburgs, as their main stock, employ Cochin hens to act as sitters and foster-mothers, and frequently rear half-bred birds for home consumption. In favour of the first of these crosses little can be said,—the Spanish is a long-legged bird, and this is a character which it is not desirable to engraft upon a Cochin stock. The offspring of Cochin hens running in a yard where Polands and Hamburgs are kept, are compact and short-legged, and are useful as sitters; although the sires are of more incubating varieties. The cockerels serve to supply the kitchen; but they are of course useless for stock birds.

Of the other crosses, that with the Dorking is the only one calling for special attention; and there is no doubt whatever that many of our prize Dorkings have had their size increased by the breed being crossed with Cochins, and then bred back again for two or three generations from the Dorking; in fact, birds with the apertures in their legs from whence the feathers have been extracted, have before now *graced* the first prize pens at some of our poultry shows. To those who feel desirous of trying such experiments, we call attention to an extract from the prize essay on fattening table fowls before alluded to:—

"Should it be deemed desirable to cross the Dorkings for the purpose of producing a hardier fowl, such a plan as the following seems to offer the best chance of success; being based upon the fact, that, in cross-breeding, the pullets usually resemble the mother, and the cockerels the father:—Early in the year, so as to obtain a brood in May, put two or three large Dorking hens with a short-legged, compact Cochin cock, either of the common buff, or of the gray variety known as the

Brahmapootras. From the chicken select those pullets possessing in the greatest degree the Dorking character,—viz. having fine bone, short white legs, and compact body, square on the limbs; and, in the following season, mate these with a good Dorking cock. The progeny thus obtained from them will be three-fourths Dorking, and, if care be taken in the selection, will show very little trace of Cochin blood; whilst the size and constitutional hardihood of the breed would be much improved by the infusion of new blood from the hardiest of races. One caution, however, would be requisite;—if these birds were allowed to breed amongst themselves, they would occasionally throw back to the Cochin; it would be, therefore, necessary to mate the pullets again with a Dorking cock; and, as in all cases of breeding for size and strength, great care must be taken to avoid breeding closely, viz. from birds related to each other.

"Cochins, although of great weight, cannot be recommended as a profitable market fowl: their small breasts, yellow skin, and fat, game-like flavour, coarseness of bone, and length of limb, being much against them; and it is almost impossible to render them fat upon the breast, as they have an unusual tendency to accumulate fat internally. It should be remembered, that unless a fowl has naturally a full chest, it is impossible to put flesh or muscle on it by fatting; for there is this distinction between the flesh of quadrupeds and that of birds, that in the former, the flesh can be increased in size by the intermixture of fat between the fibres, which gives rise to the marbled appearance seen in prime beef. This, however, cannot be done in the case of birds, their muscles being always destitute of fat, which is deposited under the skin, or in the interior of the body only."

The general consideration of the diseases to which fowls are subject, and the best method of treating each complaint, will form the subject of a separate chapter, by which arrangement much needless repetition will be avoided; nevertheless, our account of each variety must be regarded as incomplete, unless some mention is made of the diseases to which they are most prone, and the readiest mode by which they may be obviated.

Cochins, as already stated, have a great and unusual tendency to the accumulation of internal fat; this impedes the action of the respiratory and circulating systems, and the result is that apoplexy supervenes. The mode of preventing this sudden and usually fatal illness is self-evident: it is simply to diminish the amount of food, and to avoid those kinds which, like Indian corn, are of a very fattening character. When internal fat accumulates very largely in the hens, the abdomen becomes quite pendent, nearly touching the ground, and the animal assumes the perpendicular attitude of the Penguin. It is needless to say that such hens are useless for stock purposes.

When heavy Cochins are allowed to roost in houses where the perches are high, or small and angular, they are very subject to an inflammatory affection of the feet, often ending in suppuration; this disease is also apparently not unfrequently caused by the runs being paved with loose sharp-edged stones.

White comb—a skin disease of an obstinate chronic character, which commences by a scurfy whiteness of the comb—is another result of over-feeding, and the employment of food of an unduly stimulating or unwholesome character. They are remarkably free from liability to that pest of the poultry-yard known as roup; and, as chickens, are as hardy and as little, perhaps it would be more correct to say less, liable to disease than any other variety whatever.

CHAPTER VIII.

BRAHMAS OR GRAY SHANGHAES.

In writing the account of the origin of these birds, we are dealing with a subject which has given rise to a vast amount of warm and almost angry discussion amongst poultry breeders; two totally opposite views are taken of their history, origin, and claim to be regarded as a distinct variety. According to one party, they are a totally distinct breed, taken to America from the banks of the Brahmapootra river, in India. On the other hand, they are stated to be simply gray Cochins, differing in colour only from the buff and partridge breeds; or a cross-bred bird between the gray Chittagong (a coarse variety of Malay well known in the United States) and the Cochins. We strongly incline to these opinions for very many reasons. In the first place, there was never a particle of evidence adduced to show that they originated near the Brahmapootra river, or were exported from India. Birds precisely similar to Brahmas were imported into this country from Shanghae along with the earlier importations of buff Cochins; and from them many of our so-called Brahmas have been bred. The first birds of this breed that attracted any notice in this country, were those sent to the Royal Aviary as a present to her Majesty the Queen, by Mr. G. P. Burnham,—a sharp American, who, after making as much money as was practicable out of the prevaling passion for Asiatic fowls, published an account of his transactions in a work entitled "The Hen Fever," Boston, U. S., where he gives the following history of their origin:—

"An ambitious sea-captain arrived at New York, bringing with him about one hundred Chinese fowls of all colours, grades, and proportions. Out of this lot I selected a few *gray* birds that were very large, and consequently very fine. I bred these with other gray stock I had (Chittagongs) at once, and soon had a fine lot of birds to dispose of, to which I gave what I have always deemed their only true and appropriate title (as they came from Shanghae), to wit, that of Gray Shanghaes. I distributed them all over the country; and, finally, it occurred to me to present a few of the choicest to the Queen of England." These birds were accepted by her Majesty; and having been engraved in our pictorial papers, there was a demand for them in

this country; and Mr. Burnham states that "one of the British steamers in the summer of 1853 took out to Europe from my stock, for Messrs Bakers of Chelsea, Baily of London, &c., &c., six cages of these extraordinary birds. The best of the hens weighed from nine to nine and a half pounds each, and three of the cocks drew over twelve pounds each. There were forty-two kinds in all, which probably at that time could not be equalled in America or England for size, breeding, or uniformity of colour." Some of these fowls became afterwards very celebrated. In *The Field* of December 24th was a paragraph respecting the Birmingham Poultry Show, stating that "one pair of these fowls from Mr. Burnham, of the United States, the property of Mr. Baily of Mount Street, were shown among the extra stock, and were purchased from him during the exhibition by Mr. Taylor of Shepherds Bush, at one hundred guineas." Mr. Burnham remarks respecting this statement, which he quotes—"This was the largest figure every paid for two fowls, I imagine! Mr. Baily paid me twenty pounds sterling for the three, and I thought that fair pay, I remember." We have been thus particular in quoting the history of this bird, because it was once well known at our poultry shows as the hundred-guinea cock, and received many prizes as a Brahma. With regard to the fowls sent over to this country by Dr. Bennett, who claimed to be the original holder of the breed in America, and who first entitled them Brahmas, Mr. Burnham remarks—"Never was a grosser hum promulgated than this was from beginning to end. There was absolutely nothing whatever in it, about it, or connected with it, that possessed the least shade of substance to recommend it, saving its name; the variety of fowl itself was the Gray Chittagong,—of this, no one now entertains a doubt: they were the identical fowl, in size, plumage, and characteristics."

If further proof were wanting respecting the identity or close approximation of the Brahma and Cochin, it may be discovered in their osteological character and anatomical peculiarities. It has been remarked that it is a fact universally recognized by comparative anatomists, that the distinguishing characters of nearly allied animals are more strongly marked in the bones of the skull than in any other part of the body. Now, the skull of the Cochin is vaulted and arched, both from before backwards, and from side to side, with a peculiarly marked groove, extending from before backwards on the frontal bone; and, what every anatomist will regard as a character of great value, the long axis of the aperture through which the spinal cord issues from the skull, is the perpendicular one. Now, in these characters the skull of the Brahma is identical; whereas, our ordinary fowls have the long axis of the occipital foramen placed transversely, and the skull wants the distinguishing frontal peculiarities.

At the present time many of our poultry shows have made two classes for these birds; one for the Dark Gray or pencilled varieties, the other for the lighter breeds. In accordance with our plan, by which each variety is described by one of its most successful rearers, we insert the following account of the darker birds, from the pen

of a lady who is well known as one of the most successful authors on all subjects connected with poultry.

CHARACTERISTICS OF PENCILLED OR DARK BRAHMAS.

COMMUNICATED BY MISS E. WATTS, HAMPSTEAD.

WEIGHT AND SIZE.—*Cocks.* Eight to eleven pounds;—may be made much heavier.—*Hens.* Seven to nine pounds.

CARRIAGE AND FORM.—*Cocks.* Square made; full and wide in the chest; carriage dignified.—*Hens.* Square made; full in the chest.

GENERAL CHARACTER OF PLUMAGE.—*Cocks.* The more general the marking on the plumage the better; the gray to predominate; bottom colour of plumage dark-gray; brow protruding, giving breadth to the head.—*Hen.* The more general and regular the marking on back, breast, and wings, the better; bottom colour dark-gray; brow protruding.

NECK-HACKLE.—*Cocks.* Streaked.—*Hens.* With well-defined markings.

SADDLE.—*Cocks.* Streaked.

TAIL.—*Cocks.* Black or nearly so; larger than that of the Cochin-China; and when spread, full and fan-like.—*Hens.* Black or nearly so; larger than that of the Cochin-China.

BREAST.—*Cocks.* Wide, deep; plumage marked with gray, or spangled.

UPPER AND LOWER WING-COVERTS, AND QUILLS.—*Cocks.* With markings to agree with the rest of the plumage; quill feathers black or nearly so.—*Hens.* Plumage of wings marked; quill feathers black or nearly so.

THIGHS.—*Cocks.* Gray.—*Hens.* Gray.

LEGS AND FEET.—*Cocks.* Yellow; well feathered, feathers to agree with the rest of the plumage.—*Hens.* Yellow, and well feathered.

COMB.—*Cocks.*—Triple or pea-comb.—*Hens.* Triple or pea-comb.

WATTLES.—*Cocks.* Medium.—*Hens.* Small.

EAR-LOBE AND FACE.—Red.

EYE.—*Cocks and Hens.* Either pearl or gravel eye. In my opinion, colour and marking in the Brahma should come quite after shape, properties, size, and character.

The lighter breeds have also always had their admirers, and we are indebted to Mr. P. Jones, of Fulham, for the following:—

CHARACTERISTICS OF LIGHT BRAHMAS.

WEIGHT AND SIZE.—*Cocks.* Ten to thirteen pounds.—*Hens.* Seven to ten pounds.

CARRIAGE AND FORM.—*Cocks.* Body very broad across the shoulders behind the wing; chest prominent; thighs set wide apart on the body; body set somewhat square

on the legs, but neck carried well up and arched; broad chest.—*Hens.* Carriage rather waddling; walk well, run ungainly; body square and lumpy.

General Character of Plumage.—*Cocks.*—Abundant, loose, and fluffy, more especially about the breech and thighs; clearest white on surface, with best black markings; inside of feathers and fluff, blue or smoky.—*Hens* same as cock.

Hackle.—*Cocks.* Full and long, each feather tipped or laced with clear black.—*Hens.* Neat and close, each feather tipped or laced.

Saddle.—*Cocks.* Full, but not over-long; marked as neck-hackle.—*Hens.* White.

Tail.—*Cocks.* Full of feathers of a brilliant greenish-metallic black; mossed or silvered; feathers curving outwards from each other.—*Hens.* White,—each feather tipped or edged with black.

Breast.—*Cocks.* Grayish-white.—*Hens.* White.

Upper Wing-Coverts or Shoulder.—*Cocks.* Best white, and most free from yellow or straw tinge.—*Hens.* Best white.

Lower Wing-Coverts or Bars.—*Cocks.* White, tipped with black.—*Hens.* Nearly all black.

Secondary Quills.—*Cocks.* White, tipped with black.—*Hens.* Nearly all black.

Primary Quills.—*Cocks.* Usually the inner portion of the web black; and outer half, white.

Thighs.—*Cocks.* Large, short, and muscular, almost hidden by fluff; light-gray or smoky; shorter the better; wide apart.—*Hens.* Short and very fluffy: this is a great point.

Legs and Feet.—*Cocks.* Short, pale yellow, well feathered to outer toe, which should be short as compared with others.—*Hens.* Same as cock.

Comb.—*Cocks.* If single, not too high; evenly serrated; not extending too far over beak; outer skin fine in texture; pea-comb neatest and best shape, not to fall on one side.—*Hens.* Neat and straight; bright red.

Wattles.—*Cocks.* Very broad; bright vermillion; fine texture.—*Hens.* Neat and fine in texture.

Ear-Lobe.—*Cocks.* Large and pendulous, reaching nearly to bottom of wattles; fine texture.—*Hens.* Bright red.

Eye and Beak.—*Cocks.* Pale yellow beak; gravel eyes.—*Hens.* Same as cock.

To Mr. Jones, well known as one of the most successful breeders and exhibitors of Brahmas of both kinds in their earlier days, we are indebted for the following account of their merits, which we the more willingly insert, as it is counter in some degree to our own opinion; and not only in this, but in all other cases, we are most desirous that the motto, "*audi alteram partem,*" should be that of the Poultry Book. In fact, the value of the work, as one of reference, necessarily depends upon its reflecting, not merely the opinion of one or more individuals, but that of the whole

body of poultry amateurs in general; which, with the assistance so liberally rendered, we may safely promise it shall do.

"The chief points of merit in both varieties of Brahmas consist, first of all, in their hardihood and rapid growth as chickens; cockerels at four months old frequently weighing over five pounds, and early pullets sometimes laying at the same age. If required for culinary purposes, they will be found at this age to possess whiter, more tender, and juicier flesh than Cochins,—will also stand confinement in a small space equally well; but if they have the advantage and opportunity of a run, will forage for themselves much better. In common with their first-cousins, they are most excellent winter-layers, and do not *age* so soon; some hens at four and five years old looking, after moulting, and in a good run, as fresh as two-year-olds. Both the single and pea-combed varieties have their admirers and champions; and while confessing my predilection for the single comb on the score of beauty and individual fancy, must admit that the pea-combs are generally the heavier, although combined with a certain degree of coarseness and ungainliness in form. The light-coloured birds, having nearly white bodies, with well-defined lacing on the hackle, and dark tail and flight, were the original birds introduced to this country; but the dark or pencilled have to some extent supplanted them in public favour: but it is found that they do not breed nearly so true to colour and general characteristics as their lighter brethren. Pea or single combs are met with in both varieties, evidently the result of crossing the strains from different yards."

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THE present Work was undertaken under the impression that a selection of the more beautiful and attractive of our Wild Flowers, with Illustrations of them, would be useful to those who have neither time nor opportunity of consulting larger works on the subject. In order to confine herself within the necessary limits, the Authoress found she could only take the most ornamental Plants, avoiding, as interfering with her other Works, any Flowers commonly found in the Garden, her chief object being to enable the Amateur Botanist, who might find a pretty or interesting flower growing wild in their rambles, to ascertain its name and history. In addition to such details, a few remarks on the botanical construction of most of the plants have been offered, in the hope of inducing such readers as might be unacquainted with Botany to study so charming a science.

The volume presents to the reader almost all the information which is absolutely necessary for a general knowledge of this branch of the subject; the reader will likewise meet here with remarks regarding the great question of education, in which the Authoress indulges the hope that the botanical construction of plants, and the study of the science of Botany in general, may become a branch of general education.

"Nothing, I must confess," writes the Authoress, "would give me more pleasure than to see Botany as commonly taught in girls' schools, as French and music are at present; and I think it more than probable that in another generation it will be so—as, though the Linnæan system was unfit for females, there is nothing objectionable in the Natural Arrangement; and the prejudice against botanical names is every day declining, from the number of beautiful plants exhibited at flower shows, which have no English appellations. I sincerely hope the time may arrive, though probably I shall not live to see it, when a knowledge of Botany will be considered indispensable to every well-educated person."

In the systematic arrangement of the plants, the Authoress has followed Dr. Lindley's *Synopsis of the British Flora*, which few botanical students are without; and few genera are omitted, except such as do not contain any ornamental plants, or only include such plants as are rarely met with growing wild in Great Britain. While the Natural System is adopted in this work, it has also been borne in mind that many books of a leading character are arranged according to the Linnæan system; the Authoress has therefore added the Linnæan class and order of each genus, with a few words explanatory of the terms as they occur.

The volume is illustrated with sixty plates, representing nearly three hundred of the rarest ornamental wild flowers, drawn by Mr. Noel Humphreys, and carefully coloured after his drawings, grouped so as to form bouquets of flowers. The volume contains besides, descriptions of nearly all our known indigenous flowering plants, and a copious index, which completes the general attraction and utility of the work.

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BY MR. HARRISON WEIR,

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MDCCCLVI.

GEORGE C. LEIGHTON'S, CHROMATIC PROCESS.

BLACK SPANISH,

THE PROPERTY OF CAPT. W. W. HORNBY, R. N.

GEORGE C. LEIGHTON'S, CHROMATIC PROCESS.

BLACK-BREASTED RED GAME;

THE PROPERTY OF CAPT. W. W. HORNBY, R. N,

CHAPTER IX.

THE MALAY FOWL.

This is another of the tenants of our poultry-yard for which we are indebted to tropical latitudes, and which, though natives of such a constantly torrid climate, have the power of enduring, uninjured, temperatures so varying, so cold, and so trying as our own.

Malays are natives of the Peninsula from whence they derive their name, the most southern point of Asia, where they still abound, and from whence they are now occasionally imported. We have little doubt that we are correct in sanctioning the opinion that the Malay is the *Kulm* or *Gigantic Cock*, with no other change than such slight ones as are caused occasionally in wild specimens of the gallinaceous races when thoroughly domesticated.*

E. Bond, Esq., of Leeds, writing to us concerning the Malay fowl, justly observes that—"Previous to the introduction into this country of the more quiet and domesticated Shanghaes, whoever required size resorted, almost of necessity, to the Malay blood. They were undoubtedly at that time, if, indeed, with the same attention to breeding and cultivation now bestowed upon their competitors, they would not yet remain, the largest of the many different varieties of poultry known to us; and beyond doubt, taking size, appearance, carriage, and all into consideration, the most majestic fowl we have is the Malay. But a few years ago, these fine breeds formed a feature in most collections of any extent; and it is hoped that they will not be lost sight of in the prevailing taste for Shanghaes and Spanish. In Ireland, especially in the vicinity of Dublin, many fine specimens were kept, and probably some of them still remain."

Mr. J. J. Nolan, of Dublin, was one of the earliest and most successful cultivators of the Malay fowl. "The first," he says, "that I brought to Dublin I purchased in the London Docks. They were brought direct from the Peninsula as good specimens, and were the progenitors of all the fine Malays I have since forwarded to every part of England, Ireland, and Scotland. The cock and hen both were a reddish yellow."

The western districts of Cornwall, especially around Falmouth, abounded some

* Colonel Sykes found the *Kulm* cock domesticated in the Deccan; but he believed it was there introduced from Sumatra by the Mussulmans. He imported two cocks and a hen into England in the June of 1831. They bore the winter uninjured: the hen laid freely, and by September, in 1832, she had reared two broods. One of those cocks measured, when standing erect, 26 inches to the crown of his head. His length, from the tip of the beak to the root of the tail, was 23 inches. In comb, colours, and other points, they resemble the Malay fowl. The hen was one-third smaller than the cocks.—*Zoological Society's Proceedings for* 1832.

few years since with fowls of good Malay blood. Many of these had been landed there from the East Indiamen that were accustomed to make that town their port of call on entering the English Channel.

The following characteristics of Malays are compiled from the forms that we have been favoured with by Mr. Ballance, of Taunton, Somerset, and Mr. Buncombe, of Wellington, well known as most successful breeders and exhibitors of this variety; and also from that of Mr. Hewitt.

In those cases where the opinions of the latter gentlemen agree with that of Mr. Ballance, they are not inserted; when differing, they are printed enclosed in brackets.

CHARACTERISTICS OF MALAYS.

Weight and Size.—*Cock.* Size very large; weight from nine to eleven and a half pounds; when full grown, stands two feet nine inches to three feet high when reaching his food. [From nine to ten pounds, but if still more weighty by far the better; it is only, however, in a few isolated cases that this is attained without depriving the bird of its peculiar gait and characteristics.—Mr. Hewitt.] *Hen.* From seven and a half to ten pounds. [From eight to eight and a half pounds is a fair average for hens.—Mr. Hewitt.]

Carriage and Form.—*Cock.* Long in the neck and legs; very erect in carriage; back always at an angle of 45°, except when eating; appearance, resolute and daring; disposition, thorough game. [Carriage most particularly upright; the wings carried very high and firmly closed, but *not* at all pressed tightly to the sides; they are very bulky across the shoulders, and the wing stands away from the body as in the Carrier Pigeon. The body narrows very rapidly indeed towards the tail, which is drooping nearly to a straight line with the back; the thighs are long, strong, and well developed. The longer and stronger the legs the better, if combined with an easy gait in walking. The head is carried very high; and from the short and very scanty nature of the neck-feathers, the fowl looks much more gaunt and spare than is really the case.—Mr. Hewitt.] *Hen.* Back sloping down from neck to tail like the cock; erect carriage; eagle-like eye; and long in neck and legs. [Form and appearance generally similar to that of the cock; but from the hackles being still shorter in the hen, the extreme prominency of her wings is even more visible than in the male.—Mr. Hewitt.]

General Character of the Plumage.—*Cock.* Short and close, but exceedingly brilliant and glossy; the colours vary as with the Cochin, comprising every variety of colouring—pure white and black, and every intermediate shade. The most esteemed are the Black-breasted red, and the Chestnut mottle-breasted red. [Every feather is peculiarly narrow, and possesses by far *less* down towards the root than that of any other known variety; the feathers, therefore, lie as closely as scales upon each other; and, consequently, should the bird be taken in hand, the fowl always proves much more weighty than the eye anticipated. The extraordinary

lustre of the whole plumage (in well-bred and *high*-conditioned birds) is most astonishing.—Mr. Hewitt.] [Should handle like a Game cock.—Mr. Buncombe.] *Hen.* Plumage short and close, and in some places metallic. [Proportionally compact, and lying closely as in the male.—Mr. Hewitt.]

Neck-Hackle.—*Cock.* Red, varying from bright to dark; somewhat striped in the centre, with metallic green towards the shoulder. [There are several colours. In black-breasted cocks the hackles are dark chestnut. In the Piles (now rarely seen) the hackles are alternately red and white. In all cases, the hackles of the Malay are very horny in their texture, and far narrower than in any other domestic fowl.—Mr. Hewitt.] [In Black-breasted red, dark maroon not surrounding the neck and falling full over the shoulders, but on each side of the neck like a double mane; throat naked, skin red, hard, and pendulous.—Mr. Buncombe.] *Hen.* Very dark reddish brown, occasionally metallic towards the shoulder. [Very slightly deepened towards the extremities in colour, the general ground being chestnut brown. In particular varieties, to match cock for colour.—Mr. Hewitt.]

Saddle.—*Cock.* Dark red or maroon; sometimes bright orange on the under part of the feathers next the tail. [The saddle-feathers are much darker in their shades, but very similar in character and colour, to the hackles; they are also extraordinarily small for the size of the bird, very rapidly tapering towards the points, and altogether leave the impression on the eye of a bare and scanty covering.—Mr. Hewitt.] *Hen.* Colour and character same as other body feathers.

Tail.—*Cock.* Black, with purple and green metallic lustre, in sickle-feathers very rich. [The feathers of the Malay cock's tail are short, narrow, and much pointed at the ends; the principal ones are black, very richly shaded with green. All the feathers are peculiarly hard, shining, and "glossy," and the whole tail hangs much lower than in any other *domesticated* variety.—Mr. Hewitt.] *Hen.* Black. [Tail-feathers short, and the whole very compact; drooping much; and the principal feathers are black.—Mr. Hewitt.]

Breast.—*Cock.* Black is most preferred; but chestnut, and chestnut mottled with black, are very commonly met with in really good birds. [Black, or irregularly spangled with reddish brown; a spot in the centre of the breast destitute of feathers, with the skin hard and red.—Mr. Buncombe.] *Hen.* Brown, but lighter than the back. [In dark birds, the colour of wetted cinnamon; in the lighter varieties, brown.—Mr. Hewitt.] [Naked in centre as cock.—Mr. Buncombe.]

Upper Wing-Coverts, or Shoulders.—*Cock.* Deep rich maroon. [Deep brown, intensely glossy; this latter feature adds very greatly to the depth of colour. —Mr. Hewitt.] *Hen.* Brown.

Lower Wing-Coverts.—*Cock.* Metallic green or purple. [Bluish black.—Mr. Buncombe.] *Hen.* Brown.

Secondary Quills.—*Cock.* Pure brown chestnut.—*Hen.* Brown.

Primary Quills.—*Cock.* Black. [Nearly black.—Mr. Buncombe.] Short,

but extraordinarily strong in the shafts; will bear great bending without breaking. —Mr. Hewitt.] *Hen.* Black or brown.

Thighs.—*Cock.* Same as breast, [but faded towards under side of tail, where this variety is partially bare of feathers; the skin in health being very red and coarse, especially in old specimens.—Mr. Hewitt.] *Hen.* Same as breast, but less bare of feathers.

Legs and Feet.—*Cock* and *Hen.* Pure intense yellow.

Comb.—*Cock.* Not double or single, but a thick fold; generally leaning a little on one side; small and irregular in shape. [Comb small, double, and knotted in appearance, and attached *extremely* close to the head. It is altogether without points, and ends very abruptly on a line with the *back* part of the eye, leaving no terminal "peak" whatever. It should not *rise at all* loosely from the head, but be fixed and immovable, and without any tendency to fall over.—Mr. Hewitt.] *Hen.* Scarcely any; but when developed, resembles the cock's.

Wattles.—*Cock.* Scarcely any, but a profusion of red colour about the face and throat. [Wattles very small indeed, leaving much of the skin of the throat bare and exposed, which, from the extremely scanty nature of the surrounding plumage, becomes a strong feature in this variety.—Mr. Hewitt.] *Hen.* None. [Similar to male, but much smaller.—Mr. Hewitt.]

Ear-Lobe and Face.—*Cock* and *Hen.*—Fiery red. [Ear-lobe very red and rather small; the face very hollow and thin, with eyebrows projecting greatly, as in birds of prey. The whole expression of countenance is cruel, restless, and vindictive. —Mr. Hewitt.] [Expression of face impatient, cruel, and fierce.—Mr. Buncombe.]

Colour of Eye and Beak.—*Cock* and *Hen.* Eye red; beak yellow; in very dark specimens the top of the bill is tinged with black. [Beak yellow, shaded and streaked with dark, strong, and hooked; pearl-eye clear amber-coloured.—Mr. Buncombe.]

In these characteristics, for which we are indebted to two of the first Malay exhibitors, and one of our best judges, there is a remarkable agreement, the only difference worthy of note being that Mr. Hewitt insists more strongly on a central comb that Mr. Ballance considers necessary; and in a minor point, respecting the colour of the eye, Mr. Buncombe differs from both of the gentlemen named.

For the following account we have again to express our obligations to Mr. Hewitt, who states, "I am not aware of any variety of fowls so cruel, oppressive, and vindictive, as Malays; they are literally, when kept with other varieties, the tyrants of a poultry-yard. From their great strength, they speedily do irreparable injury to their opponents, frequently 'treading them down,' and then actually *tearing* them to pieces. They, however, appear rather to rely on their superior physical strength than on their real courage and activity, for I have frequently known an agile, sharp-fighting Game cock (not perhaps one-third their own weight) make them cower

almost immediately, and run into the first corner that offered itself for temporary protection;—but, on the contrary, any want of self-possession manifested by their opponents is certain to be taken advantage of; and with an irresolute cock they will continue fighting with the most pertinacious obstinacy.

"In confined premises they very frequently contract a most injurious habit of eating away each other's plumage, which they continue to so great an extent as eventually to seriously affect the constitution of the fowls thus attacked; constantly plucking away the half-grown feathers (which nature was endeavouring to reproduce), and sometimes, by also eating away large portions of the cuticle, occasioning serious inflammatory disease. The upper part of the neck, throat, second joint of wings, and the thighs, seem to be the points most alluring to birds that have unfortunately contracted this truly depraved habit. I have proved that a more extended range, plenty of green food, and a little very fine bone-dust (mixed with their soft meat), will speedily correct them; indeed, my own impression is that the habit is frequently acquired, where too closely confined, from a spirit of pure idleness, arising from listless inactivity, and at the onset eating feathers that have been accidentally shed, and were lying about in places where they were accustomed to stand to sun themselves. Sometimes when the evil practice has been too long persisted in, the eventually-restored plumage grows quite altered in colour (assuming a dirty gray, or even actual white), giving the bird a piebald appearance, which even natural after-moults will not rectify; for in such cases I have known this party-coloured feathering continue for many years, and until the fowls died of natural decay. For this reason, the more expeditious the means used for prevention, the better; as fowls such as those just described, or those in a state of semi-nudity, are certain of non-success in the exhibition-pen, however perfect in all other traits of character. Malays are especially prone to quarrels among themselves if closely confined, for which reason they not unfrequently prove most troublesome when penned for the purpose of exhibition; indeed, there are but few among our poultry-show committees who cannot look back with feelings of horror at the torn and mangled state of some pens thus entrusted to their care, although previously to their confinement the fowls 'were the best of friends,' and sent in the first instance quite uninjured.

"From this peculiarity, and combined with the well-known fact that few entries are generally made in the Malay classes, some poultry exhibitions have been held where they have been altogether excluded from competition. It is contrary to my opinion that prizes should be thus withheld from a variety of fowls that, despite some failings, are certainly not without many truly good qualities, besides being a *really distinct variety*. When full-grown, they are unusually hardy fowls; and although they produce but few eggs, the *quality* of the eggs is very superior. They are, however, small in comparison to the size of the bird itself; and the extreme strength of the shell is remarkable. Truly-bred Malay chickens are very long in attaining their first feathers, from which cause they are somewhat easily chilled, and

consequently are apt to become stunted and deformed, more particularly in the feet and legs.

"Although extremely long in the legs and thighs, these birds possess breasts, wings, and merry-thoughts that surpass those of most fowls as to general development; and when killed at an early age, the flesh is of good flavour. But the chief advantage of the Malay is to be obtained by using them for cross-breeding with any other of our large varieties. The produce of the Malay and Gray Dorking—*always presupposing that both parents are purely bred*—is a most extraordinary table-fowl, carrying incredible quantities of flesh, *and principally in those parts most esteemed.* The pullets of this cross lay far more freely than Malays, but the chickens (to maintain their gigantic proportions) must be confined strictly to the *first* cross. Chickens thus obtained feather quickly, are hardy, and very easily reared. The best cross is for the *female* parent to be the *Dorking*, as the body of the fowl thus bred is far larger, better covered with flesh, the colour of the skin is whiter, and the flavour superior.

"The cross between the Malay and Cochin is not by any means so good for the table; but these latter are much superior as to the quantity of eggs they produce.

"There are many varieties of Malays; among which, one of the most beautiful I have yet met with is the purely white. They possess all the characteristics of their darker coloured associates; but the striking contrast between their clear unsullied plumage, and intensely yellow beak and legs, brings them into very advantageous notice. These white Malays are most common in South Devonshire; and I am told—although contrary to general rule—they are more easily reared than the dark-coloured ones. A most beautiful breed of 'Red Piles' is obtained by crossing these two varieties: their plumage is extraordinarily good, and by some amateurs they are highly esteemed. The bird called the Kulm fowl is simply a gray variety of Malay; whilst the fowls that have frequently appeared of late at our poultry-shows under the title of 'Indian Game,' evidently possess all the principal characteristics of this class of poultry. Unless frequently crossed to obtain fresh blood, closely-bred Malays quickly lose size so materially that, in a few generations only, they become but very little larger than common fowls; but even when thus degenerate, a couple of years of well-planned and careful cross-breeding (with fowls of their *own* class) at once raises the progeny to the original gigantic standard. They should be renewed frequently, for this reason, at farthest once in three years."

Of the cross-breeds, there is the *Pheasanted Malay*, which we believe to be a cross between the Malay and one of the Golden Hamburghs, or some other of the small varieties of domestic fowl. The cock resembles closely the pure Malay in its head, but the neck-hackle is black, with a green metallic lustre; breast and rump black, tail not strongly sickled; and legs white. The hen has bluish ear-lobes; black neck-hackle, with metallic lustre; rump feathers partridge-coloured, spangled with very dark brown, and the shaft of each feather yellowish; legs white; tail

dark brown, and held very upright; breast light brown, spangled with black or very dark brown. The markings on the breast of the hen, from somewhat resembling those on the plumage of the cock pheasant, occasioned the suggestion that they are a cross between this bird and a Malay hen. It is, however, an error; and the best mode of defacing this mistake would be to change the name to *Spangled Malay*.

The *Chittagong fowl*, we are strongly of opinion, is a cross between the Malay and the Dorking. We have seen hundreds of them in the Indian bazaars, and they bear about them strong marks of their cross lineage. They are usually pencilled or spangled gray in plumage; but we have seen many a mixture of yellow or brown upon the feathers; they have the Malay head and "expression of countenance," but with more of the ample breast of the Dorking; and their legs are somewhat white, but not rarely yellow.

There is no variety of fowl that requires more circumspection in the selection of breeding stock than the Malay, because being of all the known varieties one of those gifted with the fewest points of beauty, if these are deficient the specimens, as we once heard remarked, are "real Guys." Beauty of plumage is the compensation for deficiency in compactness of form; and if they have not a firmness in their gait and an easy carriage, their length of neck and leg is most distastefully apparent. Even Mr. Ballance feels this in his very excellent comments upon this his favoured breed. "Majestic carriage," he says, "and richness of feather are indispensable requisites in this breed; and I know of no breed of fowls, not excepting the splendid varieties of Game, which may not be outshone by this in brilliance and richness of plumage."

"My experience," adds Mr. Ballance, "goes to prove that the male bird has the greatest influence over colour in chickens, and the female over their size. Much, however, depends upon the system of management as to board and lodging."

We have no accurate experiments upon their comparative expense and produce, but find that all who have attended carefully to them agree in thinking that they require no larger amount of food than other varieties, due allowance being made for their superior size. As a table fowl, Mr. Ballance states, "they are quite equal, when properly dressed, to any turkey; and very early-hatched pullets lay in October, and continue laying more or less throughout the winter."

We have in our preceding pages given directions generally applicable to the poultry-house and yard. For Malays no special direction seems requisite, for we have already dwelt emphatically upon the extra importance of low perches for such weighty birds. Malays require, says Mr. Ballance, a large yard and extensive walk, if it is wished to keep them in perfection. The roosting-house, also, should be kept during the night in winter at a temperature of forty-five degrees, if eggs are desired for early spring hatching.

As the evil tendency of breeding in-and-in is apparent in weakness of the limbs,

as well as in defect of form and size, it is even more especially to be avoided in such birds as the Malay.

When, for the infusion of fresh blood, another cock is to be introduced into the yard, Mr. Ballance recommends that this should be done during the autumn, "that the hens may be accustomed to him before spring commences."

Malays lay a moderate sized egg, averaging about two and a-half ounces in weight. The shells usually are slightly coloured—a pale chocolate. The size and colour, however, vary, for Mr. Ballance has "pullets of last year laying eggs equal in size to those of any description of duck; and hens two and three years old which lay an egg very little larger than a good-sized bantam's egg. Some, too," he adds, "are as white as a Spanish hen's egg, and others from a light cream to a deep rich buff, and even to a brown. As a general rule," he observes, "the light brown birds are produced from the darkest eggs, and the dark brown birds from the cream-coloured or paler eggs."

If a hen of any breed is in health, we incline to agree with Mr. Ballance, that, though it may vary in size, yet her egg is always of the same shape. "So true is this rule," he adds, "that I can always decide when an egg is brought to me which hen has layed it."

They are not the best layers, but still, if well fed, they certainly are of average merit in this respect. In this opinion we are sustained by that of Mr. Bond, who adds this additional praise:—"Upon an average there will be fewer unproductive eggs among a given number than among the same number layed by any other hen under the same treatment. The Malay hen usually begins laying in March, and lays about twenty-four eggs in as many days before she shows any inclination to sit. Young pullets may be brought to lay at the beginning of winter, but the produce from very early eggs, if chickens are wished for, are very difficult to rear, and such forced laying is injurious to the size of the pullets."

The Malay hen sits closely and well, failures in the number of her brood rarely arising from any defect on her part. She is also exceedingly attentive to her chickens, although her great weight and long legs render it necessary to watch her for the first few days after hatching, lest she should crush any of her progeny whilst small and weakly. Such accidents, however, may generally be prevented by giving her abundance of room. Mr. Ballance says that the Malay hen requires a very large nest box, at least twice the size needed for ordinary hens. If this point be not attended to, many of the eggs will be broken by the hen during incubation.

Like those of Cochins, the chickens feather slowly, and therefore no brood should be hatched after June, otherwise the cold and variable weather of autumn comes upon them before they have the defence of a sufficient plumage. The management directed for Cochins, applies equally well to the Malays. The chickens are not difficult to rear, but are gawky, long-legged creatures until they have attained their full growth, and then fill out or "square up."

CHAPTER X.

THE GRAY OR COLOURED DORKING FOWL.

THE Dorking might be much more correctly designated the *English Fowl*, the probability being that they are either lineal descendants, with various intermixtures, from those which our British forefathers bred at the time when they first became intimately known to the Romans; or that they are similarly descended from fowls introduced by those conquerors of our island.

From Cæsar we learn that the Britons had abundance of cattle; and among the animals which they had domesticated were hens and geese, which they bred merely for pleasure, the Druidical religion forbidding them to be employed as food.—(Comment., l. v. c. 5.)

It is in vain to endeavour to follow their origin further; but those who would trace our gallinaceous birds to an eastern source, will take comfort from the certainty, or all but certainty, that the world's merchants in the days of Solomon—the Phenecians—visited the British Islands, the Cassiterides, for their tin. These merchants, who brought goods to exchange for it, seeing the Britons' fondness for domestic poultry, may have brought fowls to barter for the metal.

On the other hand, there is strong evidence that this breed may have descended from fowls imported here by the Romans; for the description of the Roman fowls, given by Columella, is applicable to our own Dorkings. "It is not advisable," he says, "to buy any but such as are very prolific. They should be of a plumage very red or tawny, with black wings. Let the whole be of the same colour, or of a near approach to it. But if of any other colour, let white fowls be avoided, for they are tender and less robust; neither is it easy to find specimens of them that are prolific. Let the breeding hens be of a choice colour, of robust body, square framed, large and broad breasted, large headed, with small, erect, bright red comb, white ears; and of those thus characterized let the largest be procured, and not with an equal number of claws. Those hens are reckoned of the purest breed which are five-clawed, but so placed that no cross spurs arise from the legs; for she that has this male-like appendage is rarely fruitful; and when she does sit she breaks the eggs with her sharp claws.

"The cocks should be lustful; coloured like the hens; with the same number of claws, but taller; proud of carriage; combs erect and blood-red; eyes brown or black; beak short and hooked; ears very large and very white; wattles looking whiter from their shining, and hanging down like a hoary beard; the feathers of the

neck or mane varying, but preferably from yellow to golden, and spreading down over the shoulders; the breast broad and muscular; the wings brawny, like arms; the tail lofty, and composed of a double row of arching feathers, alike on each side; the thighs ample, and usually thickly clothed with coarse feathers; legs sturdy, not long, but armed as it were with dangerous spears. Even when neither prepared for fighting, nor for the triumph of victory, their temper should be shown to be highly generous, haughty, active, watchful, and given to crow often, also not easily alarmed; for sometimes it will be needful for them to repel attacks, and to protect their conjugal flock."

The Romans probably weakened the prejudice of the Britons against eating the domestic fowl; and as it is well known they strove to improve the British farming and gardening, so it is more than reasonable to conclude that poultry shared in the effort. As already observed, the Dorkings share the five-toed excellence that characterised the most esteemed fowls of Rome.

We have sought for information as to the time when Dorking and its fowls first became noted, but our inquiry has been fruitless. When Camden wrote his "Britannia" in 1610, Dorking was so inconsiderable as not even to be mentioned by him, and in his map of Surrey it is marked as a mere village. It is probable that the soils in that neighbourhood, sand and chalk, which are particularly favourable to the rearing of chickens, may have led to particular attention to poultry culture. At all events, a century ago the fame of Dorking poultry was established; for a writer in 1763, who evidently knew the neighbourhood well, says:—"An incredible quantity of poultry is sold in Dorking, and they are well known to the lovers of good eating for being remarkably large and fine. I have seen capons about Christmas which weighed between seven and eight pounds each, out of their feathers, and were sold at five shillings a-piece."—(Gentleman's Magazine, xxxiii. 221.)

The district in which they are now most extensively bred is that portion of Sussex bordering on Surrey, which includes Handcross, Bolney, Cuckfield, and West Grinstead; and this fact probably induced Mr. Arthur Young to conclude that Sussex is their place of origin. The breed now known as the *Sussex fowl* has only four claws, and is a less compact though larger bird than the true Dorking, which it otherwise much resembles.

The possession of the fifth claw being regarded as an essential characteristic of the so-called Dorking, breeding-stock were selected with a view to the retention of this additional member; and hence the present improved Sussex fowl, thus furnished with the extra limb, has gained the same appellation as the old white Dorking.

Previous to entering into any detailed account of the different varieties of this renowned breed, we will first give the characteristics of that most in request at the poultry shows, and known as the Gray Dorking; again having to express our obligations to Mr. E. Hewitt.

THE CHARACTERISTICS OF GRAY DORKINGS.

WEIGHT AND SIZE.—*Cock.* Size the larger the better, if not coarse in general appearance; weight of a first-rate cock, about ten pounds.—*Hen.* Size as in the cock bird; the weight varies from six and a half to eight and a half pounds; at the latter weight they very rarely breed well.

CARRIAGE AND FORM.—*Cock.* Very heavily and squarely built; broad in the shoulders; very full tails, and wider across the breasts than any other variety of domesticated fowls.—*Hen* as in the cock.

GENERAL CHARACTER OF THE PLUMAGE.—*Cock.* Plumage somewhat soft to the touch, but very abundant.—*Hen.* Same.

NECK-HACKLE.—*Cock.* In the greatest abundance; the colour silvery gray throughout, although many of the very best birds I have yet met with of this description had a narrow black line down the centre of the hackle, which contrasts rather favourably with the lighter edge.—*Hen.* Either dark or light gray, but in show-pens must "match" the cock birds.

SADDLE.—*Cock.* In all cases should be extremely full, as it adds very much to the apparent weight of the specimen; in colour closely approximating to the hackle feather.—*Hen.* Grizzled gray.

TAIL.—*Cock.* Tail full and black throughout, though in Gray Dorkings the admixture of a little gray or white will not disqualify for exhibition. The side covert-feathers are very wide and long, and give much character to the bird.—*Hen.* Tail full and black, sometimes tinged with brownish gray.

BREAST.—*Cock.* Jet black is preferred for the breast, but many of the most excellent cocks are slightly spangled with gray or white; both are admissible.—*Hen.* Ruddy-breasted most approved, but light gray matches the mottle-breasted male. The former are usually called "robin-breasted."

UPPER WING-COVERTS OR SHOULDER.—*Cock.* Silvery gray.—*Hen.* Freckled gray.

LOWER WING-COVERTS.—*Cock.* Same as shoulder, but a little darker.—*Hen.* Clear dark-freckled gray.

SECONDARY QUILLS.—*Cock.* Silvery gray.—*Hen.* Freckled with deep brown.

PRIMARY QUILLS.—*Cock.* Black, somewhat slightly grizzled with white.—*Hen.* As in cock, but somewhat freckled with brown.

THIGHS.—*Cock.* Black or speckled, the *first* most approved for exhibition; the thighs are heavy and strong.—*Hen.* Grayish brown.

LEGS AND FEET.—*Cock.* Perfectly white throughout, the extra toe well-developed, and turning upwards from the posterior one; these toes should be well divided down to the legs, forming two *distinct* toes, and not a *double* toe. In very good birds the upper hind toe will be six or eight times the size of the under one. The legs must be free from feathers of any kind.—*Hen.* As in the cock bird, white. Some hens spur greatly, even at a very early age.

Comb.—*Cock.* The flat or single combs on cocks should stand erect. Either rosy or flat-combed are equally admissible in Gray Dorkings; the rosy-combed birds are, however, most prone to be coarse in general character. As to what are called "cup-combs," and other variations from the usual rosy and single combs, they are disapproved.—*Hen.* Flat combs should lop over. Either single or rosy combs equally admissible; but the single combs are decidedly the neatest looking, especially in old birds.

Wattles.—*Cock.* Wattles large, but not flaccid; they should be perfectly florid throughout, and firm in appearance, also to the touch if handled, otherwise "condition" is absent.—*Hen.* As in male.

Ear-Lobe and Face.—*Cock.* Pure red both in face and ear-lobe, fine and neat-looking.—*Hen.* Ear-lobe and face pure red throughout, regular, and not coarse.

Colour of Eye and Beak.—*Cock.* The eye of cock red; slightly tinged with brown. Bill, white.—*Hen.* The eye of hen a reddish brown. Bill, white.

Nearly related to the Gray Dorking above described, is the variety having the saddle and hackle in the cocks of a bright straw colour, with a dark midrib to each feather; the lower wing-coverts forming a dark bar across the wings. We have been favoured with descriptions of this variety by Lieut.-Colonel the Hon. C. H. Lindsay, and other amateurs; but the points of difference are not sufficiently numerous to require the descriptions to be printed at length.

The Red Dorking cocks, whether black or speckle-breasted, are characterised by the red saddle and hackle; the hens to match them being speckled with white on a reddish-brown ground.

The Cuckoo or Blue-mottled Dorking, so called from the resemblance of the markings to the transverse bars on the breast of the cuckoo, is remarkable from having nearly similar markings in both sexes, allowance being made for the difference in the texture and form of the feathers. To Mr. Elgar of Reigate, one of the most ardent admirers of this variety, we are indebted for the following account of their merits:—

"There is also another variety of the Dorking which has become scarce—the Blue-mottled, or, as called by some, Blue-shells, and by the fanciers Cuckoo, although this last name is not much known in this neighbourhood. These are larger than the White, and, in my opinion, can challenge any variety for quality of flesh. I have heard it remarked by many old countrywomen, who have fattened fowls many years for market, both farmers' wives and cottagers', that the Blue pullets are the best and earliest to fatten of all the coop. Some may object to this variety on account of not reaching the great weights attained by the dark birds; but in my opinion they quite compensate for this by their superior quality and beauty. These birds I consider to be the old Dorking Grays, and with care and moderate feeding will, I doubt not, prove one of the most profitable varieties of the Dorking fowl. I have kept the large dark variety for some years, and found them, when very large,

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"Nothing, I must confess," writes the Authoress, "would give me more pleasure than to see Botany as commonly taught in girls' schools, as French and music are at present; and I think it more than probable that in another generation it will be so—as, though the Linnæan system was unfit for females, there is nothing objectionable in the Natural Arrangement; and the prejudice against botanical names is every day declining, from the number of beautiful plants exhibited at flower shows, which have no English appellations. I sincerely hope the time may arrive, though probably I shall not live to see it, when a knowledge of Botany will be considered indispensable to every well-educated person."

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MDCCCLVI.

GOLDEN-SPANGLED HAMBOROUGHS.

THE PROPERTY OF MR. WORRALL, OF KNOTTY-ASH HOUSE, NEAR LIVERPOOL.

LEIGHTON, BROTHERS', CHROMATIC PROCESS.

GOLD AND SILVER LACED BANTAMS.

THE PROPERTY OF MR. HEWITT.

very delicate in constitution, and liable to disease. The Blue-mottled variety are both double and single combed; the single are rather the largest. There are a few double-combed Blues kept in the neighbourhood of Dorking; they are small, not any larger than the White variety, and are very frequently imperfect in the claws, either four on one foot and five on the other, or only four on each foot. Some of the Blue variety have yellow hackles, especially the cocks when old birds. I do not consider a good cock, if old, should have any other than silver-gray hackle and wing-feathers. Most of the Dorkings being reared for market, but few persons have hitherto paid much regard to colour, as they frequently have a black-breasted cock with gray hens, and, indeed, with every variety of colour."

With regard to the general management and profitable characteristics of Coloured Dorkings, Mr. Hewitt has favoured us with the following remarks:—

"There is not a doubt that coloured Dorkings are decidedly the most useful of all fowls for general table-purposes; as not only is the flesh of extremely good quality, but it is produced in far greater abundance than in most varieties. Another very important point in consideration of the Gray Dorkings is, that the greater proportion of the flesh will be found on those particular parts most generally esteemed — viz. the breast, wings, and merry-thoughts; hence they carve to especial advantage. They also grow rapidly, and carry good condition at almost any age, if at all freely supplied with food. As layers, many are better; and they are fowls that do not thrive well without a good and extensive grass-run. The chicks are delicate youngsters to rear, particularly unless the subsoil is remarkably dry and warm: this will at once account for their unvarying success on chalky soil. In consequence of their great weight, they frequently, when aged, become quite lame and distorted in the feet and toes, from injuries producing eventually corns and even abscesses: these are most difficult to cure, if of long standing; but as a preventive, low perches are absolutely essential: they should never exceed two or three feet from the ground. Dorkings degenerate most rapidly in size and character from inter-breeding; and from this cause, 'fresh-blood' should be frequently introduced, or the most speedy and vexatious disappointment will *certainly* ensue.

"In the selection of birds for showing, pains should be taken to ensure uniformity of colour throughout the pen; and monstrosities of conformation in the legs or feet must be scrupulously avoided. As these are frequent in otherwise good Dorking fowls, I will briefly point out a few I have met with. I have seen a faultless pen in other respects, in which a cock was placed with *three* hind toes on *each* foot; on another occasion, a male with the spurs growing directly *outside* the legs; whilst in a third I have known competing at various public exhibitions, the two back toes were both situate *midway in the leg* (between the knee and foot), although the toes themselves were perfect. Grossly enlarged toes or feet are decided imperfections, and should be avoided in competition, although sometimes present in particularly good 'stock-birds.' The *dark grays* are generally the most weighty hens

in the hand, but from being more closely feathered deceive the eye; my own conviction respecting them is, they are naturally the most hardy in constitution. Abundant plumage tells favourably on Dorkings for exhibition, adding greatly to their 'squareness' of appearance and size at *first* sight; but, to be fairly judged, Dorkings *must be handled.* These fowls should not have heavy, clumsy heads, but neat, compact combs, moderate in size, whatever their variety (rosy or flat); wattles neither coarse, loose, nor flabby; the combs should stand well on the top of the head, a lounging heavy comb looking very unsightly, although too often (by far) seen among our first-class competitors. 'Condition' is really all-important with Gray Dorkings for exhibition; unless that is tolerably good, few fowls look so very disadvantageously as they do, nor do any disappoint the anticipations of their owners more generally. If frequently competing, they mostly lose both health and weight very rapidly, as they endure close confinement but indifferently. In the present day (when weight is considered a great desideratum), many Dorkings have been irretrievably spoiled from over-feeding, so as to be quite unserviceable afterwards for general and useful 'brood-stock.'

"In this state of undue obesity, they cannot breed well, neither should it be encouraged by parties who wish rather to increase their stock than make idle boast of the attainment of great weights in isolated individuals; carefully withholding mention, however, of the comparatively numerous instances in which apoplexy has been induced, and their folly been repaid by the sudden death of highly valued specimens. No doubt the extreme delicacy of constitution now so universally complained of among Dorking chickens *whilst young* is mainly attributable to the emaciated health of their progenitors; and in support of this opinion I have invariably found, that the less artificially they are reared, and the more generally the parent-fowls are allowed to take their 'own luck,' the more rude health has been displayed by the offspring, and the quantity surviving been increased in due proportion.

"Much controversy has been maintained respecting the most approved conformation of the combs in Gray Dorkings as exhibition fowls; nor have either the rosy or single-combed specimens lacked strenuous supporters. Being essentially, beyond all others, 'the fowl for the table,' I willingly acknowledge I have not any prejudice whatever in favour of either variety, as regards *this particular feature;* and will confine myself altogether to my own individual experience as to a striking difference, at once perceivable, in the generality of cases that have been placed before me for supervision at our various public poultry shows.

"The rosy-combed fowls almost invariably maintain a superiority for strength of build and massive proportions; but unfortunately this has, in the generality of cases, been combined with a uniform *coarseness* of character, that told fearfully against them on the prize-lists. Still, this serious drawback is not universally prevalent; the rosy-combed birds readily produce single ones, and *vice versa;* but the desired character may be pretty closely perpetuated by carefully breeding for

successive generations from either one of these varieties *exclusively*. For the reason before assigned, the rosy-combed Gray Dorkings 'show' to *most* advantage during their *first* year, compared with their condition when advanced in age. For the guidance of any inexperienced exhibitor, it is well to mention that the rule is strictly imperative that all the fowls in the same pen must be *alike* as to combs, for otherwise, however good in other respects, their defeat is certain and inevitable."

There remains but little for the present editor to add to the valuable remarks of Messrs. Elgar and Hewitt, unless it be to record his own opinion respecting the origin of this valuable table breed, which is decidedly in favour of the view that they are a composite fowl; deriving, in all probability, their size and aptitude to fatten from the large Surrey or Sussex fowl; their fifth toe and rose-comb, when present, from the old Dorking. In this opinion he is borne out by Mr. Elgar, who has paid much attention to the various strains of Dorkings, and who states—"In my opinion, the true old Dorking has been crossed with the four-toed Sussex or Surrey fowl, and has produced a breed which is superior in size and quality to almost any other as a table-fowl." This composite character of the breed is perhaps the reason why so much care is required to breed them true to colour, or even in many cases to comb. It is singular that the English table-fowl, the Dorking, and the French table-fowl, the Creve Cœur, should both be, as they evidently both are, composite breeds, in which, during a long series of years, the object of the rearers has evidently been to obtain a first-class table-fowl by breeding from any bird likely to improve the original stock. At the present time one of our most successful agriculturists, whose name is a "household word" amongst scientific farmers, has got together a renowned breed of Dorkings of great size, evidently the result of such a system of cross-breeding as was described in the chapter on Cochins.

As Dorkings are by pre-eminence, in this country at least, *the* table-fowl, it may be desirable to enter into a consideration of the best method of fattening them; the following account is therefore taken from the "Prize Essay on Fattening Fowls," by Mr. Tegetmeier.

"In rearing fowls for the market, the early treatment of chickens is of the highest importance; they should be warmly sheltered and housed, and moreover fed most liberally at very short intervals. If a chick receives a check in its growth at an early age, it never afterwards attains a large size, as the bony frame becomes set, and a stunted growth is the inevitable result.

"With good and abundant feeding, and the advantage of a free run, in favourable weather, Dorkings will become fit for the purpose of fattening at the age of three to four months in summer, and four to five or six in winter. In order to be in the highest perfection, fowls must be killed before they have arrived at their full development: the male birds should be taken when the sickle-feathers of the tail begin to show; or, as the countrywomen say, 'when their tails begin to turn;' and the females while still pullets—viz. before they have laid.

"The house in which poultry are fattened should be free from draughts of cold air, and kept at a moderately warm and uniform temperature; the roof, therefore, if of tiles, should be thickly lined with straw. Quietude being so especially desirable, it should be so situated as not to be accessible to those fowls at liberty: and it should be partially darkened, if possible. It is also important, in the highest degree, that it should be perfectly dry, as it is scarcely necessary to add that a fowl suffering from cold and inflammation is not likely to fatten.

"The fatting coops should be two feet six or eight inches high in front, and about two feet deep, with a boarded roof sloping backwards; the back and ends should be closed, and the bottom made of flat bars with rounded edges, two inches wide at the top and narrower beneath, so as to prevent the dung sticking to the sides. These bars should run from end to end of the coop (not from back to front), and they should be two inches apart on the upper sides. The front of the coop should consist of rounded bars, three inches apart; and two rods connected together below, and sliding through holes made in the roof, will be found more secure than a door. Before the front should run a ledge to support the feeding troughs, which are best made by joining two pieces of wood at a right angle, and securing the ends by letting them into grooves in stout end pieces.

"The fatting coops should stand on legs, to raise them a convenient height from the ground, so that the dung may be removed daily; the most scrupulous cleanliness must be observed, otherwise disease will be produced. The coops, therefore, should be frequently lime-washed (with freshly-slaked lime and water), and then thoroughly dried before a fresh batch of fowls is introduced.

"In cold weather, the front should be covered up with matting, or some other warm material, at night.

"The length of the coop must depend on the number of fowls that it is required to contain; but it is never advisable to place more than ten or a dozen together; and if strange fowls are put up, care must be taken that they agree well together, as otherwise the constant excitement would prevent their fatting.

"It occasionally happens, that fowls are infested with lice to such a degree that they become irritable, and refuse to fatten; in these cases, a little flower of brimstone dusted under the feathers, before cooping them, immediately expels the vermin.

"The food usually selected for fattening poultry is oatmeal mixed either with scalding milk or water; the cause of the superiority of this meal over that of barley has already been stated. Cooped fowls should be supplied with fresh food three times daily—namely, at daybreak, or as soon after as possible; at midday; and again at roosting time. As much as they can eat should be given on each occasion, but no more than can be devoured before the next meal: should any be left, it should be removed and given to the other fowls; as, if kept, it is apt to become sour, when the birds will not eat it freely. The troughs for the soft meat should be scalded out daily, which can only be done conveniently by having a supply of spare ones.

"In addition to soft food, a supply of fresh clean water must be constantly present, and a little gravel must be given daily, otherwise the grinding action of the gizzard, which is necessary to the due digestion of the food, does not go on satisfactorily; the supply of a little green food will be found very advantageous to health; a little sliced cabbage, or some turnip-tops, or a green turf to peck occasionally, being all that is required.

"A variation in the diet will be found very conducive to an increased appetite, and therefore the occasional substitution of a feed of boiled barley, for the slaked oatmeal, is desirable. Some feeders have a division in their troughs, or, still better, a small extra trough, which always contains some grains for the fowls to peck at.

"Should the birds be required very fat, some mutton suet or trimmings of the loins may be chopped up and scalded with the meal, or they may be boiled in the milk or water preparatory to its being poured over the food; the fat of fowls so fed will be found exceedingly firm.

"An objection to this mode of fatting will probably be made, namely,—that it is expensive, owing to the cost of oatmeal. In the yard of the writer, this objection has been removed by the partial substitution of the finest middlings for oatmeal. The plan adopted is to bake the middlings dry; and when made as hot as possible, without burning, cold water is added, so as to make the whole a crumbly mass. When it is borne in mind that the constituents of fine middlings are nearly the same as those of oatmeal, its value as a fattening food must be admitted; and the writer, from long experience, can speak very decidedly as to its utility when used in conjunction with oatmeal.

"In the course of about a fortnight to three weeks, at the utmost, a fowl will have attained, under this system of feeding, the highest degree of fatness of which it is capable, and it must then be killed; for if the attempt be made to keep it any longer in that state, it becomes diseased from an inflammatory action being established, which renders the flesh hard and even unwholesome.

"When the fowls have arrived at a state fit for killing, they should be kept for twelve to fifteen hours without food or water, in order that the intestines may be as empty as possible, otherwise the bird turns green and useless in a short time; this is readily managed by killing the bird before feeding-time in the morning.

"In cramming, to which unnatural practice the writer has never found it necessary to have recourse, the usual plan is to mix the oatmeal rather solid, with milk or water, and to roll it into small sausage-shaped masses, the size of the finger, and about two inches long; half a dozen of these are taken, and having been dipped in some liquid, as milk, are placed one after the other in the back part of the mouth of the fowl, when the beak is closed, and the mass gently assisted down the throat by the latter being stroked by the hand, before a second is inserted.

"The birds are crammed in this way two or three times a day, care being taken to ascertain, by gentle handling, that the last meal has passed through the crop;

should this not be the case, more is not given, but some lukewarm water is poured into the mouth to loosen the hardened mass, and prevent the bird becoming crop-bound, an evil which would render it useless for the table.

"The fattened Dorkings prepared for the London market by the plans above described, are frequently termed capons, but incorrectly, as the operation of caponizing has not been performed on them; in fact, it is not required, if the birds are cooped before they have arrived at maturity; and the extremely severe nature of the operation in fowls, as compared with the corresponding one on quadrupeds, renders it attended with so much risk and loss, that it is very seldom practised in this country."

In another point, also, Dorkings have a great advantage as a table-fowl—namely, in the early age at which they arrive at an eatable size. To meet the requirements of the chicken classes at the summer poultry shows, early maturity has been one of the chief points aimed at by the breeder; and the result has been a great improvement in this respect. At the same time, the Editor is compelled to observe, that it is his deliberate opinion as an old Dorking breeder, and an opinion which he knows is held also by some of the most successful exhibitors of the present time, that a very considerable proportion of the Dorkings exhibited in the chicken classes at the early summer shows, are hatched in the previous autumn; he has seen so-called Dorking chickens of the same year, laying in their pens in exhibitions held the first week in June, and others beginning to moult during the same month. The circumstance that, owing to the quarrel between two dealers, the fact was made public, that certain celebrated prize Dorking chickens were hatched in the September of the previous year, must still be in the recollection of a great number of our readers.

As in the case of Cochins, it may be regarded as desirable to allude to a few of the more useful cross-bred birds originating with this variety.

The cross-breeds between the Dorking and the Cochin and Malay, have already been described, and their economical value insisted on. The only additional cross calling for any special notice, is that between the Dorking and the ordinary mongrels, that constitute what are usually termed Barn-door fowls. These may be vastly improved, and rendered much more valuable as market poultry, by the introduction of a good Dorking cock into the farm-yard; in the following year, serviceable pullets of compact shape, short on the legs, should alone be retained for stock, and the old Dorking exchanged for a fresh bird not related to the first. By following this plan for a third year, the chickens will have become seven-eighths Dorkings; and at a very small expense and trouble, a farm-yard of worthless, bony, and useless unsaleable stock may be converted into really valuable marketable birds.

The diseases to which Dorkings are peculiarly subject, are the chronic inflammation of the foot, known as bumble-foot, and which is most readily prevented by broad low perches, and the absence of rough stones from the run; and a tendency to lay

soft eggs, arising from unnatural food or excitement. The treatment of both will be duly described in the chapter on the diseases of fowls.

CHAPTER XI.

THE WHITE DORKING FOWL.

THE opinion of the present Editor is so strongly in favour of the view that the White Dorking, as generally known, is a perfectly distinct variety from the Gray or Coloured, that he unhesitatingly assigns it a separate chapter. The grounds for this opinion may be briefly stated. The size of the White Dorking is much less than that of the Coloured; the general form and carriage are totally distinct. The White, if pure, invariably breed true to colour, which would not occur if they were an Albino variety of the Coloured breed, in which case they would occasionally produce some coloured chickens. Lastly, the osteological characters of the skull are not identical in the two varieties.

Some years since, when the Editor was a rather extensive breeder of Dorkings, he endeavoured to rear a White variety from the Coloured birds, and with very considerable success; but in this case, the distinction between the two breeds was even more evident. As stated in the last chapter, the White Dorking is in all probability the original breed, and the Coloured a composite fowl produced by crossing it and the large Surrey or Sussex breeds.

For the characteristics of this variety, we are indebted to one of its most successful exhibitors—Mr. Clift of Dorking, who has for a length of time been sedulously engaged in improving the size and general character of this very beautiful and striking breed.

THE CHARACTERISTICS OF WHITE DORKINGS.

COMMUNICATED BY MR. CLIFT, OF DORKING.

WEIGHT AND SIZE.—*Cock.* About 9 to 10 lbs.—*Hen.* 7 to 8 lbs. These birds had much degenerated, but are now yearly increasing in size and beauty.

CARRIAGE AND FORM.—Bold and upright, having much the bearing of the Game.

GENERAL CHARACTER OF THE PLUMAGE.—A pure white, without a single false feather; the purity of the breed bearing the test of always reproducing the same colour.

TAIL.—*Cock.* Large, having a full round sweep.

BREAST.—A full prominent breast; more so in this variety than in any other class.

LEGS AND FEET.—The legs should be quite white. Birds should be chosen

with large legs, as the body will almost always be found to be in proportion; the claws should be five on each foot, and well developed.

Comb.—Birds may be equally pure with either single or double combs; but in the White Dorking, preference is generally given to those with double combs, which should be evenly serrated, and pass over the back of the head, terminating in a single point.

Ear-Lobe.—Ear-lobe white as in the Hamburgh.

Beak and Claws.—Beak and claws a good white.

The only point requiring notice in the other descriptions with which we have been favoured, are, that in general the weight of these birds is stated to be from one pound and a half, to two pounds less; but the statement of Mr. Clift that, until the recent impetus given to poultry-keeping by the exhibitions, these birds had much degenerated, and are now, by careful selection in breeding stock, yearly increasing in size and beauty, is borne out by several old breeders, to whom we have made reference. Mr. Higgs of Southampton, formerly also a very successful exhibitor of White Dorkings, differs slightly from Mr. Clift in one or two other characters: he prefers the bone of the leg to be small and fine, and the colour of the eye to be bright red.

As table and market fowls, White Dorkings are decidedly inferior to the Coloured breed, inasmuch as they are smaller in size and yellower in the skin and fat.

With reference to the White Dorking as an exhibition bird, Mr. Hewitt remarks:—"It is quite indispensable that the whole of the plumage throughout should be perfectly white, without *any* admixture whatever. The cocks are ofttimes prone to show a light lemon-coloured tinge on the neck-hackles, shoulders, and saddle-feathers; but it is decidedly objectionable in an exhibition bird. They ought not to compete with Gray Dorkings in *one common* class for premiums at our poultry shows, as they are generally a far inferior bird to the darker varieties; nor can I call to mind a single instance in which (both varieties being good) the supremacy was ever yet awarded to the White ones. Separate classes to each kind are therefore advisable.

"As to the combs of White Dorkings, I am myself a decided advocate for the so-called 'rosy,' as being the only correct one; although I am perfectly aware I differ from some few highly respected poultry judges in this particular. I have taken much trouble to ascertain the descent of two different lots that have come under my observation, of the flat or single-combed ones; and in both instances found them obtained by an intermixture with the White Game, although still retaining the additional posterior toe. I do not for a moment say this is always their derivation; but the sadly decreased size of the so-called 'Dorking-toe' in most of our White Dorkings, as exhibited in the present day, combined with the general change in character and conformation to that of a much more sparely built fowl than the Coloured variety, favours strongly the conclusion. This cross improves the constitution of the offspring, but quite destroys their general character as White Dorkings."

The other crosses of the White Dorking do not call for any particular remark: the delicacy during chickenhood, which is usually alleged against them, might perhaps be equally well obviated by crossing with the White Cochin, and then carefully breeding back again to the Dorking for several generations, avoiding all blood relationship. This cross, which, as stated in the chapter on Cochins, has been extensively carried out in the case of the Coloured Dorking, would increase the size and hardihood; but the peculiar carriage and the full chest would necessarily be altered; it is possible, also, that the colour of chickens so produced would be very uncertain, as it in general happens that two white varieties so crossed throw slaty-gray or other colours. The experiment, however, might readily be tried by any breeder of White Dorkings placing a White Cochin hen in the run, and then preserving year after year a single pullet in which the desired characteristics were most distinctly shown.

CHAPTER XII.

THE SPANISH FOWL.

The names by which many of our domestic poultry are at present known to us, so far as they are indicative of their native country, are frequently matters of discussion. That Poland gave us the tufted bird, so remarkable an ornament to our yards and exhibitions, or that the Spangled Hamburghs were originally of German extraction, is more than doubtful: but with Spanish the case appears different; though possibly the wider term of the "Mediterranean fowl" might be still more applicable.

From Gibraltar to Syria—north and south—the countries that border on that vast inland sea, with its numerous islands, abound with fowls that bear so close a degree of resemblance to the Spanish race, as may warrant our assigning them to one common stock. Names, also, that denote some subdivisions of this family, strengthen our conclusion; for the *Anconas* and *Minorcas* derive their designations from localities that carry us far beyond mere Spanish boundaries.

The quantity of poultry kept in those countries greatly exceeds anything we witness in England, even since public attention has been more generally given to this branch of agricultural economy. Purity of blood, however, is there but little esteemed, and the miscellaneous collection of hybrids described by every Mediterranean traveller who has touched on this subject, will probably long remain in the same heterogeneous state as we ourselves found it many years since. Nevertheless, with those who have examined with any care into the natural history of this section of gallinaceous birds, little hesitation would be felt as to the extreme probability of a common descent.

They certainly are not likely to have had their origin in the more northern parts of the European continent; since those who now keep them, know to their cost how apt they are to suffer in their combs and the fleshy excrescence on the face, in weather which other poultry brave with impunity. Their prolonged and excessive moult is also indicative of their original habitation having been under the mild temperature of those southern lands.

We have spoken of the Spanish fowl as found in a state more or less degenerate, in comparison with the beautiful birds that are now seen at our exhibitions, throughout a wide range of the Mediterranean coasts.

So little attention, indeed, has been given to preserve the pure breed in any part of what we may term their native districts, that the specimens thence imported by Captain Hornby and others have been usually of a very indifferent description. Captain Hornby states:—"The fowls I obtained from Spain were altogether worthless; but I have received some good birds from Holland, from whence I believe the best of this race imported to England have usually come."

The introduction of the Spanish fowl into Holland and the Low Countries may be reasonably assigned to the period when the latter territory belonged to Spain, and constant intercourse was maintained with the Peninsula by the commercial habits of the Dutch nation.

In England they have long been favourites with poultry-keepers of all grades. Mr. Bond informs us that he has kept them for thirty years; and his recollection carries him back to as good specimens in those days as any that are now seen. The vicinities of London, Islington, and Spitalfields were then their principal localities.

Mr. Bond gives the following account of their characters as they were formerly bred by the London fanciers.

Black Spanish—Male.—Head large; beak of moderate size; eyes very bright; comb single, upright, very large, red as coral, and slightly serrated; face and cheeks perfectly white, the white extending round the eye; wattles long and pendulous; neck of moderate length, but strong; body broad and close-feathered; wings of medium size; rather long in the leg, which is of a bluish-white colour; tail a good plume; plumage a glossy black, having a greenish shade in the sun.

"*Female.*—Head and beak neat, and of moderate size; eyes bright; comb single, very large, and pendulous; face entirely white, the white extending round the eye; neck of moderate length, neatly set on; body broad; wings of middle size; legs almost white; tail long and well-squared; plumage as in the male, but less brilliant.

"*Characteristics.*—The uniformly fine black plumage; immense comb in both sexes: and the white face and ear-lobes, which increase with age, especially in the female."

This description of Mr. Bond's has been objected to on the score of slaty-blue

legs being now regarded as indispensable to success in the exhibition pen; but it certainly appears that the London fanciers, some years since, required pale legs for their Spanish birds; and a good story has been handed down of an enthusiastic amateur, whose bird was detected with its legs in poultices the day previous to its being exhibited, in order to effect that object.

It has also been suggested that the head of the Spanish is incorrectly described as large, the beak only being long. In reference to the size of the skull, the present Editor finds the extreme length of the cranium of a Spanish cock, that had taken many prizes, to be three inches and a half, the same as that of the skull of a Dorking cock that weighed ten pounds, and one quarter of an inch less than that of a Brahma cock, the largest skull that the writer ever saw.

In general size, also, the skull of the Spanish almost equals that of the Dorking; but in form there is a very remarkable distinction, as the Spanish skull has a large well-defined flattened surface, from which the enormous comb distinguishing the variety takes its rise,—and which strongly contrasts with the rounded forehead of both Brahma and Dorking.

In describing the character of the Spanish fowl as at present exhibited, the difficulty presents itself of selecting from the very numerous forms with which the Editor has been favoured by many of the most successful exhibitors; he has therefore printed the return received from Mr. Hewitt, and added a few notices of the more important differences that occur in the other descriptions.

THE CHARACTERISTICS OF BLACK SPANISH FOWLS.

Weight and Size.—*Cock.* Weighs about seven pounds in full condition; is rarely found to exceed that weight, it approaching perfection in other respects. [Eight pounds.—Mr. D. Parsley.] *Hen.* When about laying, a full-sized hen will weigh six pounds. [Six pounds and three-quarters.—Mr. D. Parsley.]

Carriage and Form.—*Cock.* Very stately and upright; slow in his movements; the head well drawn back; the breast protuberant; and legs and thighs long and high in the bone for the size of the fowl. [Broad full chest, back sloping down towards the tail.—Mr. D. Parsley.] *Hen.* Rather high on the legs, which gives them a somewhat slightly built appearance; still they possess good breasts, and "in hand" are weightier than they appear to the eye.

General Characters of the Plumage.—*Cock.* Purely black, with a lustrous shading of green when viewed in a strong light, easily broken. [Bright metallic green black, the green shown most on the saddle and tail plumes of the cock, and more vivid the higher the condition of the bird.—Mr. R. B. Postans.] *Hen.* [Like the cock, except that the metallic lustre is more sober.—Mr. R. B. Postans.]

Neck-Hackle.—*Cock.* Well developed. [Ample, well covering the shoulders. —Mr. R. B. Postans.]

Saddle.—*Cock.* Ample, flowing well down.

TAIL.—*Cock.* Tail ample, and black to the very roots of the feathers. [The sickle feathers well developed and carried high.—MR. R. B. POSTANS.] *Hen.* Rather long; closed more than in most fowls; must be uniformly black.

LEGS AND FEET.—Slaty-blue legs; the more unbroken in colour the better, but not unfrequently the whitest-faced Spanish are "fady" in the legs, more particularly the feet and toes, and the soles of the feet blotched with white; but it is objectionable. [Shank long; colour steel blue.—MR. R. B. POSTANS.] [Needle blue.—MR. C. H. BROWN.]

COMB.—*Cock.* Comb of cock very large; the serrations should be regular and perfect throughout, not coarse in general appearance, distorted, or overgrown, without any twisting or wrinkle, or tendency to fall over; if thin towards the edge is preferable, and is less likely to lop as the bird gets old; when the points of the comb are dark, the bird is either in bad condition or frost-bitten.—*Hen.* The combs of Spanish hens should lap at front, and fall over sideways; and in fine healthy hens the comb, from its peculiar position, will entirely cover one side of the face.

WATTLES.—*Cock.* Very long in the wattles, which are peculiarly pendent; florid throughout; although in some of the best cocks the wattles at their junction with the base of the bill have very many minute spots of white on a red ground; and in some fowls of a singularly high condition, these spots blend so closely together as to appear at first sight of a clear bluish-white.—*Hen.* Well-developed florid red wattles.

EAR-LOBE AND FACE.—*Cock.* Ear-lobe entirely white, and the more developed the better; the face white, without any red stain; the cocks are most liable to fault above the eye, but in perfect specimens no stain or blush is to be seen; the face should be very long and free from coarseness.—*Hen.* Ear-lobe to be equally white as in the cock, but less in size; the face in first-rate hens is a clear and unsullied white, but in many the face is better on one side than the other.

COLOUR OF EYE AND BEAK.—Eye, a dark red or orange brown. Beak, a dark slate, approaching to black.

The distinction between two very distinct strains of Spanish has been long recognized by the older Metropolitan amateurs, but has been rarely, if ever, described in books. We have been favoured with the following notes on this subject, by one of the most experienced London breeders, Mr. C. H. Brown,—who, in describing the birds imported from Holland, states, "The Dutch birds are small and short-legged, although purer in face than the old English strain; they are, in fact, so different in size, shape, comb, and general characteristics, that I almost consider them a different kind. Crossed with our breed, they have tended very greatly to the improvement in the face. In those birds termed by fanciers "paper-faced" birds, the face is quite smooth: they are generally the smallest specimens, and are derived, I think, from the Dutch breed. The larger, coarser strain of Spanish are the finer built birds, larger framed and longer limbed; they lay very fine eggs, much larger

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The volume presents to the reader almost all the information which is absolutely necessary for a general knowledge of this branch of the subject; the reader will likewise meet here with remarks regarding the great question of education, in which the Authoress indulges the hope that the botanical construction of plants, and the study of the science of Botany in general, may become a branch of general education.

"Nothing, I must confess," writes the Authoress, "would give me more pleasure than to see Botany as commonly taught in girls' schools, as French and music are at present; and I think it more than probable that in another generation it will be so—as, though the Linnæan system was unfit for females, there is nothing objectionable in the Natural Arrangement; and the prejudice against botanical names is every day declining, from the number of beautiful plants exhibited at flower shows, which have no English appellations. I sincerely hope the time may arrive, though probably I shall not live to see it, when a knowledge of Botany will be considered indispensable to every well-educated person."

In the systematic arrangement of the plants, the Authoress has followed Dr. Lindley's *Synopsis of the British Flora*, which few botanical students are without; and few genera are omitted, except such as do not contain any ornamental plants, or only include such plants as are rarely met with growing wild in Great Britain. While the Natural System is adopted in this work, it has also been borne in mind that many books of a leading character are arranged according to the Linnæan system; the Authoress has therefore added the Linnæan class and order of each genus, with a few words explanatory of the terms as they occur.

The volume is illustrated with sixty plates, representing nearly three hundred of the rarest ornamental wild flowers, drawn by Mr. Noel Humphreys, and carefully coloured after his drawings, grouped so as to form bouquets of flowers. The volume contains besides, descriptions of nearly all our known indigenous flowering plants, and a copious index, which completes the general attraction and utility of the work.

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DEDICATED, BY PERMISSION, TO HER MAJESTY AND PRINCE ALBERT.

In the year 1847 an Institution was opened at Ipswich, the history of which cannot be too widely circulated. It was, like all great and useful undertakings in this country, the work of private individuals; and the projector had the good fortune to witness its successful completion. The Ipswich Museum is the Institution in question, and a private individual has the merit of having accomplished what Legislators and Corporations have been talking about. The Ipswich Museum consists of a Collection of Specimens in British Natural History and other kindred objects. It is intended to facilitate the instruction of the working classes in Natural History, by rendering them familiar with the forms, the principles, and the general appearance of the materials which they are accustomed to deal with in their daily avocations.

The objects of this Institution no sooner became known, than the most cordial offers of co-operation and assistance reached its projector from the most eminent men of science and naturalists—not of the neighbourhood only, but of the whole kingdom, so that in a very short time there were few names distinguished in the world of science who had not become honorary members of the Museum. Nor was the Institution without Royal support, Her Majesty and the Prince Consort having graciously become its patrons. It is in commemoration of the gratuitous patronage and services rendered by these gentlemen to the Institution, that these Portraits owe their origin.

Under a grateful sense of the disinterested assistance rendered by these distinguished persons to a cause which he had so much at heart, the late Honorary Secretary—having first obtained their consent to sit to Mr. Maguire for the purpose—determined, at his own cost, to present their Portraits to the supporters of the Institution, at once as a tribute of gratitude to them, and a record of the success which they had been the means of securing to it. It was originally intended strictly to confine the issue of these Portraits to Members of the Institution, but, in course of time, they became known far beyond its limited circle. The Portraits generally representing men of European fame, and being characteristic, as well as correct likenesses, it has been determined to meet the demand thus created by a more formal publication of them, and at a very moderate price.

The impressions hitherto taken from the stones have been limited very nearly to the presentation copies, they are all therefore in excellent condition; and as the impressions are taken on India paper,

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TURKEY.

THE PROPERTY OF JOHN FAIRLIE, ESQ.

PRIZE PEACOCK,

THE PROPERTY OF WILLIAM DRAY, ESQ.

than those of the Dutch variety, and are known amongst the London fanciers as 'Warty-faced,' 'Cauliflower-faced,' and 'Rough-faced' birds. In these the carunculated white excrescences break out in clusters beyond the surface of the face; in old age, and often before, preventing the bird from seeing in front or behind, the eye being nearly buried; and the white above often falling over, so as almost to obscure sight altogether.

"The Dutch-bred Spanish are much earlier than ours in showing the white face, and arrive at maturity much quicker. Young cocks of this sort will be quite white perhaps at eight months, and never improve afterwards; while our own English breed would at that age be very inferior, but continue to improve each month up to two years old or upwards: the pullets are also subject to the same remark."

In his remarks on Spanish in general, Mr. Brown states, regarding the plumage, that "the white tips occasionally seen on some of the feathers are no indication of impure blood, as the purest bred birds, and those hatched from raven-black parents, often have a few, and rarely a vast number of speckled feathers. In old age, Spanish sometimes become pied, and the following moult change to pure white,—the legs also changing colour. In Spanish cockerels of the first year the tail is scanty, but in the second season it assumes its very ample and beautifully arched form. The cock's comb should be thick and self-supporting at the base, thinner towards the edges and perfectly erect; when the bird is in motion, the wavy, tremulous action of the extremity of a thin comb gives rise to a much more graceful appearance than when it is too short, thick, and stunted to sway with the movements of the head."

"In breeding Spanish, the chickens bred from the same parents differ much in quality; but it is all nonsense to represent that such wretches as have been produced from many sittings of eggs purchased at extraordinary prices, ever came from a really good stock."

Mr. Hewitt, of Sparkbrook, furnishes the following notes on this breed:—"These fowls, for exhibition, *must imperatively* be quite free from any 'sprinklings' of white (or any other colour whatever) throughout their entire plumage. They are rather prone to this defect (as is usual in all fowls whose feathers are naturally black). The faults alluded to are generally most apparent upon the head and upper part of the neck of the hens, and on the hinder portions of the thighs. Feathers rudely torn away are sometimes reproduced thus 'sprinkled,' yet at the natural moult return to their proper hue. The cocks are most apt to be faulty in the shoulders, and longer neck-hackle feathers. All Spanish are good layers; but the more perfect the general external character of the hen (as a rule), the finer eggs she produces. The chickens feather *very* slowly, especially if closely bred, sometimes becoming all but naked of plumage of any kind; they are most susceptible of sudden changes of weather, and frequently droop away in only a day or two, about the time of shooting their *first* tail-feathers: hence one great difficulty of rearing them. They require (in

the northern and midland counties of the United Kingdom) high feeding whilst young, complete exclusion from all damp, and much general attention, if even tolerable success is hoped for, and the stock is of high descent. The old fowls are much afflicted by being frost-bitten in the combs and feet if the winter happens to be severe. The serrations on the edge of the combs are sometimes altogether destroyed from this simple cause alone, and the fowls spoiled for exhibition. Heavy weather tries their constitutions severely, and soon stops their productiveness. They are also long in recovering from their annual moulting.

"Still, of all fowls, they appear the most truly aristocratic, and on a good walk always look a most respectable addition to the live stock; they very much like to steal their nests in out-of-the-way places; but it is most unusual for them to sit afterwards, although isolated cases have taken place of their so doing, and both hatching successfully and proving also good mothers;—still it is decidedly the *exception* to their natural propensities.

"When plucked for the table, they are very good in point of the colour of the skin, but always appear 'high in the bone;' the bridge of the breast being very deep (more particularly in the cockerels), they seem to the eye to carry much less flesh than they really possess. For this reason they do not stand high with poulterers, who have to resell them when 'ready for the spit.' The flavour of the Spanish fowls is good, but not of extreme excellence; the value of Spanish chiefly arising from their great production of eggs, although this is mostly confined to the summer months only."

With regard to the economical value of Spanish as productive fowls, Captain Hornby states:—"As for eggs, I reckoned last year that my Spanish hens laid six days a-week from early in February to late in August (they moulted early). Between November and February they averaged perhaps three eggs a week, which are large and handsome; broad, but slightly rounded at each end; one end, however, is not so much more pointed as the other, as in some fowls. As for weight,—I am cautious in speaking. I know that last year, from February to August, I considered their average weight to be above $3\frac{1}{2}$ oz., but under 4 oz. The largest eggs were in May (when we had rain after a long drought), many of them weighing $4\frac{1}{4}$ oz.; but the average of those laid in December and January I should place at $2\frac{3}{4}$ oz. The eggs are, to my mind, very milky and good. I may add, however, that of the eggs of the best white-faced, I had frequent complaints of the tenderness of their shells, in spite of lime, calcined oyster-shells, soft food, &c. I attribute this to high feeding."

The colour of the Spanish egg never varies: it is clear white, with a smooth polished surface. In selecting such as we desired to set, we should prefer those of medium size to others which departed from the average, remembering that although it has been demonstrated that hens may produce impregnated eggs after three weeks' separation from the male bird, considerable limitation of that period would be the

more prudent policy. Pullets are commonly found to commence laying from five and a half to six months old, and they certainly may be described as good layers, save only in the severer winter months. The task of incubation is very rarely undertaken by the Spanish hen, for she is a bad sitter—so bad that you cannot trust her; and even if she manifests a disposition to perform that duty, the chances are greatly against her hatching out; but if she succeeds so far, they have been found to prove good mothers.

In the selection of eggs for sitting, what was said by Columella, and recently repeated in Mr. Trotter's treatise, in the twenty-seventh number of the Royal Agricultural Society's Journal, as to the sex of eggs being discoverable from their form and the internal position of the air-cell, claims our attention.

Eggs in general are there spoken of, with a view to such a selection being made as may present us with chickens of either sex, according to our will. Now for the plan that shall so happily proportion the denizens of our yards, and check the usual superabundance of the male sex in our broods:—"Select the round eggs, for they contain female birds, and reject the oblong-shaped, for they contain birds of the opposite sex."—Again: "By the position of the air-cell at the butt end of the egg, those may be selected which will produce the male sex; in these the air-cell is in the centre of the end. If the cell be a little on one side, the egg will produce a female chick. The position of the air-cell is easily discovered by holding the egg between the eye and the light." But, nevertheless, the round egg, according to this theory, may still have the cell in the centre of the end, and therefore produce (if the cell argument be valid) a male chick; while, on the other hand, the oblong-shaped egg may have the air-cell on one side, and therefore the inmate should be of the feminine gender. We must admit, therefore, that these tests may be somewhat contradictory. For our own part, remembering how little, if any, variation is ever visible in the shape of the eggs of any one hen, we might suppose that the produce should invariably continue of one sex, of which we have no instance; we are, therefore, but little inclined, in this case, to assent to the opinion so zealously advocated in the essay we have referred to.

Respecting these erroneous ideas that have been thus placed before the public, with regard to the possibility of judging beforehand of the sex of eggs from their shape or the position of the air vesicle, a slight acquaintance with the anatomy of the fowl would disprove the truth of the statement. The germ of the future bird is formed with the yolk in the ovary; and as it passes along the egg-passage—a tube upwards of two feet in length—it merely receives in its progress the white, the skin, and lastly the shell, these being formed or secreted by different parts of the canal. It is evident that the shape of the egg depends on the shell, which is formed after the whole interior of the egg is completed, and can therefore have no influence upon it. Moreover, the alleged fact has been repeatedly disproved by experiments, which, however, certainly indicate the probability that, of twenty-four eggs laid by a

single hen, the twelve largest would give a great majority of male birds, the others the same of pullets.

With regard to the time of year that our earliest Spanish broods should make their appearance, we cannot do better than give the opinion of Mr. Lawrence of Penzance, who has bred them largely and successfully:—

"I think the chicks hatch readily and are easily reared, with proper attention to the season of the year selected for that purpose. I do not recommend Spanish eggs being put under hens earlier than the first week in April, on account of the unfeathered state of the chickens, for it is nearly ten weeks before they can be called perfectly fledged. They require more care for the fortnight following hatching than Cochins; but after that time, I have found them to be as hardy and as easily reared as any other fowls at this season of the year. They call for no precautions, as to subsequent management, beyond what falls to the lot of fowls in general."

These recommendations we find confirmed by the practice at Knowsley, where, when desiring to have early chickens, Captain Hornby never places more than seven, or, at the most, nine eggs under a hen during the months of February and March. He justly observes:—"She cannot then properly cover more, nor generate sufficient heat at that chilly season; and when, as happens thus early in the year, 'scrattle' is not plentiful, what will keep five chickens is but a bare mouthful for ten."

Soft blue-black down, more or less marked with white on the face, throat, and breast, forms their early garb; and when feathering begins, there is usually a longer interval than we wish between the casting off of the one covering and the assumption of the other. However immaterial this may be found in the warm sunshine of a Mediterranean climate, it is apt to prove a serious matter in the chilling blasts of our own island, and calls for nutritive food and warm housing. But with these precautions, which indeed would pay well for all poultry hatched very early in the season, the Spanish fowl is as likely to thrive, and answer our several purposes, as any other race,—so far, we mean, as regards their vigour of constitution and endurance of our seasons when thus cared for.

The great secret, after all, in rearing poultry of any kind, but more especially birds like the Spanish, whose natural abode would have been in a warmer climate than our own, is to feed the chickens—as young pheasants are fed—every hour in the day, for the first five weeks. The stomach can digest but little at a time; but that little must be regularly and frequently administered. In the case of very early chickens hatched during the winter months, it will be found necessary to feed them after they have retired to rest; young chickens cannot be expected to thrive if constrained to go without food from five o'clock in the afternoon until seven o'clock the following morning.

Spanish chickens grow rapidly—feathers usually begin to appear at about five weeks on the centre of the back, and on each side of the breast; if healthy, the fifth month should see them in full plumage. Cockerels anticipate the pullets in the

appearance of the white face, the latter rarely acquiring it in any perfection during the first year. But there is great uncertainty with regard to this much-coveted point of excellence. Some chickens, which give little or no promise at first, afterwards display this feature in perfection, while others of which we were sanguine in their early days have grievously disappointed us in maturity. Whenever a pullet has a red fleshy face, the chances, we believe, are 100 to 1 against a favourable result. But if, on the contrary, we find a blue shrivelly look, let patience be exercised, and in due time the white face, more or less perfect, will surely reward us.

Let us sum up this part of our subject by some general remarks from a communication by Captain Hornby, whose experience in the successful management of this breed cannot be otherwise than valuable. "I am not aware," he says, "that the Spanish fowl is liable to any particular disease, and but little subject to the roup, that curse of the poultry-yard. In addition to their hardihood, I may add that I consider the Spanish fowl inferior to Cochins in the number of eggs they lay, but superior in the weight laid; they are smaller consumers, equally hardy; they bear confinement as well; are inferior as nurses and mothers, but superior as table-fowl, their flesh being white and delicate, although cooks and poultry-dealers dislike their dark legs. Like other fowl, they require constant change of food, which is conducive to health in all fowls. If fed too high, I have found them subject to an eruption on the white ear-lobe, which is difficult to cure. As regards food and feeding, I prefer soft to hard food; but it is my practice to scatter a handful of the latter daily in straw, which compels the fowls to scratch and look about for it, and prevents gobbling and repletion of the crop. Gravel or any coarse sand—the former in preference—is indispensable, and the range of a grass field is highly conducive to health; *raw* meat is, in my opinion, objectionable, although many breeders give it. In winter, when worms and slugs are not to be had, and animal food is required, I prefer a little cooked meat or a bone for them to peck. Potatoes with gravy, or with milk and meal, is capital food. I may add, that more chickens die from drinking dirty water than from any other cause. Old birds (hens much more so than cocks) sometimes suffer severely in the mouth, and if cold weather should then come are a long while in getting over it; but soft and hot food, as bread and milk, porridge, a little chopped meat, bread and ale, with warm lodging, will pull them through."

Mr. Hinxman, another high authority on the subject, "does not consider Spanish so liable to fasciolæ or gapes as many other varieties of fowl. In common, however, with other slow-feathering breeds, they occasionally suffer from cold and wet; they seldom show any inclination to sit; and this, combined with the circumstance of their being bad incubators, renders them unprofitable as a farmer's breed; otherwise their numerous, large eggs would justly recommend them for that purpose."

Although these birds have many points of merit beyond mere appearance, nevertheless, considering the manner in which the rural homestead is generally managed, we should hesitate to recommend them to the farmer. All persons agree in declaring

the old birds to be hardy and vigorous in constitution; and with the precautions of warm and dry housing and good food they generally get well through their prolonged moult. These requisites, however, are by no means so generally afforded to the feathered stock in the farmer's yard as they ought to be; and unless these valuable birds receive more attention than has been bestowed on their mongrel predecessors, we could not recommend their being purchased.

On the other hand, when poultry are properly housed and fed as they ought to be, we have no doubt of their being kept with profit, especially in localities where eggs are in demand. In such a case the Spanish fowl will be a valuable addition to the poultry-yard. They submit readily to confinement, and with care they thrive within narrow limits. Plebeian specimens are constantly seen in our London mews, which, however draggled and forlorn they may appear, lay well, we are told, on the stimulating food afforded by the stable heap.

Edward Bond, Esq., of Leeds, states—"I have myself kept Spanish for many years, and though on the whole inclined to assign the palm to the Cochins, I have, nevertheless, no intention of giving up my Spanish. The latter are not so easily reared in this locality as the former, but I consider them less tender in bringing up than the Dorkings; and when they have reached maturity I perceive no difference. They have done well with me here, and there is undoubtedly no variety, taken altogether, that presents a more striking appearance. Individually they are handsome, both males and females; and the lustrous black of their plumage, so strongly contrasted with the white cheek and coral comb, and the uniformity of the whole flock, render a good collection of these birds as agreeable a sight as the poultry-yard can well produce.

"As to their utility,—that must depend upon the requirements of their owner. If he seeks for eggs, they are as good, if not better, than any other fowl he can keep. True, they do not lay so well in winter as the Cochins, but then their eggs are larger, and the desire of incubation does not occupy their time. Believing that they will lay as great a weight of eggs in the year as hens of any other breed, I should say that no other fowl is better suited to the wants of such farmers or cottagers as possess a good sale for eggs. If they live, as I do, near a large town, they have this additional advantage, that their flocks never look dirty or soiled.

"They are certainly good table-fowls; by some, indeed, they are considered as very superior for this purpose. With regard to their consumption of food, I do not think that Spanish are at all extravagant in this respect: for anything that will keep ordinary fowls will keep them when once they reach maturity.

"In their habits there is nothing peculiar requiring notice; they are not, it is true, so quiet or so disinclined to roam as the Cochins; but if well-fed at home, they will not be found to stray far from their walk. Nor are they quarrelsome among themselves, to a degree at all troublesome. As regards management I need only say that what other good birds require will suffice for them; with all poultry, in my opinion,

a good, dry, warm roost is half the battle; and to keep the damp away, sand, dry earth, chaff, or anything that is at hand, and will effect this object, should be spread upon the floor, and frequently changed.

"These are all the precautions I employ, and they prove amply sufficient to keep my birds in health, vigour, and beauty."

In concluding the present chapter on the Spanish fowl, a few remarks may be made on the different cross-bred birds owing their parentange to this race. It is difficult to imagine any cross that would not utterly destroy the noble and truly aristocratic appearance of these birds, and that without any counterbalancing advantage to be gained, for the long limbs of the Spanish would not fail to deteriorate the form of any other variety. In consequence of Cochin hens being frequently kept as foster-mothers for Spanish, crosses between a Spanish cock and Cochin hens are not unfrequent; they are good layers of fair-sized eggs, and also good sitters, but the plumage varies in colour, nor can they be regarded as ornamental: some cross-bred chickens between the White Spanish and White Cochin were remarkable as being of a uniform slaty gray. Some suggestions were made some time back by Mr. Trotter in the Royal Agricultural Society's Journal, as to the improvement in the size of the eggs of the Pencilled Dutch or Chitteprat by a cross with the Spanish; but the fact was probably overlooked that a cross between two non-sitting varieties of poultry almost invariably produces a mongrel that becomes broody and sits with remarkable steadiness; hence the value of such birds, viewed as mere machines for converting so much barley into eggs, would be greatly less than that of either of the pure breeds from which they were descended.

The only disease which requires notice in this place is the frost-bitten comb to which Spanish in cold exposed situations are not unfrequently subject. When this accident occurs, the comb becomes very dark-coloured and stiff: if the bird is, with a mistaken spirit of kindness, taken into a warm, room mortification inevitably takes place, and the entire or partial loss of the comb is the result; if, on the contrary, the circulation is restored by rubbing the comb with snow, or, if that is not to be procured, with ice-cold water, until such time as the natural colour is restored, no harm results, provided the application is made before the bird has been suffering any lengthened period of time.

The most important varieties of the Spanish breed are the *Minorcas* and the *Andalusians*, to which may be added the *White Spanish* and the *Anconas*, and a race which has nearly or quite disappeared, the *Silky Spanish*.

The *Minorca fowl* is very common in Devonshire and Cornwall, though by no means limited to those counties. In the western parts of Cornwall especially, birds of this variety have long been valued as first-rate layers, and for some years they formed the principal stock of our own yards. The milder temperature of the south of England offers peculiar advantages for the successful management of these fowls, which, though for a long period accustomed to our climate, still manifest impatience of severe cold.

In the Minorca we miss at once the white face, the ear-lobe alone being of that colour. But in both male and female there is the full development of comb and wattle, especially in the hens; some of ours, indeed, have been seriously inconvenienced in feeding by the undue proportions of the former flapping over the eye, and interfering with the action of the beak. We should also describe them as lower on the legs and of squarer build than the true Spanish. They are excellent layers; and readily, therefore, do we assent to Captain Hornby's opinion when speaking of these birds; he says—"The poultry called Minorca resemble the Spanish, except in the white face possessed by the latter. I am not sure whether the former are not as good layers, with as large eggs, as the latter; and certainly they lay eggs with better (harder) shells; but this may probably be attributed to the present over-high feeding of the white-faced Spanish fowls."

As table fowls, their more rounded form gives them advantages over their aristocratic relations. Like the latter, they are very rarely found evincing any desire to sit; we had indeed but one that ever did so.

The *Ancona* is a first cousin to the Minorca, the difference being a mottled or splashed plumage, black and white, in about equal proportions; but specimens of a rich partridge-colour are not unfrequent. The colours of the mottled Ancona are seldom clear; and their appearance, therefore, is rarely calculated to obtain admiration.

Under the title of the *White Spanish*, are included two varieties of the breed: one, resulting from the action of some peculiar constitutional cause, which determines the production of a partial or entire white plumage at moulting time, is a bird previously black; occasionally, also, white Albino chickens will be bred from black parents,—but in breeding from both these varieties, the original colour is reproduced.

A permanent breed of White Spanish was frequently exhibited some few years since; but the presence in many of an additional toe, and the red colour of the face; led to the suspicion of their being cross-bred birds; and the want of the striking contrast between the jet-black plumage, the coral comb, and white face, which so remarkably add to the ornamental appearance of the original bird, caused them to have but few admirers.

The *Andalusians*, however, have become established favourites with several breeders; and a poultry exhibition seldom occurs in which good specimens do not make their appearance, and take honours in the class for extra varieties. The most successful exhibitor of this variety at the present time is Mr. Coles, of Fareham, Hants, to whom we are indebted for the following account.

CHARACTERISTICS OF ANDALUSIANS.

COMMUNICATED BY MR. C. COLES.

WEIGHT AND SIZE.—*Cock.* Six to seven pounds.—*Hen.* Five to six pounds.
CARRIAGE AND FORM.—Stately and good.

General Colour of the Plumage.—Bluish gray, or light slate.

Neck-Hackle, Saddle, Tail, and Upper Wing-Coverts or Shoulders.—*Cock*. Varying from dark slate bordering on black, to a dove colour.—*Hen*. Bluish gray.

Breast, Lower Wing-Coverts, Quills, and Thighs.—Bluish gray or bright slate in both sexes.

Legs and Feet.—Blue.

Comb.—*Cock*. Very large, erect, single, and evenly serrated.—*Hen*. Very large, single, and pendent.

Wattles.—*Cock*. Very large.

Ear-Lobe.—White in both sexes.

Face.—Red.

Colour of Eye and Beak.—Very dark, bright eye, and black beak.

In addition to the above description, Mr. Coles has furnished us with the following account of their economical merits:—"I have kept the Andalusian fowls for several years, and find they are the least trouble of any variety tried by me; my runs are very limited, without grass field or outlet; and I have less sickness in this class than in Black Spanish. I obtained my first stock from Portsmouth, where they were landed from a Spanish trader in 1851. I consider them in all respects very superior for hardiness, and as layers. Coming to hand early, they no doubt would be a useful kind to breed as a table fowl, in the early part of the year. The hens usually commence laying in December, and continue with scarcely any omission until November, averaging four to five weekly. I have pullets, hatched 3rd March last, that commenced laying 12th August (when little more than five months old). They are non-sitters: I have never had one instance of their wanting to hatch. I find the chickens very hardy, feathering early, and very precocious. I do not know that they crow at a fortnight old, as stated some year or two back; but I have had them do so at six weeks. I believe them to be a useful and beautiful variety, that only requires to be better known to be appreciated. I find them far wilder in their habits than Black Spanish, and also more pugnacious. As to feeding, &c., my system is—corn in variety, night and morning; soft food in the middle of the day; meat once a week, with all the green food that can be procured from a large garden; and I believe my birds are far healthier in their confined runs, than my neighbours' birds having plenty of grass outlet."

Mr. John Taylor, Junior, was formerly one of the most enthusiastic amateurs of this variety, and in his description of them he states:—"The following are some of the points to which I attach most importance:—Comb large, erect, and evenly serrated; cheek white; legs bluish; plumage bluish-gray or dove-colour, each feather being lightly margined with a darker tint. Hackles glossy, velvety, black, falling evenly on each side of the breast, in strong contrast to the colour of the latter; tail full, carried very uprightly, with the sickle feathers well arched. The hens have the same colours, but pendent combs.

"Cocks will average in weight 7 lbs., while the hens may be stated at about 5½ lbs. Pullets hatched in April commence laying in October, and continue throughout the winter. Two pullets and three hens averaged 120 eggs each in the year. In shape and colour they resemble those of the Black Spanish. The hens seldom show any desire to sit; but when this does happen, they prove themselves excellent mothers. The chickens, unlike the Black Spanish, are feathered early, are hardy and very precocious. As a table fowl, I have a very high opinion of their excellence."

We may gather from this statement of Mr. Taylor's, that the Andalusian has a fair title to be considered as a permanent variety of the Spanish family. The rich slate-colour of their bodies is well contrasted with the deep black of their hackle and tail; while in size and vigour of constitution, especially as chickens, they seem to be on at least equal terms with their black cousins.

During a severe gale in the spring of 1842, a Spanish xebeck was driven by stress of weather on to the pier of St. Michael's Mount, in Cornwall. Some singular-looking fowls having attracted our attention, negotiations were commenced, and we purchased two hens. Each of their feathers having its separate plumes or web split or divided nearly to their point of junction with the shaft, gave them the exact appearance of a large brown silk fowl; while a drooping comb of considerable size, a very conspicuous white ear-lobe, with a tinge of white on the cheek, evidently bespoke their Spanish origin, without the further guarantee of their having been brought from Malaga. Unfortunately there was no cock with them; and certain alterations being required in our own yard, they were consigned to a friend. Since that time we have lost sight of them. The facts, however, are sufficient to justify this allusion to the *Spanish silk fowl*, though we have had no opportunity of examining other specimens.

CHAPTER XIII.

THE GAME FOWL.

To those who regard the Jungle fowl of India as the common ancestor of all our domesticated cocks and hens, the Game fowl naturally suggests itself as the first link in the genealogical chain. But speculations of this kind, though in every way interesting, we must leave to the Naturalist. Our present task is with the English Game fowl. He is, we affirm, essentially an English bird; for the specimens which we have seen in other countries, or which have been imported thence, always appeared to us to have been of second-rate merit; and such we apprehend is the general opinion of all competent judges.

In this country he has long held a post of high honour, and in some instances pedigrees and stud-books, running back over a period of 60 and 100 years, testify to his unstained descent from birds of note and fame in other places than the poultry-yard. The jealousy and vigilance with which the most successful strains were then watched; the reported secrets of the feeders; and the general favour with which, in days gone by, their ardent temperament and high courage were regarded, have all contributed to confer a degree of interest upon this family of fowls which has probably been shared by none besides.

Not only, however, have they been very generally kept for those purposes to which their pugnacity has destined them, but many farmers and cottagers have long regarded them with a favourable eye, merely as profitable poultry.

In describing the characteristics of the Game fowl, there is a generally recognized standard for form and figure, which must not be departed from, whatever variety of colour the birds may present. Consequently, these characters may be stated once for all, leaving merely the variations in plumage to be spoken of under the head of each sub-variety.

In weight, Game fowls vary very considerably. In the days when they were bred almost exclusively for the cockpit, 4 lbs. 8 or 10 oz. for the cocks was the size aimed at by the breeders; at the present time this limit is often passed, and some of our most successful exhibitors state that their birds reach 6 lbs. when two years old; but beyond this weight the bar sinister may be looked for in their escutcheon, owing to an alliance with that bane of the Game fowl, the Malay. 5 lbs. for the cock, and 3½ lbs. for the hen, would give us birds possessing in a higher degree the true attributes of the Game than any heavier weights.

The carriage and form of the Game are certainly more beautiful than that of any other variety of domestic fowl. The neck is long, strong, and gracefully curved; the breast broad and muscular; the back short; the whole body round and tapering to the tail; the wings large and powerful, and carried (as well described in a paper before us, by one of the Cockers of the present day) "by his sides like a robin, and not on his back like a goose;" the thighs strong, muscular, and short, tightly clothed with feathers, and well set forward on the body, so as to be available for fighting; the shank strong but not coarse, covered with fine scales, and of moderate length; the toes long and fine.

The plumage is compact, hard, and mail-like to a remarkable degree, and possesses a brilliant glossiness that cannot be surpassed. The tail in the cock is large, with gracefully arched sickle feathers, and in the hen forms a large and beautiful fan.

The head in this variety is extremely beautiful, being thin and long like that of a greyhound; the beak massive at its root, strong and well curved; the eye large, very full, and brilliant in lustre; the ear-lobe and face of a bright scarlet, and the comb single, erect, and thin. The spur, which is exceedingly dense and sharp, should

be set low on the leg, its power as a weapon being thereby greatly increased; and it should be remarked that this offensive weapon is often present in the softer sex.

The varieties of Game are very numerous, as from the anxiety to avoid any deterioration in figure or courage, crosses between the principal breeds have been frequently resorted to, so that a number of sub-varieties present themselves to our notice, many of which are still further complicated by the use of names of merely provincial employment.

In place of endeavouring to give a description of each sub-variety, frequently perhaps of merely local celebrity, we will follow the arrangement that is used at the principal poultry exhibitions, and describe them accordingly in the following order:—

1. Black-breasted Reds.
2. Brown-breasted Reds.
3. Duckwings.
4. Grays and Blues.
5. Blacks, including the Brassy-winged.
6. Whites.
7. Piles.

And several breeds of less notoriety, as the Henny-tailed, the Indian, &c.

First on our list, then, come the *Black-breasted Reds;* and of these the white-legged variety is known as "Lord Derby's." They have been kept at Knowsley for upwards of one hundred years, and, from the care with which all crosses have been managed, they still maintain their high reputation. To Mr. Roscoe, their hereditary guardian, must we refer for a description of the male birds:—

"They are of a good round shape, well put together; have a fine long head; daw eyes; long and strong neck; hackle well-feathered, touching the shoulder; wings large and well-quilled; back short; belly round and black: tail long and sickled, being well-tufted at the root; thigh short and stiff; legs rather long, with white feet and nails, the latter being free from all coarseness."

The required "daw eye," we should observe, is that which resembles the gray eye of a jackdaw. Their distinctive features are the white beak, feet, and claws, essential to every bird claiming descent from this illustrious stock.

The colours of the "Derby Red" should be as follows:—*Cock.* Face bright red; breast and thighs coal-black; hackle and saddle-feathers bright orange-red; back intense brown-red, a depth of colour that painters would term dragon's blood; upper wing-coverts and shoulder deep maroon; lower wing-coverts marked at the extremity with steel-blue, forming a bar across the wing; wing-feathers bay; tail iridescent black. It seems a peculiarity in these fowls, that one at least of the pinion feathers is marked with white. Beak, legs, and feet white.

Throughout the whole catalogue of Game fowls, the male birds are by far the most conspicuous in plumage; and wherever colour has given the name to a breed, the markings of the cock explain the reason. The Black-breasted Red hens, for instance, possess little of their consort's brilliancy of feather, and may be described as chestnut-brown around the eye, continued beneath the throat; shaft of neck,

and printed with the utmost care, it is not doubted that the new copies will vie in excellence with the earliest impressions. In order, however, to secure these in the best state, early application will be necessary, as each Plate will be numbered and delivered in the order in which the names are received.

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The Work will be issued in Monthly Parts, each containing Seven Portraits, in half Columbian, and on India paper, Price One Guinea each. The First Part, to be published on the 30th March, will contain :—

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"Ye Field Flowers! the gardens eclipse you, 'tis true;
Yet, wildings of Nature, I doat upon you;
For ye waft me to summers of old,
When the earth teemed around with fairy delight,
And when daisies and buttercups gladdened my sight,
Like treasures of silver and gold."—CAMPBELL.

THE present Work was undertaken under the impression that a selection of the more beautiful and attractive of our Wild Flowers, with Illustrations of them, would be useful to those who have neither time nor opportunity of consulting larger works on the subject. In order to confine herself within the necessary limits, the Authoress found she could only take the most ornamental Plants, avoiding, as interfering with her other Works, any Flowers commonly found in the Garden, her chief object being to enable the Amateur Botanist, who might find a pretty or interesting flower growing wild in their rambles, to ascertain its name and history. In addition to such details, a few remarks on the botanical construction of most of the plants have been offered, in the hope of inducing such readers as might be unacquainted with Botany to study so charming a science.

The volume presents to the reader almost all the information which is absolutely necessary for a general knowledge of this branch of the subject; the reader will likewise meet here with remarks regarding the great question of education, in which the Authoress indulges the hope that the botanical construction of plants, and the study of the science of Botany in general, may become a branch of general education.

"Nothing, I must confess," writes the Authoress, "would give me more pleasure than to see Botany as commonly taught in girls' schools, as French and music are at present; and I think it more than probable that in another generation it will be so—as, though the Linnæan system was unfit for females, there is nothing objectionable in the Natural Arrangement; and the prejudice against botanical names is every day declining, from the number of beautiful plants exhibited at flower shows, which have no English appellations. I sincerely hope the time may arrive, though probably I shall not live to see it, when a knowledge of Botany will be considered indispensable to every well-educated person."

In the systematic arrangement of the plants, the Authoress has followed Dr. Lindley's *Synopsis of the British Flora*, which few botanical students are without; and few genera are omitted, except such as do not contain any ornamental plants, or only include such plants as are rarely met with growing wild in Great Britain. While the Natural System is adopted in this work, it has also been borne in mind that many books of a leading character are arranged according to the Linnæan system; the Authoress has therefore added the Linnæan class and order of each genus, with a few words explanatory of the terms as they occur.

The volume is illustrated with sixty plates, representing nearly three hundred of the rarest ornamental wild flowers, drawn by Mr. Noel Humphreys, and carefully coloured after his drawings, grouped so as to form bouquets of flowers. The volume contains, besides, descriptions of nearly all our known indigenous flowering plants, and a copious index, which completes the general attraction and utility of the work.

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THE

POULTRY BOOK:

INCLUDING

PIGEONS AND RABBITS.

COMPRISING THE

CHARACTERISTICS, MANAGEMENT, BREEDING, AND MEDICAL TREATMENT OF POULTRY;

BEING

THE RESULTS OF PERSONAL OBSERVATION AND PRACTICE OF THE REV. W. W. WINGFIELD, G. W. JOHNSON, ESQ.,

AND THE MOST CELEBRATED BREEDERS OF THE DIFFERENT VARIETIES.

THE PIGEONS AND RABBITS BY MR. HARRISON WEIR,

AND OTHER MEMBERS OF THE PHILOPERISTERON SOCIETY.

THE WHOLE RE-ARRANGED, AND PARTLY RE-WRITTEN, BY

MR. W. B. TEGETMEIER.

WITH

COLOURED REPRESENTATIONS OF THE MOST CELEBRATED PRIZE BIRDS, AND FAC-SIMILES OF ALL THE MOST ESTEEMED VARIETIES OF PIGEONS AND RABBITS,

DRAWN FROM LIFE

BY MR. HARRISON WEIR,

And Printed in Colours under his Superintendence.

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MDCCCLVII.

LEIGHTON, BROTHERS', CHROMATIC PROCESS.

BIRMINGHAM PRIZE MALAY COCK.

THE PROPERTY OF MR. C. BALLANCE, TAUNTON.

LEIGHTON, BROTHERS', CHROMATIC PROCESS.

BUFF POLISH FOWLS,

THE PROPERTY OF G. VIVIAN, ESQ.

PTARMIGAN CHICKENS,

THE PROPERTY OF DR. BURNEY.

hackle light buff; web pale brown, edged with black; breast shaded with roan and fawn colour; belly and vent of an ash tint; back and wing-coverts partridge-coloured; wing-feathers and tail black, the latter carried vertically and widely expanded; beak, legs, feet, and nails perfectly white.

If any circumstance could prove more decidedly than another the enthusiasm with which the Game fowl are reared by amateurs, it would be the very large number of descriptions received by the Editor. The mere enumeration of the names of those who have forwarded descriptions, would alone take up more space than can be afforded. In the case of the present subvariety, a selection is needless, for all agree in the characteristics of the breed,—with this difference, that each amateur has his peculiar predilection respecting the colour of the legs. Thus, amongst other successful exhibitors, Mr. Pickthall advocates blue legs; Mr. Wilson of Redditch, Mr. Sewell, &c., willow or olive; Mr. Matthew of Stowmarket, one of the most successful breeders of Game, prefers yellow; and others again those with black or "crow" legs. It is, however, most important for intending exhibitors to bear in mind, that uniformity in the colour of the legs is an indispensable requisite to success in the show-pen.

A writer in the "Poultry Chronicle," evidently well versed in the requirements of the cockpit, published, under the signature of "Cockspur," an elaborate criticism of our engraving of the Black-breasted Reds or Derby birds, in which he eulogised the representation, stating that the head of the cock, in particular, was excellent, being, as it should be, fine and taper, with a beak strong and massive at the root. He took exception, however, for practical purposes, to the thigh as being a little too long, and to the shank as rather short; and furthermore decried the carriage of the wings as being too much "tucked up;" and also to the plumage of the hen as being fluffy and not sufficiently close and hard.

The *Brown-breasted Reds*, sometimes called *Gingers*, next claim our attention, inasmuch as they stand very high in the estimation of many of the most celebrated breeders and cockers.

In this subvariety, the breasts of the cocks are brown, marbled with darker colour; the neck-hackle bright orange-red; the saddle-hackle gradually assuming a brighter orange colour as it falls over the tips of the secondary quills; the tail black, and the eye and beak dark.

The hens are somewhat variable in plumage, in different strains, from dark or blackish to rusty brown, varied with straw colour; as in the last-named breed, the colour of the legs is variable, some preferring willow or olive, others dark blue, black yellow, &c.

Among the Brown-breasted Reds may be classed those birds formerly known as *Muffs* and *Tassells*, the first being characterized by a beard around the throat; the second deriving their name from a few long feathers forming a sort of crest: but however favourably these may have been regarded some years since, they would meet with total disregard in the show-pen at the present day; their additional

peculiarities being in all probability derived from a distant alliance with another variety of fowl.

Duckwings are by many regarded as the most beautiful of all Game fowls; and in support of their claim to be thus considered, we need but refer to our engraving. The cocks vary considerably in the colour of their saddles, hackles, and breasts: thus in some strains, the saddles and hackles are light silver-gray; in others a straw colour, deepening to red in the saddle; and in the same manner the breasts are black or gray. The upper wing-coverts or shoulder are usually deep reddish straw; the bars a metallic purplish green-black, which is thrown into strong prominence by the very light silver secondary quills, on which they rest, the whole arrangement resembling so far the wing of the Mallard as to give rise to the name of the variety, namely,—*Duckwing Game.*

The hens are extremely beautiful; the hackle being streaked with black and white, or creamy gray, the breast brownish red (hence, they are often termed Robin-breasted); the saddle dark gray; the legs vary, as with the other breeds.

Blues and *Grays* have usually a dull slate breast, with straw-coloured hackle and saddle; the hens being wholly of the former colour. The *Birchen Yellow* cock has a yellow and black streaked breast; blackish gray thighs; tail and belly nearly black, and remainder of the plumage yellow. The hen is an extremely pretty bird, her body being dark, almost approaching black, with a light cloud of gray on each feather; the hackle being edged with white.

Black Game are birds of unquestionable purity, being formerly a celebrated fighting breed. One strain, now in the possession of Mr. Barber of Rowington, was formerly known in the cockpit as the "Cheltenham Sweep." Their plumage, in good specimens, is of an extraordinary degree of metallic brilliancy, varying with lustrous shades of green and purple; in many the eye is orange, which contrasts remarkably with the dark plumage.

In *Brassy-winged* Game, the cocks have the wing-coverts of a bright golden yellow, the rest of the plumage being entirely of the beautiful raven black, characteristic of the pure black birds. The hens are of a uniform good black; the wing-coverts being destitute of the peculiar colour of those of the cock.

White Game require no lengthened description of the characteristics of the plumage: it should be pure and unsullied white, in both sexes. The colour of the legs varies; most breeders prefer the White—some, however, adhering to the Yellow. In the Midland Counties, where they have long been favourites, the White Game are frequently termed *Smocks.*

The *Piles* are the Game fowls whose plumage has a proportion of white for one of its component colours. They are usually heavy birds, and in many districts are very highly esteemed. The cocks of all the various strains of Piles are red and white, or yellow and white, in one or other of the shades of those colours; but the markings of each individual vary so greatly, that it is somewhat difficult to describe

their arrangement. The object of breeders is to get the colours as distinct and as brilliant as possible; thus, Mr. Matthew of Stowmarket states, "My opinion is that a good Pile should be red where a black-breasted is red, and white where he is black."

Those best known are the Worcestershire, the Staffordshire, and the Cheshire Piles. The difference between these and some other provincial varieties is enveloped in much confusion,—a circumstance little to be wondered at, when we consider the probable origin of the whole class as resulting from crosses between the red and white breeds. Thus, as we might suppose, sports are frequent, and their component colours are varied in every possible proportion.

The *Cheshire Pile* may be described as of a deep chestnut on the back and wings, while the *Staffordshire* has a lighter tint of yellow: and the *Worcestershire Piles* are again subdivided into the cream-coloured and blue. The hens of the former are mainly of that colour, while the cocks display the same, with the addition of black, red, and white. The Blue Pile hen has a tint of that colour prevailing in her plumage, while the cock unites black, red, white, and blue. The legs and beaks of both kinds are commonly of an olive colour. To Mr. Wilson of Redditch we are indebted for this notice of varieties that have been in his possession for many years.

In addition to these more important breeds, there are several other strains of less, and in some cases of merely local, celebrity: as the *Furness* Game fowl, which is sometimes, but erroneously, termed a Pile, as no white should be visible in its plumage, and a Pile must be a combination of white with some other colour. It derives its name from one of the hundreds in the county of Lancashire, and is a fowl of good repute. The cock has a black body, with buff or golden saddle-feathers. Its courage is highly spoken of, but of late years it appears to have become scarce. The hen is black, with hackle slightly marked with the same colour as the cock's saddle.

In this group we have also *Polecats*, which appear to be the same strain under another name,—the only distinction being the appearance of lighter shades on the saddle, and occasionally on the wing and hackle also.

The *Cuckoos* repeat the colours of the Cuckoo Dorking, each feather having several bars of dark gray shaded with a white ground.

The *Hennies* are thus described by Mr. Thurnall of Royston:—"The hens very closely resemble those of Lord Derby's breed of black-breasted reds, and the cock's plumage in no way varies from that of the hen's—for he possesses neither hackle, saddle, nor sickle feathers—the tail being very little more developed than in the hens. I regard it as a distinct variety, and to be depended upon for like producing like; the cock is a high-spirited bird, and I have been told that their courage has been often proved."

The *Indian Game* fowls that have been imported are coarse, heavy, ill-shaped birds, that have evidently been produced by crossing the true English Game fowl,

with several of the smaller Malay native breeds; they fight, but without the courage or wondrous activity of the true breed. Some few years since, some good White Game were exhibited as Indian, and attracted to the breed whose name they took more attention than the mongrels deserved.

Little need be said as to the accommodation necessary for Game fowls. A good grass run is essential, and we cannot advise their being kept by any who are unable to grant them this indulgence. They are impatient of restraint, and never appear in really good condition when debarred from the country exercise that seems required by their hardy constitutions.

In the selection of breeding stock, whatever the variety preferred, the greatest care must be taken, in matching the proposed parents, as regards form, feather, and the colours of the beak and legs; since an injudicious selection may injure the strain for years, and present unwelcome features even after generations have passed away.

The male bird does not appear to influence the progeny to the same extent as the hen. Thus Mr. Brent has observed—"In breeding them much depends on the purity of the hens, for a good Game hen, with a Dunghill cock, will breed good fighting birds; but the best Game cock, with a Dunghill hen, will not breed a bird good for anything." Respecting the ages of the breeding stock, it is not desirable to mate old birds together; a stag or one-year-old bird, placed with hens of two or three years old, will be found to produce finer chickens than when an old cock is mated with last season's hens; at least such was the experience of the breeders for the cockpit. Where great excellence is aimed at, we would not advise the companionship of more than four hens with the cock. The rule to avoid all relationship in your brood stock, if possible, was not constantly followed by the breeders of fighting birds. They made one exception, that of pairing a hen to her own son; and provided both were superior birds, they found the result very satisfactory; but they were cautions not to repeat the in-and-in breeding.

In colour, the eggs of the Game fowl vary from a dull white to fawn, but crosses with the Indian bird impart a still darker tint. The average weight of those laid by full-grown pullets we found to be 2 oz., and 2½ oz. might be considered as a liberal allowance for those of the full-grown hen.

The Black-breasted Red is as good a layer as any of this numerous family; as many as twenty-five eggs being laid by them before manifesting any desire to sit.

But with regard to the number of eggs laid by Game fowls of any breed, previously to their manifesting a desire to incubate, much will depend on whether the eggs are removed and a nest-egg only allowed to remain, or whether they are allowed to accumulate as day by day the store may receive additions. If the latter plan be adopted, few Game fowls, we imagine, would be found to lay beyond the number that instinct would suggest as the proper complement for their nest; and this we find varies from ten to fifteen. Game hens usually lay on alternate days: in favourable weather, with good keep, this may be extended to two days, stopping one.

As sitters, Game hens have no superiors. Quiet on their eggs, regular in the hours for coming off and returning to their charge, and confident, from their fearless disposition, of repressing the incursions of any intruder, they rarely fail to bring off good broods. Hatching accomplished, their merits appear in a still more conspicuous light. Ever on their guard, not even the shadow of a bird overhead, or the approach of man or beast, but finds them ready to do battle for their offspring; and numerous instances are on record where rats and other vermin have thus fallen before them.

Their remarkable prowess in defending their young is strongly set forth in the following most interesting account with which we have been favoured by Mr. Hewitt:—"Not a doubt presents itself to my own mind, that, viewed exclusively for their actual merits, unencumbered by the caprice of poultry fashion or individual prejudice, Game fowls are undoubtedly the most strikingly beautiful of any among the very numerous varieties of domestic poultry. Among any of the truly bred fowls of this variety, the superiority of gait and general contour strikes the eye of parties even the most indifferent and uninterested; and from this cause I have almost universally noticed that the avenues appropriated to the Game at our poultry shows, are those most commonly thronged by visitors. This fully proves how much a good display in these classes tends to the eventual pecuniary success of such meetings. In situations where a free unlimited range can be tolerated, there is not a doubt that Game fowls will take care of themselves, and their progeny, more successfully than any other kind of poultry. Accidents of any kind where these advantages exist very rarely occur; as of all poultry none are more vigilant in avoiding dangers, nor, again, so capable of repelling aggression; and many are the instances that recall themselves to my memory of cases in which by far more powerful adversaries have found an unforeseen retreat suddenly enforced upon them: or if doggedly pursuing their attacks, the valiant defender has at length laid prostrate and powerless in the field the opponent that had confidently relied upon its superior strength ensuring a very different issue. I will simply refer to a couple of such incidents, where prowess alone carried the day, and also where the odds were vastly in favour of the unexpected assailant.

"I am not myself an advocate for the cock-pit, but contrariwise the staunch adherent for the most entire preservation of peace, goodwill, and quietness, throughout the habitation of bipeds of every kind. Nevertheless, I fancy there scarcely exists throughout the United Kingdom a man—ay, or woman either—who does not feel, as it were, a mental gleam of satisfaction when they hear of true valour being triumphant: or a veritable instance where heroism and indomitable determination carried the day against a Herculean opponent, who rested his hopes of successful oppression entirely on the superiority of his own physical power.

In a very rural part of Derbyshire, some ten or eleven years back, a Black-breasted Red Game cock (only a small bird, in weight about four pounds two or three ounces) was 'walked' with three or four especially good hens, one of which had some chickens

running with her, about a fortnight old. These latter were enjoying themselves in rather an exposed situation to the windward of some heather. A kite (or, as there called, 'a gleed') that was on wing outlooking for the first prey that might offer, espied them; and without the slightest warning, dashed violently at one of the chicks that had strayed farther from its protector. The hen, however, instantly espied the coming danger, and flew, regardless altogether of self-preservation, to the rescue. This first effort of the dauntless mother certainly saved the chicken, and drew the attention of the kite more especially to herself. At this instant the cock, that was some twenty yards off, attracted by the outcries of his mate, went valiantly to the encounter, and on first meeting his unusual foe was unfortunately clutched by the wing with one or both feet of the kite, nor could the quickly repeated efforts of the cock disengage itself. Although labouring under so material a disadvantge, he still fought on, and, as the result proved, successfully. It was in truth 'an up and down fight,' sometimes the cock, at others the kite, appearing to have the advantage; feathers flew around the combatants, and an eye-witness ran rapidly to the spot, simply in the hope to prevent the anticipated escape of the intruder. No services whatever, on his part, were required, as, before he reached them, victory had favoured our gallant hero. The kite had received a blow of almost incredible severity from the spur of the cock, —which, it should be borne in mind, was simply the natural one; it had entirely destroyed the right eye, and bursting through the skull at the back of it, penetrated the brain, so that death ensued as instantaneously as by gunshot. It was only with difficulty the spur could be disengaged; and the tenacious grasp of the kite was maintained even in death. The cock proved but triflingly injured by the *melee;* and the fallen one, after being rudely preserved by some neighbouring taxidermist, still graces a private collection of the fauna of the United Kingdom.

"The second instance was not, as above, a casual occurrence, but premeditated by a couple of friends of mine in Birmingham, as a test not only of the dauntless valour of a Game hen, but to teach a useful and admonitory lesson to an intruder, whose fondness for chickens had added a somewhat extravagant item to the losses of a notorious poultry-amateur, and that too among chickens of high merit and considerable pecuniary value.

"It seems a large cat had for many weeks been making daily incursions, and had succeeded not only in taking a chicken all but invariably at every visit, but had likewise very seriously maltreated the old hens on three different occasions. They were Cochins, and had become so alarmed by the frequent repetitions of these inroads as to scarcely make any attempt at protection for their chickens; and consequently the cat had increased in audacity accordingly. It was under these depressing circumstances that a brother amateur volunteered 'a certain cure,' if he were allowed unrestrained liberty as to the means adopted; a proviso most cheerfully permitted. Having cooped up all the chickens, and parent birds also, of the fowls that usually had sole possession of the yard, he produced a most beautiful Game hen and chickens, the

latter not more than three or four days old; the hen being armed with a pair of steel spurs, somewhat shorter than those used in the cockpit, but well suited for the purpose intended; and being naturally a spurred hen, they were easily and firmly attached. The lot being placed at freedom in the yard, the hen, from all around being strange, was necessarily restless, and the chickens equally noisy. Grimalkin, with stealthy pace, was soon seen crouching along a wall (her usual mode of introduction) about nine feet high; the hen unfortunately at this moment had flown into the body of a covered cart, that prevented any possibility of her seeing the threatened danger. A spring from the top of the wall—or rather gliding down it some few feet, and then darting, as it were, from it midway—placed puss in possession of the nearest chicken, and all the spectators thought certainly one youngster was irretrievably forfeited to the experiment; but the idea was erroneous: with a shriek the hen flew headlong at the enemy of her brood. Puss seemed but little concerned at her fury, as the impunity with which she had faced other hens seemed rather to inspire her with confidence, all but amounting to imperturbability.

"Perceiving the coming attack, the cat loosed the chicken from her mouth, but instantaneously placed one foot upon it, and with hair erect looked defiantly; while a few deeply-drawn breathings at the window told how anxiously the lookers-on speculated as to the event. The Cochins—poor, heavy, domesticated dames—had always proved slow in their motions (however well intended), and their efforts were easily avoided. Not so now: a blow the eye could scarcely follow, and a scream most dissimilar to the noise from anything feline, gave evidence the contest was not so very unequal as it appeared to be. Two or three other blows, in the most rapid succession possible, made retreat evidently the only way that remained to the cat of making the best of an unlucky speculation; still, with an obduracy most remarkable, she once more seized the chicken with her mouth and sprang with it upon the wall. Nevertheless, bravery carried the day,—the hen proved close to her heels, and another double rap brought both antagonists headlong back again to the ground. The cat then loosed the chicken, bolted to another less exposed outlet, and the hen quickly commenced her muster-roll, which I am happy to say embraced the whole of her progeny, and none were injured, the hen herself escaping literally 'without a scratch;' although her artificial helps were besmeared with gore,—so was the whole scene of this extraordinary encounter. Some half year afterwards, I on inquiry found 'a longing lingering look' was frequently still indulged in, but always from afar,—'instinct is never quite suppressed;' and the promise of the owner of the Game hen has proved fulfilled: the 'cure was a certain one.' No doubt one cause of Game fowls passing through such really trying ordeals scatheless and unharmed, is the extraordinary elasticity and invulnerability of their plumage compared with that of other poultry. The more truly the birds are bred (if combined with a proper unlimited run), the more conspicuously by far will this characteristic expose itself. I once saw a singular experiment tried on a feather plucked from the wing of a highly-

bred two-year-old Game cock, to prove the difference in its repulsiveness, compared to a similar feather taken from a Gray Dorking's wing, and another from that of a Cochin. Tested by length, they were the same; in circumference they differed widely. When measured by the tool used by dealers in iron wire, the Cochin was triflingly the thickest of the three; the Dorking feather stood second; and the Game cock's proved much less than either of the others. They were alternately placed in a vice by the quill-end, protected from injury by a pair of hollow 'clams,' to prevent the quill splitting from the unusual pressure, whilst fitting round it closely. The distance they projected was equal in all cases, causing an equality as to leverage;—the ribbed or under part of the feather was placed uppermost, and weights applied to them very gradually. Suffice it to say, the resistance before giving way in the Game feather, was equal to something more than that of the two others combined! Its elasticity proved nearly equal to that of the same thickness of unannealed iron wire.

"Hardy as these fowls are to excess, however, under favoured positions, none seem more impatient of confinement, or do less benefit to their owner if deprived of good country freedom and exercise; they speedily in such case become sickly, and lose most of their commanding characteristics. But even when this ill-judged treatment is combined with unnatural food, they struggle on protractedly before death relieves them, far longer than others; in constitution being unsurpassed by any fowls.

"With good range, their flesh is undoubtedly excellent, and to my palate the best-flavoured of all fowls. I willingly admit two trifling drawbacks,—viz. limited size, and generally an inclination to prove yellow in the skin. Yet, with these admitted, I still wish any sceptic to try for himself a Game pullet killed shortly before commencing laying her first eggs, and I do not doubt his becoming a convert to my opinion; whilst the carving-knife will prove my best witness, as they carry more flesh than any variety of fowls whatever, under natural and inexpensive feeding."

The newly hatched chickens are exceedingly attractive in appearance; those of the darker breeds are light brown, with a broad dark-brown stripe down the back, and a narrower line over the eye. The Duckwings, Grays, and Blues have proportionally paler hues, but the stripe is rarely absent.

The chickens feather rapidly, and with ordinary care and a liberal and varied diet, such as chopped egg, with a portion of onions, chives, or leeks, bread-crumbs, grits, boiled oatmeal, wheat, and barley, with some new milk, in the earlier stages of their growth, are reared with as little difficulty as those of other fowls. Nor are they subject to any maladies of chickenhood beyond what is common to the whole family in its widest extent.

Let us, therefore, suppose that the perils of their early existence have been overcome, and that a healthy brood of some two months old daily invites our attention, and encourages our speculations as to their future excellence. We rise one morning, and hasten as usual to our favourites; but, to our grief and consternation, the

promising chicks of yesterday are gone, and in their place we behold an assemblage of torn, dishevelled, bleeding wretches, with drooping wings, closed eyes, and evident indications of a general *melee.* And such, in fact, has been the case; for rivalling their ancestors' heroic deeds, they have scorned longer continuance in the pacific state that becomes chickens of good behaviour.

But when, after a time, the powers of vision are restored, and the other tokens of the fray are no longer manifest, the result is seen in the acknowledged authority of one of their number: and henceforth quarrels between the beaten are comparatively of rare occurrence; when they do take place, both offenders are constantly chastised by the former victor.

Allowance being made for the casualties resulting from this summary method of settling their precedence, Game chickens are reared without greater difficulty than those of other fowls, that is to say, wherever a suitable run is attainable. We make this reservation distinctly; for if there is any race of our domestic poultry ill calculated for confinement in aviaries or yards of limited extent, it is the bird we are now speaking of. Game fowls, indeed, to be produced in their highest state of perfection, require to be kept in small numbers, that there may be no risk of the ground becoming tainted; while the range of a good "walk" is as essential for the health of the old birds as of their offspring. Yards and allotments of small dimensions may answer for Polish, Spanish, and Shanghaes; but let it not be supposed that under such conditions the English Game-fowl, of any variety, can show to advantage either the varied beauties of his plumage or the faultless symmetry of his form.

In the days when cock-fighting was a frequent and recognised pastime, Game fowls were, old and young alike, too often subjected to a highly stimulating system of feeding; it was pursued with the young birds to bring out their pugnacious habits as early as possible, and with the old birds to retain them in the requisite condition. If casualties from this unnatural diet were rare, the cause would probably be found in the skill of the feeders, and the attention with which a bird's progress was watched from hour to hour; but the severe trials by which the bird's system was tested, as to powers of enduring fatigue, and exhibiting courage and endurance, are circumstances that seldom affect the poultry-keeper of the present day.

From the numbers of Game birds, of greater or less purity of blood, that are seen in the farm-yards of this country, it is evident that, in an economical point of view, they must be favourably regarded by many of those who pay but little attention to form or feather. Now, there is probably a general acquiescence in the common idea of the ever-quarrelsome disposition and pugnacious habits of this bird that greatly prejudices its claim for admission to the poultry-yard: but those who have studied it most carefully will confirm our opinion, that, his rule once recognized, the thorough-bred Game fowl is not justly liable to such objections. Competitors, it is true, he will not brook; but if, after the preliminary trial of strength, precedence is allowed him (and few of other varieties will long contest it), he manifests nothing of

a vindictive spirit, and is easily induced to allow the companionship of other cocks in a subordinate position. The Dunghill and other birds will renew their combats day by day, and the victor of one hour is often the fugitive of another. But with Game fowls the cock of the walk claims and receives general homage; and not only abstains himself from these scenes of strife, but insists that his companions also shall exhibit the same peaceable demeanour. The younger birds, it is true, do not always at once settle among themselves who is to be the best man; but woe betide them if their appeals to arms are witnessed by their senior. Where a numerous head of poultry, comprising several cocks, are kept at large in a farm-yard, the advantage of such monarchial authority is constantly acted on, though doubtless to the ultimate detriment of the stock, for which, however, the maintenance of peace is thought to compensate.

In suitable localities Game fowls are kept at a very small cost; for when indulged with a good grass walk, a little corn, morning and evening, is found sufficient to keep them in good order; they are thus well suited to the farmer's present system of poultry keeping; for after ten weeks or three months old the greater part of their food is procured abroad, and their owner's corn but sparingly required. Yet, kill a Game fowl when you will, it is always in good condition: and thus, where fowls are not put up to feed, they afford a ready supply whenever they may be wanted. Farmers' wives are well aware of their good quality in this respect, and hence another reason for the periodical introduction of a well-bred Game cock into their poultry-yards, though the pugnacity of the hens may be frequent matter of complaint.

Mr. Roscoe tells us that Game chickens at five months old, if well-fed, should weight 5 lbs. the couple, while he calculates their cost from 3*s.* to 3*s.* 6*d.*—a price which for birds of such unquestioned excellence would leave a very satisfactory margin for profit. This supposes liberal feeding and attention while young, and a good run as soon as they are able to profit by it. There certainly can be no question of the superiority of such birds as dead poultry over the stuffed and crammed tenants of feeding-coops; they truss capitally, and their plump full breast will bear comparison with any occupants of the poulterer's counter.

If any of our readers should desire the *ne plus ultra* of excellence in a fowl, let him eat and pronounce his opinion on the wing of a well-fed Game pullet, and we should have no fear of his disagreeing with this expression of our own judgment on the good qualities of these birds for the table.

The prices of Game fowl are very uncertain; but as yet the poultry mania has not placed them at any extreme rate; and good birds for breeding-stock may be usually obtained at from 5*s.* to 10*s.* each, although more perfect birds for exhibition command much higher prices. In the East it is far different, for we are told by M. de la Gironiere, in his "Twenty Years in the Philippine Islands," that he saw 40,000 francs betted upon a cock which had cost 4000 (£160), and in a few minutes this costly champion fell, struck dead by his antagonist.

As exhibition birds, the vigour and hardihood of constitution of the Game carries them well through what often proves so severe a trial to many of their neighbours. A Game fowl steps out of his basket after a journey by sea or land, which would test most severely other fowls, as unconcerned and apparently as indifferent to fatigue as if brought from his walk but half an hour previously.

Birmingham will probably be long distinguished by the excellence of its Game classes, for the Midland Counties have for many years been the head-quarters of these birds. Cambridgeshire, Suffolk, and Hertfordshire on the east, and Cornwall and Devonshire on the west, with the north of England generally, are the districts where they are held in most repute. Ireland and Scotland are also spoken of as producing good specimens; but of such birds we have no personal experience.

In speaking of diseases peculiar to Game fowls, our reader's patience need not be taxed, for of all fowls none appear more exempt from the usual maladies of the poultry-yard, either as chickens, or in their more natural state; and even when attacked, their great constitutional strength generally carries them through their maladies with few casualties. They require, like other chickens, to be watched while feathering, and distemper to be guarded against by careful housing and protection from wet, administering their food in small quantities, not less than three or four times a-day.

The amputation of the comb and wattles of the Game fowl, technically called "dubbing," is best performed at about six months old, the instrument being a sharp pair of scissors. To save the bird from excessive loss of blood, the removal of the wattles is sometimes postponed to a second occasion. The comb is taken off as close as may be to the bone, so that the latter is not bared. However reluctant to inflict pain, dubbing is still a wise precaution for all who keep Game fowls under any circumstances. Whatever our care and arrangements for peace and harmony, combats will occasionally take place, when the comb is a fearful vantage hold for the foe. Thus it often happens that our favourite, whose fair proportions we were unwilling to curtail, either falls before his adversary, or, even if victorious, remains with lasting tokens of the fray.

The crosses arising from the Game do not call for any lengthened notice; stamina and constitution are inherited by their progeny; but with the large breeds, as the Dorking, size is lost. The cross with the White Dorking has already been alluded to. Many strains of Game are disfigured by a union with the Malay; of the other crosses, those with the different species of the native Indian jungle fowls are the only ones claiming any lengthened notice,—they will be described in the chapter on those birds.

A chapter on Game fowls would necessarily be deemed incomplete, without at least some allusion to the purpose for which they were formerly reared in immense, and are even now bred in very considerable, numbers,—we allude, as may be surmised, to cock-fighting: a pastime which, although now declared illegal, and punishable

by fine and imprisonment, is still followed, of course *sub rosa*, by many in all ranks of society. To the public at large, however, cock-fighting is virtually extinct; and therefore we have no hesitation in printing the following most dramatic and life-like sketch of one of the most favourite amusements of our ancestors. For the permission to reproduce this account, we have to express our obligations to Mr. J. J. Nolan of Dublin, in whose work on the "Domestic Fowl" it originally appeared.

After describing the cockpit, with its seats rising all around as in an amphi-theatre, its central stage about 20 feet in diameter, covered with matting, and with a raised edge to keep the birds from falling over, the Author of the sketch, said to be a very celebrated amateur, thus proceeds:—

"The only persons allowed on the platform are the setters-to. The first I shall name Nash, the younger; he was followed by a stout, plump, old, ostler-looking man, named Nash, the elder. This person carried a white bag, containing one of the brave birds for the battle. The two men stepped upon the mat; the hubbub is instantaneous—'Two to one on Nash'—'A guinea on Nash'—'Nash a crown;' the bets are laid on the setter-to. From the opposite side of the pit, a similar procession entered; the setter-to, Fleming by name, did not appear so great a favourite as young Nash. The chuckle of the cock in his bag was answered deeply and savagely from the other, and the straw seemed spurned in the narrow cell.

"Nash's bag was carefully untied, and Nash himself took out one of the handsomest birds I think I ever beheld; he was a red and black bird; slim, masculine, trimmed, yet with feathers glossy, as though the sun shone only on his nervous wings; his neck arose out of the bag, snake-like—terrible—as if it would stretch upwards to the ceiling; his body followed—compact, strong, and beautiful; and his long, dark-blue, sinewy legs came forth—clean, handsome, shapely, determined, iron like! The silver spur was on each heel, of an inch and a half in length, tied on in the most delicate and neat manner; his large, vigorous beak showed aquiline, eagle like; and his black, dilating eyes took in all around him, and shone so intensely brilliant, that they looked like jewels; their light was that of thoughtful, sedate, and savage courage; his comb was cut close; his neck trimmed; his wings clipped, pointed, and strong; the feathers on his back were of the very glossiest red, and appeared to be the only ones which were left untouched; the tail was docked triangle-ways, like a hunter's. The gallant bird clucked defiance, and looked as if he 'had in him something dangerous!' Nash gave him to Fleming, who held him up above his head, examined his beak, his wings, his legs, while a person read to him the description of the bird from paper; and upon finding all correct, he delivered the rich, feathered warrior back to Nash, and proceeded to produce his own bird for a similar examination.

"But I must speak of the senior Nash—the old man, the feeder. When again may I have an opportunity of describing him? and what ought a paper upon cocking be accounted worth, if it fail to contain some sketch, however slight, of old Nash?

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CONTAINING FOUR CAREFULLY-COLOURED GROUPS,

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WITH THEIR DESCRIPTIONS.

ARRANGED ACCORDING TO THE NATURAL SYSTEM,

BY MRS. LOUDON.

ILLUSTRATED BY H. NOEL HUMPHREYS, ESQ.

"Ye Field Flowers! the gardens eclipse you, 'tis true;
Yet, wildings of Nature, I doat upon you;
For ye waft me to summers of old,
When the earth teemed around with fairy delight,
And when daisies and buttercups gladdened my sight,
Like treasures of silver and gold."—CAMPBELL.

THE present Work was undertaken under the impression that a selection of the more beautiful and attractive of our Wild Flowers, with Illustrations of them, would be useful to those who have neither time nor opportunity of consulting larger works on the subject. In order to confine herself within the necessary limits, the Authoress found she could only take the most ornamental Plants, avoiding, as interfering with her other Works, any Flowers commonly found in the Garden, her chief object being to enable the Amateur Botanist, who might find a pretty or interesting flower growing wild in their rambles, to ascertain its name and history. In addition to such details, a few remarks on the botanical construction of most of the plants have been offered, in the hope of inducing such readers as might be unacquainted with Botany to study so charming a science.

The volume presents to the reader almost all the information which is absolutely necessary for a general knowledge of this branch of the subject; the reader will likewise meet here with remarks regarding the great question of education, in which the Authoress indulges the hope that the botanical construction of plants, and the study of the science of Botany in general, may become a branch of general education.

"Nothing, I must confess," writes the Authoress, "would give me more pleasure than to see Botany as commonly taught in girls' schools, as French and music are at present; and I think it more than probable that in another generation it will be so—as, though the Linnæan system was unfit for females, there is nothing objectionable in the Natural Arrangement; and the prejudice against botanical names is every day declining, from the number of beautiful plants exhibited at flower shows, which have no English appellations. I sincerely hope the time may arrive, though probably I shall not live to see it, when a knowledge of Botany will be considered indispensable to every well-educated person."

In the systematic arrangement of the plants, the Authoress has followed Dr. Lindley's *Synopsis of the British Flora*, which few botanical students are without; and few genera are omitted, except such as do not contain any ornamental plants, or only include such plants as are rarely met with growing wild in Great Britain. While the Natural System is adopted in this work, it has also been borne in mind that many books of a leading character are arranged according to the Linnæan system; the Authoress has therefore added the Linnæan class and order of each genus, with a few words explanatory of the terms as they occur.

The volume is illustrated with sixty plates, representing nearly three hundred of the rarest ornamental wild flowers, drawn by Mr. Noel Humphreys, and carefully coloured after his drawings, grouped so as to form bouquets of flowers. The volume contains besides, descriptions of nearly all our known indigenous flowering plants, and a copious index, which completes the general attraction and utility of the work.

LONDON: WM. S. ORR & CO., AMEN CORNER, PATERNOSTER ROW.

PART IX.] PRICE ONE SHILLING. [JANUARY.

THE

POULTRY BOOK:

INCLUDING

PIGEONS AND RABBITS.

COMPRISING THE

CHARACTERISTICS, MANAGEMENT, BREEDING, AND MEDICAL TREATMENT OF POULTRY;

BEING

THE RESULTS OF PERSONAL OBSERVATION AND PRACTICE OF THE REV. W. W. WINGFIELD, G. W. JOHNSON, ESQ.,

AND THE MOST CELEBRATED BREEDERS OF THE DIFFERENT VARIETIES.

THE PIGEONS AND RABBITS BY MR. HARRISON WEIR,

AND OTHER MEMBERS OF THE PHILOPERISTERON SOCIETY.

THE WHOLE RE-ARRANGED, AND PARTLY RE-WRITTEN, BY

MR. W. B. TEGETMEIER.

WITH

COLOURED REPRESENTATIONS OF THE MOST CELEBRATED PRIZE BIRDS, AND FAC-SIMILES OF ALL THE MOST ESTEEMED VARIETIES OF PIGEONS AND RABBITS,

DRAWN FROM LIFE

BY MR. HARRISON WEIR,

And Printed in Colours under his Superintendence.

LONDON:
WM. S. ORR AND CO., AMEN CORNER, PATERNOSTER ROW.
MDCCCLVII.

In consequence of the great time required in printing and properly drying the Plates, the Proprietors are compelled to issue the present Part of THE POULTRY BOOK with Letter-press only; but Parts X. and XI. will each contain Three Plates, to supply the deficiency.

It will be observed that the Letter-press short in Parts VI., VII., and VIII. is now supplied.

By an error of the printer, a few copies of the Coloured Plate of Mr. Worrall's Golden Pencilled Hamburghs, were misnamed Golden Spangled Hamburghs.

He wore a smock-frock, and was clumsily, though potently built, his shoulders being ample, and of a rotundity resembling a wool-pack; his legs were not equal to his bulk; he was unconversational, almost to a fault, and never made even the slightest remark that did not appertain to cocks or cocking; his narrow, damp, colourless eye, twinkled a cold satisfaction when a bird of promise made good work on the mat, and sometimes, though seldom, he was elevated into the proffer of a moderate bet; but generally he leaned over the rails of a small gallery, running parallel with the coop, and stooping attentively towards the pit, watched the progress of the battle. I remarked he was extremely like a cock—old Nash's beaked nose, drawn close down over his mouth; his red forehead and gills; his round body, and blue, thin legs; and his silver-gray, scanty, feathery hair, lying like a plume over his head, all proved him cock-like. This man, thought I, has been cooped up in pens, or penned up in coops, until he has become shaped, coloured, mannered like the bird he has been feeding. I should scarcely have been surprised, if told, that old Nash crowed when the light first dawned of a summer's morning. I warrant he pecked bread and milk to some tune, and, perhaps, slept upon a perch! But Fleming lifted his bird from the bag, and my whole mind was directed his way: this was a yellow-bodied, black-winged, handsome cock, seemingly rather slight, but elastic and muscular; he was restless at the sight of his antagonist, but quite silent; and old Nash examined him most carefully, by the paper, and delivered him up to Fleming, upon finding him answer to his description. The setters-to then smoothed their birds, and handled them, wetted their fingers, and moistened their bandaged ankles, where the spurs were fastened; held them up opposite to each other, and then pampered their courage and prepared them for combat.

"The mat was cleared of all persons except Fleming and young Nash; the betting went on vociferously; the setters-to taunted the birds with each other's presence—allowing them to strike at each other at a distance—put them on the mat facing each other—encouraged and fed their crowing and mantling, until they were nearly dangerous to hold, and then loosened them against each other for the fatal fight.

"The first terrific dart into attitude was, indeed, strikingly grand and beautiful; and the wary sparring, watching, dodging for the first cut, was extremely curious. They were beak-point to beak-point, until they dashed up into one tremendous flirt, mingling their powerful, rustling wings and nervous heels in one furious confused mass. The leap, the fire, the passion of strength, the *certaminis gaudia*, were fierce and loud: the parting was another kind of thing, every way. I can compare the sound of the first flight to nothing less than that of a wet umbrella forced suddenly open. The separation was death-like: the yellow, or rather the ginger bird, staggered out of the close, drooping, dismantled, bleeding: he was struck.

"Fleming and Nash severally took their birds, examined them for a moment, and then set them again opposite to each other. The handling of the cocks was as

delicate as if they had been made of foam, froth, or any other most perishable matter. Fleming's bird staggered towards his opponent, but he was hit dreadfully and ran like a drunken man—tottering on his breast, sinking back on his tail—while Nash's, full of fire and irritated courage, gave the finishing stroke, that clove every particle of life in twain. The brave bird thus killed, dropped at once from the 'gallant bearing, and proud mien,' to the relaxed, draggled, motionless object that lay in bleeding ruin on the mat. I sighed and looked thoughtful, when the tumult of the betters startled me into a consciousness of the scene at which I was present.

"The victor cock was carried by me in all his pride, slightly scarred, but evidently made doubly fierce and muscular, by the short encounter he had been engaged in. He seemed to have grown double the size: his eyes were larger.

"The paying backward and forward of money, won and lost, occupied the time until the two Nashes again descended each with another cock.

"Sometimes the first blow was fatal, at another time the contest was long and doubtful, and the cocks showed all the obstinate courage, weariness, distress, and breathlessness which mark the struggle of experienced pugilists. I saw the beak open, the tongue palpitate, the wing drag on the mat; I noticed the legs tremble, and the body topple over upon the breast; the eye grow dim, and even a perspiration break out upon the feathers of the back. When the battle lasted long, and the cocks lay helpless near or upon each other, one of the feeders counted ten, and the birds were separated and set-to at the chalk. If the beaten bird does not fight while forty is counted, and the other pecks or shows signs of battle, the former is declared conquered.

"The cocks were the next objects of curiosity. A covering was hung before each pen, so that I heard rather than saw the cocks; but it was feeding time, and I beheld innumerable rocky beaks and sparkling eyes at work in the troughs; and the stroke of the beak, in taking up the barley, was like the knock of a manly knuckle on the table. Old Nash was mixing bread and milk for his feathered family."

CHAPTER XIV.

PENCILLED HAMBURGHS.

In approaching the consideration of those varieties of poultry now known as Hamburghs, the Editor is conscious that he is entering upon a subject that has given rise to warmer controversy than any other within the whole range of poultry literature; but not being prejudiced in favour of any particular theory or system of nomenclature, he intends to bring before his readers the facts bearing upon the matters in dispute, and to draw his own conclusions from them; although, by so doing, he is aware that he will incur the criticism of all those with whom he unfortunately happens to differ.

Firstly, as to the name of *Hamburgh fowls*. At the present time, the great majority of English poultry breeders recognise five varieties included under this title,—namely, Gold and Silver-pencilled Hamburghs; Gold and Silver-spangled Hamburghs; and Black Hamburghs. The general recognition of this nomenclature is an established fact: it is employed at nine-tenths of our poultry shows, and understood by the great body of exhibitors and breeders. Such being the case, any attempt at alteration would be injurious in the extreme, and attended by inextricable confusion.

The correctness of such a system of nomenclature is entirely another question. There is no doubt but that these fowls had originally no title whatever to the name of Hamburghs; which was in the first instance given to them by some gentlemen connected with the early Birmingham shows. It is true that the pencilled birds formerly were, and still are, imported in considerable numbers from Holland, under the name of Pencilled Dutch, and Dutch Every-day Layers; but the spangled birds appear to be exclusively English fowls, and are essentially a distinct variety, in size, plumage, and osteological character; and, lastly, the name of Hamburgh had previously been applied to one of the varieties of feather-crested fowl, now known as Polish. A more unfortunate selection of a name could scarcely have been made; but having come into general use, it would only render "confusion worse confounded" to attempt to introduce any fresh alteration; and of the old names which were superseded, it is not too much to say that they were equally objectionable to those in present use.

The only alteration that could be made without extreme confusion, would be that suggested by a recent writer in the *Field* newspaper, namely, to substitute the term "fowls," for that of "Hamburghs," when the varieties would be classified as the Gold and Silver-pencilled fowls, and Gold and Silver-spangled fowls. This would do away at once with the very objectionable and absurd name of Hamburgh, the no

less ridiculous one of Pheasant fowls, and a whole host of ill-understood provincialisms that are merely of local employment. But unfortunately the suggested alteration would leave the Black Hamburghs without a name, as they could scarcely be termed Black fowls.

The Pencilled and Spangled birds, although frequently described together, are so essentially different in character, that their consideration will be greatly facilitated by regarding each as a distinct variety, and devoting to them separate chapters.

The *Silver-pencilled birds* may first claim our attention. It deserves our notice that tradition, our oldest naturalists, and even the names by which our fowls were originally called, all assign to them an Eastern origin; even many of our modern names,—Bantam, Malay, Cochin, Chittagong, and Brahmapoutra,—point to a similar origin: nor is the fowl now under our consideration an exception, for its earliest describer, Aldrovandus, calls it the *Gallina Turcica*, or Turkish Fowl. The white body, the black markings, the greenish-black tail, and the blue-tinged legs, are all characters which show that the old naturalist had before him specimens of the Silver-pencilled Hamburgh. Perhaps no variety of fowl ever rejoiced in more synonyms than this very pretty, and, in suitable situations, profitable breed; they are known as *Bolton Grays*, from being extensively and successfully cultivated in and about Bolton, in Lancashire; *Creoles*, from the intermixture of the black and white in their plumage; *Creels*, which is only a provincial mode of pronouncing Creoles: *Corals*, because the numerous points of their polished, bright scarlet rose-combs, bears no distant resemblance to red coral; *Pencilled Dutch*, because many are imported from Holland; *Dutch Every-day-layers* and *Everlastings*, for the same reason, and their great productiveness as layers; and *Chitteprats*, the derivation of which is not so obvious. *Chitteface*, according to Bailey the lexicographer, means a meagre child; and *Chitteprat*, if intended to describe a diminutive hen, would not be misapplied to one of this variety.

The general characters of Pencilled Hamburghs may be thus stated:—They are birds of small size, compact and neat in form, sprightly and cheerful in carriage. In the plumage on the body of the hens, each feather, with the exception of those of the neck-hackle, is pencilled with several transverse bars of black on a clear ground, which is white in the silver, and a rich bay in the golden birds. These pencillings have given rise to the name of the variety. In the cocks there is a general absence of these markings, the birds being either white or bay. In both sexes the tails are dark, legs blue, with fine bone. The comb is a rose, square in front and well peaked behind; the ear-lobe a well-defined white; the face scarlet. For the detailed account of their characteristics, we are indebted to a gentleman whose diligent researches into the history of many of the varieties of poultry, entitle him to the thanks of all interested in our subject, and who has been a diligent and successful rearer of this breed for many years; although it is but fair to state that he repudiates most strongly the introduction of the term Hamburgh, and regards

their proper title as that of Pencilled Bolton Grays, or Silver-pencilled Dutch Every-day Layers.

CHARACTERISTICS OF SILVER-PENCILLED HAMBURGHS.

COMMUNICATED BY MR. BERNARD P. BRENT, OF BESSEL'S GREEN, SEVENOAKS.

WEIGHT AND SIZE.—Rather below the general standard.

CARRIAGE AND FORM.—*Cock.* Carriage erect; tail well up, head thrown back until the neck often touches the tail; form neat and elegant.—*Hen.* Carriage sprightly, but not so impudent as that of the cock; noisy and restless, neat and pretty.

NECK-HACKLE.—In both sexes pure white; pencilling with black being very objectionable.

SADDLE.—*Cock.* Pure mealy white. In the hen each feather barred or pencilled with black.

TAIL.—*Cock.* Tail black; sickle and side sickle-feathers black, glossed with green, and having a narrow white edging.—*Hen.* Ground colour black, barred with silver, but mostly in the two upper feathers.

BREAST.—*Cock.* White.—*Hen.* Well barred or pencilled.

UPPER WING-COVERTS OR SHOULDER.—*Cock.* White.—*Hen.* Regularly barred or pencilled with black.

LOWER WING-COVERTS.—*Cock.* White, barred with black on the inner web, showing a line of dots across the wing, forming a bar.—*Hen.* Regularly barred.

SECONDARY QUILLS.—*Cock.* White on outer web; blackish on inner web, with a green-glossed black spot at the end of the feathers.—*Hen.* White, with regular black pencilling.

PRIMARY QUILLS.—*Cock.* Black, with white shafts.—*Hen.* Black and gray; waved on inner web.

THIGHS.—*Cock.* White.—*Hen.* White, barred with black.

LEGS AND FEET.—Clear leaden blue.

COMB.—*Cock.* A square rose comb, evenly set on the head, well sprigged above, not hollowed on the top, and terminating in a single flattened pike behind.—*Hen.* The same, but much smaller.

WATTLES.—*Cock.* Bright red, slightly elongated.—*Hen.* Smaller.

EAR-LOBE.—In both sexes, white.—FACE, red.

Mr. Brent also states, "By all means avoid the chestnut patch which is too frequently seen on the wing of the cock, who should have a sufficient depth of colour in the markings of the wings, and in the gray down at the roots of the feathers, or he will not breed darkly-marked hens; for although the sickle-feathers of a golden cock may be bronzed all over without fear of spoiling him as a breeding bird, such an amount of silver on a silver cock's tail would, in the majority of cases, cause him to throw light hens. The tail of a silver-pencilled pullet should be neatly

barred in her first full-sized plumage; but I find they become waved or grizzled after he second or third moult."

Golden-Pencilled Hamburghs.—In these birds, which are also known as Golden-pencilled Dutch, and Bolton Bays, the characteristics are the same as those of the Silver-pencilled; but with this exception, that the ground colour of the plumage is a golden red or bay, instead of mealy white or silver. Mr. Brent remarks, "As a Golden cock will breed good hens with much less depth of under colour than the Silvers, the argument in favour of their having bars on the wings, and black inner webs to the quill-feathers, is not so imperative; and the sickle-feathers of the Golden cock may be bronzed all over."

As this is a matter of much importance in the exhibition pen, we gladly quote Mr. Brent at greater length from the "Cottage Gardener":—"It is my opinion that the tails of both Golden and Silver-pencilled cocks should be a deep unspotted black; that the tail-coverts, or, as they are commonly called, the sickle-feathers, should be of a deep glossy black, with green and purple reflections, and finely edged or laced in the Golden with coppery brown or bronze, and in the Silver with grayish white. I am aware that this opinion is adverse to that of some of our judges and exhibitors, and that they consider a wholly bronzed or silvered tail of much importance; but such theory is not borne out by the experience of the practical breeder. Numbers of instances might be quoted to show the fallacy of the bronzy tails. How often is it noticeable in the show-pen that the cocks with the most silvered or bronzed tails are matched with the worst marked hens; while few who went to the late Anerley Show, if they had any idea of the points of a Pencilled hen, could have passed unnoticed two pens of magnificently marked Silver hens, better than which I never remember seeing, with a card above them which informed the public that the hens only were sold to Mr. Archer,—a pretty plain indication that that gentleman appreciated their value; but he neglected the cocks; nor were the pens noticed by the Judges. And why? because they had black tails. The sickle-feathers were only edged, as I contend they ought to be; and, moreover, they had the bars on the wings, so difficult a point to be obtained in this breed. By bars I do not mean a double row of moons or spots, like those of the Pheasant fowl, or so-called Spangled Hamburgh, but simply an irregular narrow black line across the wing, formed by small spots on the end of the first row of wing-covert feathers. These covert feathers should be barred with black on the inner web, which is hidden from view, the outer being clear, either red in the Golden or whitish in the Silver, with a narrow black spot at the point, which forms the bars.

"My reason for advocating the black tail and bars on the wings is, the necessity of a certain depth of under-colour in the cock; for as the male parent influences the plumage of the female offspring, so, if the cock has not a sufficiently dark under-colour, he cannot, as a rule, produce dark, well-marked pullets; and it is therefore necessary that the cock should have a black tail, black pinion feathers, that the inner

webs of the secondary wing feathers should be black, and the inner web of the lower covert feathers should be barred with black. These I consider as the outward signs of a Pencilled cock's being likely to produce good, well-marked hens. I do not pretend that it is an infallible rule—exceptions may occur; nevertheless, my experience shows that a cock with good depth of under-colour will, as a general rule, produce much handsomer pullets, and in much greater abundance, than a light one with silver tail or white pinion feathers—a point which is too often disregarded by our judges and breeders of this truly beautiful and useful variety."

With regard to the effects of crossing the two Pencilled varieties, Mr. Brent states,—"A Golden-pencilled cock coupled with a Silver-pencilled hen, I have always noticed to produce Golden-pencilled pullets, and Silver cockerels with a chestnut wing patch."

Pencilled Hamburghs of both varieties are scarcely to be surpassed in beauty by any of the other denizens of the poultry yard: their slim, compact forms, especially in the hens; their sprightly, active, cheerful carriage; and the contrast of their ample scarlet combs, and well-defined white earlobes, with their neatly barred plumage, render them exceedingly ornamental. Nor are they behind in profitable characteristics; for being of roving habits, they range well, and provide themselves with a considerable portion of food: in fact, in many situations, these powers of flight are so much exercised as to lead them to be an annoyance to neighbouring residents. But this, again, is not without its own special utility, for it renders their abstraction by any pilfering thief an act of very considerable difficulty; and if disturbed at night, they commence such an outcry as can scarcely fail in arousing the sleeping vigilance of their owner.

As layers, Pencilled Hamburghs, as may be judged from their synonym of *Dutch Everlastings*, rank very high, although, as may be imagined from the size of the hens, the eggs are rather small. They are non-sitters; not one in many hundred ever indicating the slightest desire to hatch. For the following excellent *resume* of their economical merits, we are again under obligations to Mr. Hewitt, who states:—"The Hamburghs are excellent layers, provided they have free liberty on an unrestricted grass-run; they are most impatient of confinement, particularly the Pencilled varieties, and very susceptible of disease wherever over-population and limited space are unfortunately combined. They 'shift for themselves' better than any, excepting the Game, and are not, therefore, expensive as to keeping; indeed, I believe (in comparison to the food consumed) none produce so large an amount of eggs, taking the whole year from end to end, whether we estimate by weight in the aggregate, or by numbers; their chief production, however, is during the milder months. The flesh of Hamburghs is very superior; and they are always, as chickens, in fit condition for the spit, if only tolerably well fed, without any additional preparation. Being a small-boned fowl, they proved, when carved, to be much more fleshy than might be imagined at first-sight.

"They generally roost high, and in places difficult of access, if any possible chance of so doing presents itself; combined with this, if disturbed during night-time, they never cease screaming violently until destroyed outright; hence, I have known many instances where midnight prowlers after hen-roosts have been at once detected, or luckily prevented absconding with their booty, the reiterated cries of alarm from their victims calling forth the immediate aid of the proprietor. In case, too, of attack from vermin, their agility generally preserves them from injury; for on such occasions they will fly like pheasants, and readily take to trees or the highest buildings: for these simple reasons, it is very rarely any of these fowls are 'absent without leave.' I have, during my somewhat lengthened experience in poultry matters, met with a few isolated instances in which Hamburghs have incubated their own nest of eggs steadily, and afterwards manifested the most exemplary attention to their chickens. But such cases are very few, and quite opposed to general rule: it is also invariable (so far as my knowledge extends) that the nests of such hens have been 'stolen' in some secret out-of-the-way place, and the numbers of eggs previously laid have held out unusual inducements to incubation. On one occasion more particularly, I well recollect a hen Golden Pencilled Hamburgh 'laid away' under the floor of a barn, to which, unknown to the owner, she had obtained a private mode of access: she laid all her eggs on the dry, somewhat chaffy ground, a hollow being made previously by her own exertions. Here, quite secluded from both observation or even daylight, she hatched eighteen chickens, and brought them out herself; and from close after-inspection by the owner, it proved all the eggs had produced chickens, as the shells still remaining tallied exactly with the chickens following her. She reared sixteen of these youngsters. I also knew another case in which from sixteen eggs 'laid away' behind some old refuse timber, fourteen chickens were hatched, whilst the remaining two contained fully-formed chickens. The exact number that were eventually reared I do not know, but am certain it proved the greater proportion. A circumstance connected with these instances of Hamburghs hatching their own young, though a digression, I consider well worthy of notice; viz., in both cases referred to, the proprietors of the fowls mentioned had placed many sets of other eggs from the *same* hens, for sitting under strange foster-mothers, the *greater* proportion of which were *unproductive*, whilst the eggs in the 'stolen nests' were all fruitful. I will not myself attempt to assign a cause for this marked difference in their fertility, but simply confine myself to the narration of the fact. In both instances these fowls were harassed by a continual and rigid daily search for eggs produced, and thus fretted, concealed their nests, most probably, simply to avoid molestation, and nature accommodating herself to such unusual circumstances, induced these particular instances of a desire for sitting. My conclusions on this latter point are arrived at also from the circumstance, that I myself never yet knew any case whatever where a thoroughly well-bred Hamburgh hen commenced sitting openly, and with the previous knowledge and concurrence of her owner. They will

sometimes appear dull and broody for a day or two under such circumstances; but the effort seems quite unnatural, and speedily passes away. It is but right to add, in the two first instances I have mentioned of successful rearing, both parents were perfectly well-bred; and the offspring thus strangely procured, afterwards took numerous first prizes at different poultry exhibitions.

"All the Hamburghs are somewhat prone to faulty combs, from either being 'hollow' in their centre, or, what is a still more fatal disqualification for exhibition, the combs lop over, or fall to one side or other: this should be most especially avoided in selecting for the purposes of competition. Humpbacked Hamburghs are also by no means uncommon; but whether for exhibition or for brood stock, they should never be retained, as such malformations are not only inadmissible for premiums, but also this failing ofttimes proves hereditary for very many generations. The Hamburghs are extremely ornamental varieties of poultry, and form very striking additions when standing in groups near any homestead; this, combined with their extraordinary production of eggs, the excellent quality of the flesh, together with the very small amount of general care they entail, causes them to be almost universal favourites. They are, however, somewhat troublesome and untiring pests when they happen to indulge in encroachments upon garden grounds, scarcely any natural fence being impervious to them; and even continuous ejectments will not frustrate their determination to persist in such encroachments. Still, all matters duly considered as to production and maintenance, I myself know no kind of fowls that will pay better than they do."

There is but one drawback to the value of Pencilled Hamburghs, and that, it must be acknowledged, is a serious one. If hatched early, say before May, they are difficult to rear, being very delicate during chickenhood, and suffering severely in cold wet weather; and the old birds are perhaps more subject to roup, if kept in damp, cold, unhealthy situations, than any variety of fowl, except, perhaps, Black Polish. Dryness in the poultry-yard, a more sheltered run and good feeding, are the best preventives of this scourge of the poultry breeder. For the treatment, when it has unfortunately gained entrance into the stock, we must refer to the chapter treating on Poultry Diseases.

CHAPTER XV.

SPANGLED HAMBURGHS.

THE same warm discussions which have arisen respecting the nomenclature of the birds described in the last chapter, have, even with increased intensity, prevailed respecting the varieties at present under consideration.

Of their origin, it may be stated that little or nothing is known; and their history is simply this, that, under the names of Gold and Silver Pheasant fowls, Gold and Silver Mooneys, Red Caps, Creels, and Copper Moss, they have been long and assiduously cultivated by the north of England breeders. For long periods of time have pheasant fowl clubs existed in several of the northern towns, where single hens were exhibited for competion, the prizes being frequently such homely articles as copper tea-kettles, coal scuttles, rocking-chairs, and other equally useful implements of household utility. To the name of Hamburgh they have, as stated in our last chapter, not the slightest claim, it having been given to them at Birmingham, because of their fancied resemblance to the Pencilled Dutch. Mr. Brent regards the Silver-pencilled birds as the origin of all the different varieties now termed Hamburghs; but from this conclusion the Editor differs most decidedly. It is difficult to see by what process a Spangled bird (that is, a bird with a large moon-shaped crescentic mark at the end of each feather) can be bred from a Pencilled one: and, again, the character of the plumage in the cocks is so utterly distinct, that, even without reference to the remarkable osteological differences in the skull, there can be no question as to their being a distinct variety. Again, pencilled feathers are most easily obtained by cross-breeding; but spangled ones rarely, if ever. Still, as before stated, the name of Spangled Hamburghs has been generally received and understood; and therefore, erroneous as it doubtless is, we avoid a greater confusion by retaining it.

The term Gold and Silver Pheasant fowl, evidently took its rise in the opinion that these birds originated in a cross with wild pheasants. As this opinion is still held by many who are unacquainted with the fact that all such hybrids are sterile, we have much pleasure in inserting the following account of several of these birds from the pen of Mr. Hewitt:—"As my desire is to prevent, as far as possible, any poultry amateur from incurring unnecessary anxiety, trouble, or expense at the commencement of his career, by the pursuit of objects that are either altogether unattainable, or actually worthless if secured; perhaps a few hints as to hybrids (between the pheasant and fowl) will be esteemed interesting, as at one period I devoted considerable attention to the subject; and although these experiments were tested for

some years, and necessarily entailed no slight expenditure, the results were, as a whole, the very reverse of satisfactory, for my hope was to procure a really beautiful as well as singular plumage. The common popular error that, even in the present day, fails not to delude numbers of unpractised poultry fanciers into the impression that the Golden-spangled Hamburgh,—or, as it is universally called in the northern counties, the 'Golden Pheasant,' or 'Pheasant Fowl'—was the product of a 'cross' between the real pheasant of our woods and a hen of our common domestic fowl, I should have thought was a folly that had long since been exploded: indeed, a position that no real naturalist could by possibility have ever entertained. Yet so it is: many parties are still found, not only dictatorially asserting it as an absolute fact, but likewise producing the common Spangled Hamburgh fowl as the fruit or invariable product of this unusual connection. Such individuals generally endeavour to support their statement by an appeal to the irregularity of the markings of the birds produced; and insist that the repetition (at intervals) of the cross is actually needful, to perpetuate this beauteous distinction of feather. However dogmatically such principle may be enforced, it is, without doubt, the most egregious nonsense that was ever attempted to be palmed into public favour; and evidently in not a few instances is it practised on the unwary simply as a delusion to secure sale for the birds in question at enhanced prices, and of course at sums far beyond their real value, as simply a variety of fowls.

"That the common Wild Pheasant will breed occasionally with the domestic fowl, and that too of almost any variety, I unhesitatingly admit: but although I have for years made the closest investigation in all such cases as came under my notice, I never most certainly met with even one solitary, one isolated instance, where a hybrid was produced, if the pheasant had been 'wildly' bred, and still retained unlimited freedom. To obtain so unnatural a product, I have always found it altogether indispensable for the pheasant itself to have been previously hatched and reared beneath a common fowl. If afterwards restored to comparative liberty, I have then known the pheasant so released to still associate with the poultry, and actually produce the hybrid by intermixture with a domesticated hen; but even in this case, the partiality has been confined to some particular favourite, and the pheasant has certainly not lavished his attentions equally on all. But even these instances are exceedingly rare ones; and the half-bred offspring is only to be attained, as a rule, by close confinement of the pheasant with its allotted mate, either directly in an aviary, or some very restricted premises of a like nature. Here difficulties still surround the fancier who attempts their procreation, for but few of the eggs will usually prove fertilized: and that, too, however fond and salacious the pheasant may appear to be; or, again, however carefully its owner may have guarded against access to females of its own race—as the introduction of even a single such specimen will commonly estrange all feelings of affection that had before-times been indulged. The results desired are rendered far more probable, as will have been supposed, by confining the whole of

the attentions of the pheasant to one solitary female, of whatever variety of domesticated poultry it may have been previously arranged. It is also certain, that pheasants are most capricious in their attachments, and that with some hens they will not under any circumstances associate; but, though constantly abiding with them in apparent good-fellowship, it extends itself no farther than positive indifference. Again, not unfrequently, from some inexplicable cause or other, they seem to entertain the most determined aversion to the mate selected for them by their proprietor; and certain it is that, in this case, no artifice will produce anything even approaching to reconciliation. In such an exigency, the old school axiom, that 'perseverance commands success,' is thrown overboard altogether; and the sooner a change takes place, the greater probability will there be of a successful issue. I will now, therefore, at once very briefly detail the results of intermixture with the five following varieties, simply first explaining that all five hybrids possessed alike the following characteristics:—Extraordinary wildness; heads altogether devoid of either comb, wattles, or deaf-ear; tails very closely approximating in general conformation to that of the Chinese Golden or Silver Pheasants, but not so lengthy; and the bodily size was far superior to that of the hen producing them. The colours of the plumage in all cases (one excepted) were likewise excessively darker than that of the variety of hen appointed for breeding them; whilst their contour, as a whole, inclined almost entirely to that of the pheasant.—1st. With the Spanish hen, bred by Mr. Keeling, of Vauxhall, Birmingham, the offspring proved (when adult) entirely black, and that, most singularly too, was altogether of a dull sooty hue; the eyes were yellow. Its weight was nearly seven pounds; and it therefore, to the eye, presented an appearance nearly as large as that of the curassow. Around the eye, more particularly on the face beneath it, the velvety character peculiar to the pheasant itself was well developed.—2ndly. With a Black-breasted Red Game hen, the scapular feathers were marked with nearly as much regularity as in the male parent, as were also the markings on the breast; but the ground colour was so extremely dark (wetted cinnamon), that none of these markings were visible, unless a powerful light rested on the bird's plumage. The neck was iridescent, black, brightly glossed with green. This specimen possessed a perfectly plain face, feathered up closely to the eyelid; eyes deep hazel. It belonged to the writer, was very large, and weighed somewhat more than six and a half pounds.—3rdly. With the Buff Bantam, bred by the gamekeeper at Chirk Castle, Denbighshire. The progeny here proved very nearly as dark-coloured as the last; but in patches it was irregularly tortoise-shelled, and was really a handsome specimen; in size fully equal to a Malay hen. Although the neck and head were dark as a pheasant's, the face bore a strong resemblance to white Genoa velvet. This singularity caused it to be greatly admired. The eyes were yellow.—4thly. With a Golden-spangled Hamburgh, the result proved a bird black in the *ground*-colour! the tips of the feathers slightly 'laced' with very deep brown; but these were exclusively confined to the shoulders and crop, the tail being slightly 'barred.'

The whole bird did not, at two years old, possess one single 'spangle,' although the hen was a most perfectly 'mooned' bird. It was the property of a friend at Wolverhampton, who, on account of its indomitable wildness, objected to its being caught for the purpose of weighing; therefore, my only description of size must be confined to the fact, that it appeared fully twice as large as the mother hen.—5thly. The progeny (on the female side) of a really superior Silver-spangled Hamburgh hen. It was bred by Mr. Watson, of Birmingham; and, I admit, was the most attractive in its plumage of any I ever yet met with. The ground-colour was silvery white, the markings of an irregular but most curious close pencilling, the wing-feathers and tail being deeply 'barred;' the face was of a common flesh-colour, and without even the vestige of covering of any kind; the eyes were as purely white as those of a gray parrot. This gave the bird a somewhat sickly look (that was unpleasingly suggestive of a similarity to poultry when long diseased, and the florid hues have left them pale and emaciated); still, the defect proved only an eyesore, for the hybrid was unquestionably in good condition, strong, and heartwell. It was fully twice the size of the pheasant. The 'pencillings' betrayed at intervals a disposition to run into each other; on the shoulders of this bird especially they commingled, until they actually formed a kind of general fretwork: and I will particularly allude to the fact that not a single 'spangle' was visible anywhere; while, had it existed at all, it would have been very singularly apparent, on account of its dissimilarity to the ground-colour. All the markings were of a very deep black colour. From the five results just narrated (and I could easily allude to numerous other cases if I desired it), it will be seen in no case was there to be found the 'spangle' or 'moon' so much dwelt on as the improved consequence of pheasant consanguinity. Why such a fiction should be persisted in, I really cannot imagine; except by attributing it to the speculative misrepresentation, to encourage the sales before-named, and to thus wilfully impose on the inexperienced or the credulous; and my object in refuting this popular error is, if possible, to prevent its repetition on the unwary. My own motive for attempting their production, was entirely to prove their markings and character. The markings were variable as could be, and the birds as pugnacious as it is possible to imagine; added to this, I never knew any instance where they did not destroy all the eggs they could procure. As anticipated, they were always sterile, and unsociable. It should be borne in mind that the five instances specified were not cases where only a single bird was produced from a hatch of eggs, for it generally happens that if a single egg proves fertilized, there are several others that are equally productive in the same nest; but I have purposely selected them as fitting illustrations. Still, oftentimes incredible numbers of eggs may be incubated, before a solitary chicken is obtained. When once hatched, they are very easily reared, but manifest their peculiar and extreme pugnacity at a very early age, maintaining a constant warfare, even when among themselves,—a feature that continues to their life's-end, whatever description of poultry may be appointed as their

associates. This want of sociability renders them a perpetual pest, unless they enjoy exclusive possession of a purposely allotted habitation. Indeed, a gentleman who once accompanied me to inspect several of them that had been reared with great kindness and good usage, and still remained constantly under the eye of their owner, remarked—'they seem as wild as hyenas.' They are in truth always, if in health, roaming about in the most unsettled manner from morn until night closely approaches; their cry is peculiar to themselves, and the frequency with which it is uttered is annoying, as it is plaintive, hoarse, and guttural. The greatly increased size and weight of these birds beyond that of their immediate progenitors, although very striking to the eye at first sight, constitutes no especially remarkable characteristic of a *first* cross-breeding. In poultry generally, the same result may be produced by the adoption of these simple means; although continued breeding from the same stock at once produces degeneracy. But any intermixture between birds of so diverse a species as pheasants and fowls, can never be extended beyond the first cross, which is one reason why their unexpected size renders them so remarkable. Although at a poultry exhibition they invariably serve as a chief attraction to most visitors, my convictions are, that such a position is the extreme limit of their utility."

In the prize lists of our poultry shows, Spangled fowls are invariably arranged in two groups—namely, Golden and Silver-spangled Hamburghs; each will therefore claim at our hands a separate consideration. But before entering into the details of their characteristics, it will be desirable to define what is meant by a spangled feather. In the technical use of this word by poultry amateurs (and such is the only mode in which it concerns us at present), it consists of a dark moon-shaped or crescentic mark at the end of a white or bay feather—it must not be confounded with a laced feather, in which there is a dark edging of nearly uniform width around the entire feather;—whereas, in a spangle the black is confined to the moon-shaped mark at the extremity; and both are perfectly distinct from the pencilled feather, with its transverse bars of black, as described in our last chapter.

For the following characteristics of the Silver-spangled birds, we are indebted to a gentleman who has been very successful as an exhibitor.

CHARACTERISTICS OF SILVER-SPANGLED HAMBURGHS.

COMMUNICATED BY A. G. BROOKE, ESQ., WOODBRIDGE, SUFFOLK.

WEIGHT.—*Cock.* About six pounds.—*Hen.* From four to five pounds.

CARRIAGE.—*Cock.* Proud, upright, bold, with very prominent chest.—*Hen.* Upright, sprightly.

GENERAL CHARACTER OF THE PLUMAGE.—Clear white ground, with distinct green-black spangles; plumage brilliant and glossy.

NECK-HACKLE.—*Cock.* White, tipped with black.—*Hen.* White, striped with black.

SADDLE.—*Cock.* Long and full; regularly spangled or spotted with black.—*Hen* Boldly and regularly spangled.

TAIL.—*Cock.* Full ample flowing tail; feathers pure white, boldly tipped with black.—*Hen.* Pure white; each feather deeply tipped with black.

BREAST.—*Cock.* White ground; regularly spangled with black.—*Hen.* Correctly spangled.

UPPER WING-COVERTS OR SHOULDER.—*Cock.* Pure white, regularly spangled.—*Hen.* Evenly spangled.

LOWER WING-COVERTS OR BARS.—*Cock.* Two bars distinctly marked on a white ground.—*Hen.* Two bars distinctly marked.

SECONDARY QUILLS.—Clear black edging or lacing on white.

PRIMARY QUILLS.—White, tipped with black.

THIGHS.—Distinctly and clearly spangled.

LEGS AND FEET.—Blue.

COMB.—*Cock.* Double rose-comb, square and wide in front; flat, without hollow on the top; covered with small points, and with a large pike behind, slightly turned upwards; the whole evenly set on the head.—*Hen.* Similar, but very much smaller.

WATTLES.—Very bright scarlet; full and round.

EAR-LOBE.*—Large, and pure white; face red.

EYE.—Dark.

Spangled Hamburghs are usually regarded as birds exceedingly impatient of confinement, and requiring a large and extensive grass-run: they fly, as has been justly remarked, like Pheasants, and know not bounds. The following communication from so successful an exhibitor as Mr. Brooke, will therefore be read with interest, proving, as it does, the possibility of keeping these active and roaming birds in perfect health and brilliant plumage, in very close confinement. Mr. Brooke states:—"My silver-spangled birds I always keep confined in places about twelve feet long and six feet wide, exclusive of the sleeping apartments, which are well ventilated, and have the floors either of asphalt, brick, or wood, raised a foot from the ground, and freshly sanded every morning. Their runs are also freshly sanded or gravelled once a week, and every morning swept clean, and then turned over with a spade, which prevents the ground becoming tainted. The fowls are not at all impatient of confinement, but appear very happy and comfortable, and thrive remarkably well. I never keep more than three birds in one yard—namely, a cock and two hens—as I have always found the fewer, when confined, the better. I am very particular that their water pans should be kept particularly clean; and as regards their food, I vary it as much as possible, always taking care that they have some sort of food by them. In the

* The Silver-spangled Hamburghs represented in the coloured plate, were deficient in the white ear-lobe, although otherwise exceedingly good birds, and the recipients of many prizes.

morning I generally give them mashed potatoes or middlings and barley-meal; and in the afternoon, either barley or oats, with a most liberal supply of green meat, such as cabbages or grass. Spangled Hamburghs are rather susceptible of cold; but I generally find that a few mashed potatoes, with a little cayenne-pepper, always relieves them. I have kept them in the manner I have described for the last three years, and have never had a fowl ill with roup or any other disease. I believe that when thus confined, cleanliness and a liberal supply of food are most essential. I have kept many other breeds of fowls, but have found that none of them would bear confinement for any length of time as these do. As regards the number of eggs laid by Spangled Hamburghs, I think it far exceeds that of any other variety. Mine average 220 a year from each hen—I am now writing of birds that are kept confined. To keep them free from vermin, it is essential that they should be supplied with a sand bath, which they use daily.

"In conclusion, I would strongly advise all rearers of Spangled Hamburghs to avoid breeding from birds with lopped combs; for I speak from experience when I state, that the chickens hatched from them usually have their combs lopped also."

The *Golden Spangled Hamburghs* now claim our attention. In the case of the pencilled varieties, no distinct lengthened description of the Golden birds was requisite, inasmuch as, allowing for variation in the ground-colour, the same characteristics applied to both Silver and Gold: but in the spangled breed, the case is widely different; and a separate detail becomes requisite. For this we have to express our obligations to Mr. Cannan.

CHARACTERISTICS OF GOLDEN-SPANGLED HAMBURGHS.

COMMUNICATED BY MR. WM. CANNAN, BRADFORD, YORKSHIRE.

WEIGHT.—*Cock.* Five to seven pounds.—*Hen.* Four to five pounds.

CARRIAGE AND FORM.—Very sprightly and cheerful.

GENERAL CHARACTER OF THE PLUMAGE.—Clear rich deep golden ground colour, free from small spots or splashing; with black spangles at the tips of the feathers, which in the sun reflect a green tinge.

NECK-HACKLE.—Deep rich golden colour, with black streaks; the hackle in the cock flowing gracefully over the back.

SADDLE.—*Cock.* Deep rich golden, with black streaks down the middle of each feather.—*Hen.* Well spangled.

TAIL.—*Cock.* Very full, with two large and several shorter bow feathers on each side; the colour glossy green-black.—*Hen.* Well developed; colour green-black.

BREAST.—*Cock.* Regularly spangled up to the wattles.—*Hen.* Very regularly spangled.

UPPER WING-COVERTS OR SHOULDER.—*Cock.* Dark green-black; the feathers showing the same golden ground-colour.—*Hen.* Deep golden colour, with regular green-black spangles on each feather.

Lower Wing-Coverts or Bars.—Two distinct, well-defined broad bars.

Secondary Quills.—With very bold green-black spots at the end of the feathers.

Thighs.—Regularly spangled.

Legs and Feet.—Blue.

Comb.—*Cock.* Double comb, full of points; not hollow in the centre, with a large pike at each end, turning a little up; well and evenly set on the head.—*Hen.* As above, only smaller.

Wattles.—Rich coral, of good size.

Ear-Lobe.—Large and white; free from all pinky spots.

Eye.—Dark.

Mr. Cannan further states:—"I wish to remark respecting the Golden-spangled Hamburghs, that there are two distinct breeds, the Yorkshire, and the Lancashire, or what in this neighbourhood are called the 'Red Cap.' Nine out of every ten of the Golden-spangled hens which have taken prizes during the last two or three years, have come originally from the neighbourhood of Ashton in Lancashire; for some years the working men there have had single hen shows; and they have certainly bred the birds to much greater perfection than we have in Yorkshire. I hope that in your remarks upon these birds, you will not fail to give these working men their due, as I have no remembrance of having seen it at any time mentioned in our poultry publications.

"There is another thing which I individually object to, and am sorry to say that I have found that it has recently been gaining ground in the awarding of prizes: I allude to the lacing of Silver-spangled birds, both male and female, between the bars. This I think a very bad fault in any bird: I cannot conceive how you can have a Spangled bird laced without deteriorating the breed. The next thing will be laced feathers upon the body.

"I may just say that I attribute the success of the Lancashire breeders of the Golden-spangled Hamburgh, to their having kept to the full bow-tailed cocks. I believe that they generally breed their pullets from Black-breasted cocks; and my experience goes with them, that you get the best marked pullets from Black-breasted cocks. I have little fear, now that the hen-tailed cocks have gone out of use in Yorkshire, that we shall see a great improvement in these fowls."

At the shows for single hens alluded to by Mr. Cannan, the birds are judged by rules which have been long in use. The following is the

TABLE FOR THE GOLDEN-SPANGLED HAMBURGH HENS.

POINTS.	MARKS OF FEATHERS, ETC., CONSIDERED BEST.
1st.—Comb . . .	Best double; best square; the most erect; and best piked behind.
2nd.—Ears . . .	The largest and most white.
3rd.—Neck . . .	The best streaked with green-black in the middle of the feathers; and best fringed with gold at the edges.

POINTS.	MARKS OF FEATHERS, ETC., CONSIDERED BEST.
4th.—Breast . . .	The largest moons; best and brightest green-black, most free from being tipped with white or red at the end of the moon, and the clearest and best red from the moon to the bottom colour.
5th.—Back . . .	The largest moons; best and brightest green-black, least tipped with white or red at the edges of the moon, and the best and clearest red from the moon to the bottom colour.
6th.—Rump . . .	The largest moons; best and brightest green-black, least tipped with white or red at the edges of the moon, and the best and clearest red from the moon to the bottom colour.
7th.—Wing . . .	This is divided into four parts:—1st, *Bow*. Best and brightest green-black, and best and clearest red.—2nd, *Bars*. To have two distinct bars, composed of the largest, clearest, brightest, and best green-black moons, and the clearest and best red from the moon to the bottom colour.—3rd, *Flight*. The clearest and best red.—4th, *The Lacing, or top of the wing, above the flight*. Largest, clearest, brightest, and best green-black spots on the end of the feathers, and the best and clearest red from the spot to the bottom colour.
8th.—Tail . . .	The brightest, darkest, and best green-black. To be full-feathered.
9th.—Legs . . .	Best and clearest blue.
10th.—General appearance	The best feathered hen.

Some years since a very considerable amount of public favour was bestowed on those Golden-spangled Hamburgh cocks in which there was an absence of the sickle tail feathers natural to the sex, or "hen-tailed" birds, in which their entire plumage, as well as the tail, partook very much of the character of that of the hen; but at the present time they receive little favour at the hands of the judges; and the practical breeders, as may be gathered from Mr. Cannan's communication, have also discarded them. The evidence against them cannot be better stated than it is in the following remarks by Mr. Hewitt:—

"I do not myself approve, by any means, of fowls of this character. It is quite certain their introduction before the poultry world has been of recent date; and were I at all desirous of so doing, I could adduce very many instances among my poultry friends in which 'hen-tail cocks' have received a prolonged and fair trial, but without ever having in a single instance produced a satisfactory result to their owners. I repeat, I never knew a solitary case where the chickens raised from a male Hamburgh of this description were either numerous or good-looking; although I have, at considerable personal trouble and expense, visited most of the yards of our 'celebrities' for Hamburgh fowls. Their comparative sterility has always been strongly inveighed against by those amateurs who have tested them, so far as my individual knowledge extends; whilst, moreover, I have known not a few of these 'hen-tails' that have been ultimately consigned to destruction, or sent away to the poulterer's at any price, in disgust, although purchased at the onset at such extraordinary sums, I should hardly dare to repeat them, lest they might (to the uninitiated in such matters) appear fabulous. My notions on all poultry, as to breeding

purposes, are these—fecundity should ever hold its position paramount to every other feature; and I strongly believe, when this fails, it affords the most conclusive evidence which could be desired, that Nature, forced from her accustomed path, revolts at the capricious restrictions Fancy alone endeavours to force upon her, and gives us sterility (or a close approximation thereto) for our pains. The Sebright Bantam instances another proof of the generally deficient character of 'hen-tails' as brood birds; and in this very 'petted' variety, notorious as it is for its superlative beauty of plumage, and widely extended as it has now become throughout the whole of the United Kingdom, the same failing is ever the loudly declaimed complaint, 'they are very pretty, but breed so indifferently.'

"I am inclined to believe the furor for the so-called 'hen-tails' among our Hamburgh fanciers has effected its own cure, and that the prevailing taste is decidedly to their disfavour. Be that as it may, most assuredly I would not myself advise the purchase of such birds by any poultry-fancier whatever, but rather the selection of a male Hamburgh possessing all the attributes and peculiarities natural to his sex: among these are well and extensively developed tail, hackle, and saddle feathers. The two latter varieties of feathers should be 'listed' down their centres with black, the edges being of the richest brown colour; but a very prevalent failing in the longest hackle feathers is being so very close an approximation to black altogether as to carry that appearance. The tail is decidedly black, but glossed with green. The breast must be perfectly 'spangled,' and not verging, as too frequently happens, either to entire black or a brown ground, tipped only, as it were, at the end of each feather with a slight marking. In good cocks the breasts are 'spangled' as correctly as in their mates: they are then undoubtedly most striking and beautiful."

In the previous descriptions of the Golden and Silver-spangled fowls, one variety of bird only has been recognized under each title. But in the north of England, where, as before mentioned, these breeds have been cultivated with great zeal and assiduity, several subvarieties are recognized, the existence of which is almost ignored in the southern counties, where they are all termed Spangled Hamburghs; and although it is certain that these subvarieties will always have to compete together, it is very desirable that they should be correctly described. To a gentleman whose valuable contributions have, under his own signature, already enriched our volume, we are again indebted for the following account, which was published in the *Field* under the *nom de plume* of "Experimenter":—

"There are three different varieties of Pheasant fowls, as follows:—1st, the Lancashire 'Creel,' or white-necked Silver Pheasant fowl. In this variety the hackles of both cock and hen are clear silver coloured; all the remaining plumage, even the quill-feathers of the wings and tail, have a silvery white ground, with a black spot at the extremity. I know of no Golden variety to match this.

"2nd. The Mooneys, or Golden, or Silver-Mooned Pheasant fowls—in which

the ground-colour may be either a silver-white, a golden-bay, or a deep coppery brown, the feathers are tipped with a shining black, as in the foregoing: the principal difference being, that in these the neck hackles of the cock and hen and the saddle feathers of the cock are striped with black; their tails, too, are all black.

"3rd. The third variety, and which I consider the best, are the Yorkshire Pheasants, of which there are also Golden and Silver; in these the hackles are laced, the rest of the plumage is pheasanted throughout; the saddle of the cock is short (or hen-feathered), and pheasant-marked like the hens, but perhaps not quite so accurately; his sickle-feathers, too, are much reduced in size."

The *Black Hamburgh*, or Black Pheasant fowl, still remains to be described. For the following description of this breed, which is rising rapidly in public estimation, we are indebted to a gentleman who has long been known as a very successful breeder of all the varieties of Hamburghs; and we have much pleasure in inserting it, as it is undoubtedly the most careful description of the breed that has appeared in print.

CHARACTERISTICS OF BLACK HAMBURGHS.

BY MR. WALTER HUGO, EXETER, DEVON.

WEIGHT AND SIZE.—*Cock.* Heavy birds will attain six or seven pounds.

CARRIAGE AND FORM.—*Cock.* Very bold and erect, but not formal.

GENERAL CHARACTER OF THE PLUMAGE.—*Cock.* A superb jet black, with an intense velvety-green spangle.

NECK-HACKLE AND SADDLE.—*Cock.* Black, pencilled with green.

TAIL.—*Cock.* Very long, full, and well developed; of a bronzy hue, excepting the outside flowing feathers, which are at the base of a deep blue or green.

BREAST.—*Cock.* Intense black, with dark green spangles.

UPPER WING-COVERTS OR SHOULDER.—*Cock.* Black, spangled with green.

LOWER WING-COVERTS OR BARS.—*Cock.* An intense, well-developed green; extremely beautiful.

SECONDARY AND PRIMARY QUILLS.—*Cock.* Black.

LEGS AND FEET.—Blue.

COMB.—*Cock.* Extremely large; better shaped and developed than in any other double-combed bird.

WATTLES.—*Cock.* Large and round, but not particularly long.

EAR-LOBE AND FACE.—*Cock.* Ear-lobe white and round: not implicating the face, which is perfectly red.

EYE.—Reddish.

BEAK.—Black.

Mr. Hugo further remarks—"The hens are black, spangled with green; large, square, short on the legs, and heavy; their combs are particularly large; legs blue: tails and general characteristics similar to those of the other (Spangled) Hamburghs; generally very wild; and of all layers, the best under any circumstances."

In any previous description of the Black Hamburgh or Pheasant fowl that we have seen, the existence of the green-black spangling has been passed over without notice. But it is, in fact, the presence of the spangles that gives rise to the peculiar rich glossy appearance of the plumage; and in a bright light, the contrast between the jet-black of the ground colour and the green-black of the spangles, is very evident in good birds.

The table of characteristic excellences adopted by the northern local clubs, where single hens only are shown, is as follows:—

TABLE FOR THE BLACK HAMBURGH HENS.

POINTS.	MARKS OF FEATHERS, ETC., CONSIDERED BEST.
1st.—Comb	Best double, best square, most erect, and best piked behind.
2nd.—Ears	Largest and purest white.
3rd.—Colour	The best and richest glossed green-black.
4th.—Legs	Best and clearest blue.
5th.—General appearance .	Best feathered hen.

Little more remains to be said respecting the varieties of Spangled Hamburghs; their elegance and utility are daily increasing the number of their admirers; and in a short time they will be as highly appreciated in the south, as they have been in the north of England. In fact, until recently, they were scarcely known in the southern counties: and even as late as 1852, it was stated in "Baily on Fowls," that they were "good mothers"—a very convincing proof of the prevailing ignorance respecting them. As egg-producers, they are unquestionably unrivalled; they commence laying at a very early age; never require to sit; rapidly get through their moult; and lay steadily, if well fed, during winter, unless the weather is very severe.

Spangled Hamburghs are not only larger, but much hardier than the Pencilled birds, being infinitely less subject to roup. During chickenhood, however, they do not possess the hardihood of Cochins, and therefore it is not desirable to hatch them before April or May; nor do they thrive so well as the Asiatics, if hatched at a late period of the year.

Hamburghs, together with Polish and Bantams, constitute what are technically termed *feathered fowls*, being valued in accordance with the perfection of their peculiar and characteristic markings, rather than by size or weight. It follows from this circumstance, that any cross-bred birds from either of these varieties must be of but very small value. The great merit of Hamburghs is as egg producers,—a property which depends on their non-incubating habits: but cross-bred birds, as before stated, even if between two varieties that do not sit, are generally good mothers, and their broodiness necessarily interferes with their egg-producing powers. Nevertheless, it is always interesting to trace the result of such alliances; and we therefore extract the following account from the *Field* of some experiments in cross-breeding with Hamburghs:—

"1st. A cross between a Golden-pencilled Hamburgh cock and Spanish hen.—The chickens were not very large. Colour: the greater part of them bronze, and one or two black; legs black; single and rose-combs. Not very hardy; good layers; small eggs.

"2nd. Golden-pencilled Hamburgh hen and Golden-spangled Bearded Polish cock.—Chickens: cockerels about the size of barn-door fowls, red, with spangled breasts, beards, small top-knots, large white ear-lobes, blue legs; pullets brown, with spangled breasts and necks, backs running into grizzle. Excellent layers, and good-sized eggs.

"3rd. Silver-spangled Hamburgh cock and Brahma hen.—Chickens large, very handsome. Cockerels: silver-spangled breasts and slightly spangled over the back, with flowing tails, rose-combs, large red ear-lobes, blue legs, feathered. Pullets: silver spangled. They are the handsomest cross-bred fowls I have seen; I have been offered £1 1*s.* each for them.

"4th. Silver-spangled Hamburgh cock and Buff Cochin-China hen.—Two pullets: dark gray, running into a grizzle; legs blue; single combs. Inferior to the cross with Brahmas.

"5th. Silver-spangled Hamburgh cock and White-faced Spanish hen.—Chickens: very hardy, short-legged, plump fowls: single and rose-combs; large white ear-lobes; black legs; neck silver-laced, and the remainder of the body dark gray."

It is singular that in the two instances of crossing with Spanish hens, the chickens produced by the Golden-pencilled Hamburgh cock partook of the delicacy of the sire; whereas those from the Spangled Hamburgh cock and Spanish hen are described as very hardy.

CHAPTER XVI.

POLISH FOWLS.

UNDER the title of Polish, are included in our present nomenclature all those varieties of domestic fowl characterised by the possession of a largely-developed feathered crest on the head. Their history is obscure and uncertain, but they can be traced back at least two hundred years, as their anatomical peculiarities were described in 1656 by Peter Borelli; and in the pictures of the old Dutch Masters, the representation of crested fowls, particularly of a White-crested Golden breed, is of frequent occurrence.

Of their origin, little or nothing is known: they are frequently stated to be the descendants of the great fowl of St. Jago; but as there are more than twenty places in different quarters of the globe termed St. Jago, the information is not of a very satisfactory character. With the kingdom of Poland it is tolerably certain that they have no connection; in Prussian Poland they are utterly unknown: whence, then, it may be asked, is the origin of the title by which they are so generally known? By some writers this name has been declared to be a recent innovation; but the White-crested Black have been known by it to the London dealers for at least half a century; and in the earliest editions of "Mowbray on Domestic Poultry," they are termed Polands.

The question may be regarded as receiving a satisfactory solution in the following statement of Dr. F. R. Horner:—"In scientific nomenclature, it has ever been the practice to designate new genera, species, or varieties, from certain resemblances to other well-known or familiar things, or from certain striking features; so has it been, I conceive, with the Polish fowl.

"Its remarkably elevated, rounded, and prominent skull-cap, top of the head, or poll, could not escape the observation of the older naturalists. Again, the large crest of feathers, or top-knot, is another attribute which must have arrested and bespoken consideration in any name to be given to this variety of fowl. The term *poll* is not unfrequently used to designate the feathers, hair, or even wool, on the head of an animal: so that whether we look at the unique anatomical conformation of the bird's head, or at its more ostensible bunch of feathers, it must have commanded attention. Its *head* or *poll* was *its* peculiarity—*i.e.* the bird with the remarkable head or poll; hence Poll-ish or Polish fowl. It is quite evident that this bird has nothing to do with the country of Poland; and the disease of the hair, Plica polonica, offers no analogy. In this disease, the hair is closely matted to the head; it is usually

also thin or spare in quantity, or even falling off in parts, very different to the full erect and flowing top-knot of the Polish fowl."

Presuming this derivation to be correct, the superiority of the term *Polish* over that of *Polands* is obvious, without taking into consideration the grammatical inaccuracy of the latter title.

There are certain characteristics common to the whole group of Polish fowls, which may be alluded to before entering upon a consideration of the different varieties. The most important is the possession of the feathered crest, which in the cocks is composed of long pointed feathers, closely resembling those of the hackle: and in the hens, of feathers of the ordinary character, rounded at the extremity. The crest in both sexes arises from a globular tuber, situated on the fore-part of the skull: an intimate connection exists between the size of this swelling and that of the crest. In all cases where the swelling is not largely developed, there cannot exist a good crest; and as this tuber is formed before birth, it is easy to select those chickens that will be well crested, immediately on their emerging from the shell. Perhaps the most extraordinary circumstance connected with this swelling is, that it contains by far the greater part of the brain—being, in fact, a protuberance of the frontal or forehead bone; however, even in old fowls, this tuber rarely becomes entirely bony, but consists in great part of membrane: hence there is no protection for the brain beyond the feathers of the crest and the integuments; so that a slight blow on the head, that would not affect an ordinary fowl in the least, will destroy a Polish bird.

The Polish comb has been a subject of considerable controversy, some persons permitting the presence of a very small two-horned crescentic comb, and others regarding anything more than a mere indication of redness at the base of the crest an imperfection. The nostrils of Polish are remarkable for their peculiarly crested form, and for the absence of the two intermaxillary bones, which in other fowls form the bridge of the nose. In addition to these peculiarities, several of the varieties of Polish are characterised by the absence of wattles and the substitution of a largely developed ruff, or, as it is more usually termed, beard.

Polish may be further described as being remarkably good layers during the spring, summer, and early autumn months; but are not to be depended on for a winter supply. They are all non-incubators as a general rule, although we have known instances of their sitting steadily. Their hardihood varies considerably in the different varieties, and will be alluded to as each is described.

The different varieties of Polish fowls may be thus classed:—

1. Black, with White Crests.
2. Silver-spangled.
3. Golden-spangled.
4. White.
5. Black.
6. Blue or Gray, including Cuckoo.
7. Buff.
8. Black-crested White.
9. Feather-footed White or Sultans.
10. Rumpless or Ghondooks.

The *White-crested Black Polish* have long been inhabitants of our poultry-yards; and are generally of a sufficiently attractive appearance to ensure their favour

with the public, even without regard to their great merit in an economical point of view. In the cock the plumage of the neck, body, and tail should be of a uniform rich black, with resplendent metallic tints of green. The feathers of the tail should be perfectly black down to the root, and not, as is frequently the case, grizzled with white. The shorter *crest-feathers* at the base of the bill are always black, but the less the better, the remainder of the purest white; the *comb* is diminutive, forming two small spikes, usually hidden by the crest; *wattles* bright red and large; *ear-lobe* a clear white. The *beak* and *legs* black; although the soles of the feet are frequently spotted, or even white in the best birds. The carriage is remarkably good; the arched neck nearly meeting the tail, which is very full and erect, especially when the bird becomes excited. The breast is wide and prominent, while the short legs and generally compact form are no less pleasing to the eye than valuable in an economical point of view, as indicative, technically speaking, of the comparative absence of offal. A full-sized Black Polish cock should weigh from five to five and a-half pounds.

When we turn to the hen we require the same colour throughout, but the *crest*, of course, must be globular and white, with as small a portion of black in front as possible; the *ear-lobe* white. In form she is of still closer build than her mate, and at maturity should weigh from three and a-half to four and a-half pounds.

The following remarks on the breed are from the pen of Mr. Hewitt, who formerly was in the possession of superior specimens of this variety:—"There are few descriptions of poultry, if any, that are more truly ornamental than the Black Polish; the extreme contrast between the colours of the body feathers, and those of the crests, rendering them not only a very conspicuous, but universally admired breed, even among those individuals who are not exactly to be classed among poultry amateurs. But, in justice, I must record my opinion in their favour, as a really useful, as well as an ornamental fowl. They are non-sitters, and interminable layers, always providing, however, the locality suits them. The subsoil for them (to ensure complete success) must be dry, and the situation of their 'run' not exposed to cold, damp, raw biting winds. If not possessed already of these natural advantages of locality, then I would very strongly advise any amateur to select some more hardy kind of poultry, or he may involuntarily subject himself to much trial of temper and unnecessary vexation. If once they should happen to become diseased, they are assuredly the most difficult of any description of fowls to restore to health, by any medical appliance with which I am acquainted. There is little doubt in my mind that this is greatly induced by the extreme quantity of moisture the top-knots will absorb during drizzling, hazy weather. The feathers of the crests are placed in a position rather to hold than repel damp; and from retaining it for some hours, the cold and moisture combined, of course, superinduce disease—more particularly as regards colds in the eyes, or of the head generally. For this reason, Polish of any kind require shelter that is always available in cases of sudden rains, even more

particularly than other breeds of poultry. If, however, well provided with this accommodation, and likewise enjoying a dry warm 'walk,' there is not any variety that I think more remunerative, so far as the production of an extreme number of eggs is considered; it is worthy of especial note, also, that the eggs produced are of a superior quality for the table. As it may possibly prevent the like misfortune to some others, who are now commencing their poultry career as amateurs, I will briefly mention a circumstance that repeatedly caused myself much pecuniary loss at the onset of my fancy for Polish. In those cases where the crests are fully developed, for the birds to see any approach from behind is perfectly impossible, and Polish are naturally very timid of coming danger, probably from feeling their inability to avoid it: it was from these combined causes that, at least in half a dozen of instances, when I suddenly caught or rather quickly picked them up, they have instantaneously died in my hands from apoplexy, without any real injury from external pressure. A slight shudder and indistinct gurgling noise was the only accompaniment of their sudden decease. This disaster seemed to be particularly common among those chickens that, hitherto enjoying an unlimited wild-run, had, for increased safety from thieves, been removed to close quarters. After its unpleasant repetition (and that generally in the cases of my very best birds) I never took them into hand without first speaking to them; and from that hour I never lost another specimen by the ill complained of.

"In no class of fowls has 'trimming' been so universally carried out at our poultry shows as in Black Polish; indeed, the difficulty is generally to find a pen in which the crests have been left as naturally grown. This arises from the fact that, 'the less black they show around the top-knots the better;' and hence some owners are so daring as to actually remove all such feathers as they deem objectionable. Wherever so gross a case of tampering has arisen, I have considered it a bounden duty to disqualify them immediately, and outright; and although it seems to have been a deception that, beyond all others, has been countenanced by our poultry judges, I do not myself endorse the opinion that 'trimming' in one class is less objectionable than in others; indeed, I hope that the trickster-practice will not be longer indulged in, as in close inspections it is generally discoverable, and most undoubtedly, in fairness to the conscientious exhibitor, it ought to be discountenanced. Having for some years paid extreme attention to the culture of this elegant variety, I will just mention the results of my experience. In the first place, the crests are, without doubt, their most prominent characteristics; and to breed them well-formed and extremely large is a great desideratum. I repeatedly proved that a first-rate crested cock, though mated to a hen with a somewhat indifferent top-knot, produced far better chickens than where the selection was reversed; I would therefore strongly enjoin the greatest care in the well-advised selection of the male. In reference to hatching, the eggs must be incubated by some other hen. In the choice of this foster-mother, I would suggest that large hens are very objectionable, as these

chickens seem even more susceptible of injury than those of other descriptions. Cochins are prone to leave their chickens at some five or six weeks old; and as this happens to be a period of peculiar fatality to broods of young Polish, they are far best avoided for this duty. None will, it is certain, prove more vigilant, successful, and enduring to the wants of chickens, than a Game hen. As these birds are apt to 'droop away suddenly,' I will relate the treatment I found most beneficial. I gave them full feed of crushed hemp, chopped cheese, and maggots from stale flesh, the latter well scoured for some days in bran or sand, to cleanse them from impurities: it proved a very easy remedy and successful mode of treatment."

The circumstance, that White-crested Black Polish require a dry sandy run, and warm sheltered situation, is proved by the fact that several of our most successful exhibitors reside on the dry sandy soil of the New Forest. The names of Mrs. Mills of Bisterne, and Mr. Edwards of Lyndhurst, are intimately associated with the reputation of great and deserved success in the culture of this elegant variety.

From the White-crested Black are occasionally produced perfectly white birds, with light eyes and the other features which have obtained for such productions the name of "Albinos." They are both slight in frame and delicate in constitution; and we cannot recommend the attempt to breed from them, their produce being of a most unsatisfactory description, both as regards form and colour. They are, it should be remembered, perfectly distinct from the Bearded White Polish.

No sooner do we quit the White-crested Black Polish than the difficulties of the "beard or no beard" question immediately surround us; all the other varieties exhibiting birds with and without this appendage. The beardless birds, however, have of late years gone entirely out of favour, and, as we think, deservedly so, as they are inferior in all the characteristics of Polish to the Bearded varieties. Mr. Baker, of Chelsea, states, that "having been lately in the South of France, where the Polish are much prized and infinitely superior to any we have in this country, I was enabled to make further inquiries as to the relative purity of the bearded and unbearded varieties, both gold and silver, and was then fully confirmed in my opinion as to the originality and superiority of the former. I perfectly recollect that some twenty years ago there was a club at Ringolane where the well developed beard was considered of as much consequence as a good crest."

As the *beard* is a prominent feature in the majority of these birds, and of uniform character, one description may serve for all. Immediately below the cheek, and covering the front of the throat, there is a collection of elongated feathers, regularly imbricated and of triangular form; the broadest part, or base, is uppermost, extending in a line, as whiskers, below the eyes. These feathers, from the base to the point below, should occupy a space of about two inches. With some few exceptions, for noticing which the present is an appropriate place, the description of the bearded class will apply to their unbearded relatives, this distinctive feature being alone omitted. In the latter, the neck is comparatively slender, and destitute of the

voluminous hackle that encircles that of the former bird: the wattles are large, and the ear-lobe more apparent, from the absence of the ruff. The skull, too, is less rounded, and, as a consequence, the crest less perfect, especially in the gold-spangled, which, as it has been well said, "appear to be waiting for some lucky accident to give to them good top-knots." The principal features of the Polish family—the protuberant breast, arched tail, and rounded body—are common to the varieties now under consideration, and the White-crested Black; but the latter are shorter on the leg, and of less weight than the spangled birds.

The *Silver-spangled Polish* may first claim our attention; and here we gladly avail ourselves of the assistance of Mr. P. Jones, to whom the credit is not only due of having taken more prizes than any other exhibitor of this beautiful variety, but also of breeding those birds which have been mainly instrumental in enabling others to attain a high position in the prize lists.

CHARACTERISTICS OF THE SILVER-SPANGLED POLISH.

COMMUNICATED BY MR. P. JONES OF FULHAM.

WEIGHT AND SIZE.—*Cock.* A good bird should not be under six pounds; from that to seven and a half pounds is large enough, but a tall, large bird shows advantageously.—*Hen.* Size is not very important in Polish; four to five and a half pounds is a good average.

CARRIAGE AND FORM.—*Cock.* Carriage bold and erect; breast thrown well forward; head and tail well up; wings rather low, to show bars and lacing; form round and plump; keel well covered with flesh; body short; neck neither long nor short, and gracefully arched.—*Hen.* Form round and compact; body short; tail and head carried well up.

GENERAL CHARACTER OF THE PLUMAGE.—*Cock.* Ample and flowing; well and evenly marked; crest, neck, and saddle-hackle feathers, long; abundant and strong in the shaft; very short fluff on abdomen; ground colour of plumage best and purest white; and markings of intense metallic black.—*Hen.* Plumage rather close and compact on back; fluff short, but ample. Clearness of ground colour, and intensity of black in the markings, should be looked to.

NECK-HACKLE.—*Cock.* Very abundant; long and strong feathers; white at base, and fluffy part edged and tipped with black; coming well to front of neck, and on to the shoulders; the more free from straw tinge the better.—*Hen.* Full, but rather short, making the neck appear thick; each feather well laced or tipped according to general markings of the bird, whether laced or spangled.

SADDLE.—*Cock.* Same as neck; flowing well round the tail and rump, and hanging well down; behind the thighs usually white, but in perfect birds beautifully tipped with black.—*Hen.* Rather long towards the tail, each feather well and boldly spangled or laced.

TAIL.—*Cock.* Long, ample, and flowing; well-arched sickle feathers, abundantly

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123. Second edition.

"Ye Field Flowers! the gardens eclipse you, 'tis true;
Yet, wildings of Nature, I doat upon you;
For ye waft me to summers of old,
When the earth teemed around with fairy delight,
And when daisies and buttercups gladdened my sight,
Like treasures of silver and gold."—CAMPBELL.

THE present Work was undertaken under the impression that a selection of the more beautiful and attractive of our Wild Flowers, with Illustrations of them, would be useful to those who have neither time nor opportunity of consulting larger works on the subject. In order to confine herself within the necessary limits, the Authoress found she could only take the most ornamental Plants, avoiding, as interfering with her other Works, any Flowers commonly found in the Garden, her chief object being to enable the Amateur Botanist, who might find a pretty or interesting flower growing wild in their rambles, to ascertain its name and history. In addition to such details, a few remarks on the botanical construction of most of the plants have been offered, in the hope of inducing such readers as might be unacquainted with Botany to study so charming a science.

The volume presents to the reader almost all the information which is absolutely necessary for a general knowledge of this branch of the subject; the reader will likewise meet here with remarks regarding the great question of education, in which the Authoress indulges the hope that the botanical construction of plants, and the study of the science of Botany in general, may become a branch of general education.

"Nothing, I must confess," writes the Authoress, "would give me more pleasure than to see Botany as commonly taught in girls' schools, as French and music are at present; and I think it more than probable that in another generation it will be so—as, though the Linnæan system was unfit for females, there is nothing objectionable in the Natural Arrangement; and the prejudice against botanical names is every day declining, from the number of beautiful plants exhibited at flower shows, which have no English appellations. I sincerely hope the time may arrive, though probably I shall not live to see it, when a knowledge of Botany will be considered indispensable to every well-educated person."

In the systematic arrangement of the plants, the Authoress has followed Dr. Lindley's *Synopsis of the British Flora*, which few botanical students are without; and few genera are omitted, except such as do not contain any ornamental plants, or only include such plants as are rarely met with growing wild in Great Britain. While the Natural System is adopted in this work, it has also been borne in mind that many books of a leading character are arranged according to the Linnæan system; the Authoress has therefore added the Linnæan class and order of each genus, with a few words explanatory of the terms as they occur.

The volume is illustrated with sixty plates, representing nearly three hundred of the rarest ornamental wild flowers, drawn by Mr. Noel Humphreys, and carefully coloured after his drawings, grouped so as to form bouquets of flowers. The volume contains besides, descriptions of nearly all our known indigenous flowering plants, and a copious index, which completes the general attraction and utility of the work.

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THE

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MDCCCLVII.

LEIGHTON, BROTHERS, CHROMATIC PRINTERS.

WHITE COCHIN COCK,

THE PROPERTY OF MR. STURGEON.

LEIGHTON, BROTHERS, CHROMATIC PRINTERS.

BUFF COCHIN COCK,

THE PROPERTY OF MR. STRODON.

LEIGHTON, BROTHERS, CHROMATIC PRINTERS.

BUFF COCHIN HEN,

THE PROPERTY OF MR. STURGEON.

furnished with beautifully marked covert-feathers, both inside or under the tail proper, as well as from top of rump: I think no variety has a finer or handsomer tail, when fully developed. A diversity of opinion exists as to whether the sickle-feathers should be white, tipped with black, or silvered: I prefer the latter, if not too dark.—*Hen.* Somewhat large; if clear white ground, tipped or edged, the better. This is a great desideratum.

Breast.—Well and evenly spangled from the throat to the thighs, with moon-shaped black markings on best and purest white. The breasts of the cocks have generally a tendency to be too dark.

Upper Wing-Coverts or Shoulder.—*Cock.* A little lighter than the general average of colour, is to my mind an improvement; but should be lightly spangled or spotted.—*Hen.* Well spangled; somewhat liable to get short of colouring in this part after the second year.

Lower Wing-Coverts or Bars.—*Cock.* Well and boldly spangled, to form two transverse bars, united by delicate lacing; this is an important and necessary requirement, and must be insisted on.—*Hen.* Same as cock, but less bold and defined.

Secondary Quills.—Clear white ground; boldly laced on lower edge of each feather.

Thighs.—Long; well spangled to the hock.

Legs and Feet.—Blue; fine in bone, with neat scales, and the toes rather long.

Crest.—*Cock.* Very large; long, strong feathers, extending regularly all round, and hiding head and part of neck; no vacancy in centre; black at roots, then a good length of white, and if tipped with black it is perfect; no comb.—*Hen.* Very large; ample and compact, forming a globular mass of feathers, regular in shape; each feather well and evenly marked; feathers strong in shaft, not falling loosely round; no comb.

Beard.—Large triangular-shaped black or spangled beard; no wattles.

Ear-Lobe and Face.—*Cock.* Ear-lobe small, white; face hardly seen, feathered.—*Hen.* Face covered with feathers and hidden by crest; ear-lobe small, white.

Colour of Eye and Beak.—Dark or bull-eyed; beak blue, to match legs and feet.

In addition to these characteristics of the breed, Mr. Jones has kindly favoured us with the following remarks:—"There is, perhaps, scarcely any breed of domestic poultry about which there exists, amongst amateurs, such a diversity of opinion as to what should constitute a perfect bird, as in the case of Silver Polish. Some breeders say they should be spangled; others, again, hold that they were originally a laced fowl. Some maintain that they should be bearded; others that they should be beardless, and furnished with wattles like their relatives the White-crested Black. And, again, it used to be urged that the hens should have white crests: now a white

crest is regarded as a disqualification. With reference to the first question, whether the birds should be spangled or laced, it will not be denied that the best birds which have been exhibited at our leading shows, have all had a tendency to lacing; that is to say, the spangle, as it is called, instead of being triangular or round, has had more the shape of an elongated crescent, the horns running up the edges of the feather. This is more particularly to be observed on the breast and back of the hens; but in some of the best cocks this lacing has been equally well defined on the breast.

"I will admit that many really spangled birds have been exhibited, but we have never yet seen a well spangled hen approaching perfection in other respects: it is a remarkable fact that from the same birds are produced both laced and spangled chickens. The question of beards or wattles has now pretty well resolved itself into beards, and the larger the better. I believe, however, that the bearded and beardless are quite distinct varieties, and never ought to have been confounded. I confess my predilection is in favour of the beard,—it appears more in character with the general attributes of the bird, one of which is abundant plumage in every part.

"With regard to tails, I like a clear tail in the hen; and, however anomalous it may appear, I prefer to have the feathers beautifully and lightly mossed or mottled in the cock, with a good and well-defined blotch at the tip: the mossing, however, must not be too heavy, or the blotch is lost.

"As to their merits as an useful as well as ornamental variety, I may say that, having kept them somewhat successfully (as the prize lists of most of the leading shows will bear witness) for the last five or six years, and having attended to them entirely myself, I can speak with confidence on the subject.

"That they may be kept and bred in very small and confined places, I know; but I also know they do much better if they have the advantage of an extended run: but in this latter case they require a great deal of attention, as the crests are apt to become clogged with wet and mud, which in smaller places, from the necessity for constant cleanliness, is to a great extent avoided. In some situations I have had whole clutches of chickens reared year after year without the loss of a single bird, except by accident; while at others, and even at home, I have sometimes lost whole broods at about six weeks old: the first had to shift almost for themselves, while the others had every care bestowed on them. From the moment of hatching to six or eight weeks old, nothing can be hardier; but from that age up to five or six months, I have found them difficult to rear at home, although, as I stated before, I have had from country runs eight and ten from a brood four months old, all healthy plump birds. As table chickens, I prefer them for their great delicacy. As layers during the spring and summer months, I believe they are second to none; and the eggs being of a good average size, would certainly stand the test of weight, in the aggregate, with almost any other variety. I have had them laying from January to October, and being non-sitters, the individual produce during that time is considerable. They are more easily kept within bounds by a fence of moderate height, than many other

varieties, particularly if the bottom part of the fence, to the height of about eighteen inches, be quite close; because, although they undoubtedly have the full use of their wings, yet their upward range of vision being circumscribed by the overhanging crest, and the close bottom to the fence preventing their seeing beyond in that direction, they are fain to content themselves where they are. I believe them to be naturally of a contented disposition, and form attachments to their feeders more rapidly than any other variety. I have now a cock which will at any hour of the night fly from his perch by candle-light at my call, and feed from my hand; in fact, every Polish fowl I have will feed from my hand during the day. As *adult* birds, I do not find them more liable to disease than others. As exhibition fowls my experience certainly proves they will stand the wear and tear of travelling and excitement of the show-room, as well as their unavoidable attendant, long abstinence,—at any rate, quite as well as any other variety; and if I were to say better, do not think I should be wide of the mark. To sum up—and making every allowance for my own peculiar taste—I believe they stand at the top of the list of fancy poultry; combining as they do, with their universally acknowledged beauty, so many of the points of excellence found in those varieties which are bred more for utility than ornament."

With regard to the disputed question, as to whether these birds should be really spangled, as their name implies, or laced, we cannot but agree with Mr. Jones that the best birds that have been recently exhibited have hitherto been of the latter description; some amateurs, however, as Dr. Horner of Hull, R. P. Williams, Esq., of Dublin, &c., declare strongly in favour of spangling in preference to lacing; and that equally good birds of this variety did exist, may be gathered from the following communication from Mr. Hewitt:—"Although any poultry amateur may seek in vain at the present day for even an isolated specimen of a really well 'spangled' Polish, still they certainly did exist, bred as truly to feather as any other variety of fowls; and this within the space of some twenty-five years. About that time I had opportunities of closely inspecting them, as they were kept within a few doors of the house in which I then resided. From this circumstance I can speak with the most entire confidence of the exactitude of the following brief description. In size they very closely resembled those to which we now give the designation of 'Spangled Polish;' but they differed in the extraordinary intensity of the blue colour of the legs; the spurs in the adult males were of ivory whiteness, and had a tendency to turn up, until they nearly touched the knee joints. Of combs they had not even the rudiment: and the wattles were only slightly developed. The ear-lobes were florid, tinged with white about their centres. The ground colour of the plumage was white, the whole of the feather being clear, without any lineal markings, and simply 'tipped' with an iridescent black 'spangle.' In the hens this marking was nearly circular, and without the slightest vestige of white beyond it. In the cocks, particularly the old ones, the crests flowed freely on all sides, and eventually became an impediment to their feeding, unless the corn was placed in a trough. The feathers

in their crests being naturally of a similar conformation to those of the neck-hackle, showed a fringe of white beyond the black spot towards the tip. The tails of both sexes were clear, spangled at the extremity, as in the Silver-spangled Hamburghs; the side tail-coverts of the cock being 'spangled' also: a remarkable peculiarity, and one adding greatly to the beauty of the bird. On the saddle of the hens, where the feathers closely overlapped, the distinctness of the spots gave way to a somewhat increased depth of colour, that was really objectionable; still, any of these feathers, examined separately, proved to be equally correctly spangled. The wings were simply double 'barred,' by the close position of the spangles; but no sign of side-lacings was perceptible. The lesser flight-feathers were well marked at the extremities only. The first imported parent birds that came originally from Lisbon, were 'silvers;' but in the course of a few generations they 'sported' several golden chickens, but always marked as their predecessors. They were purposely mated for two successive years (without any possibility whatever of access to their lighter coloured relatives); yet, strange to say, they never bred any but silver chickens, and those without the least impurity of the ground colour. They proved themselves most abundant layers and non-sitters, but apparently enjoyed much hardier constitutions than any of our present varieties of Polish. Having given the most perfect description I now can from recollection, I cannot conclude without bearing testimony to their superlative beauty. I have striven to obtain some of this strain, but I found, to my great chagrin, that the poultry had passed into other hands, who were 'no fanciers,' and to improve them they had for many years crossed them with the Game; and I was consequently non-suited."

The *Golden-spangled Polish* differ so slightly from the Silvers, that a detailed description of their characteristics is not required; as, after making due allowance for the difference in ground colour, the same remarks will, with scarcely any variation, apply to both varieties.

Dr. Horner of Hull, who has long been known as one of the most diligent and successful amateurs of this variety, has kindly favoured us with the following remarks on the breed:—"As to carriage (I write of the Golden which I keep), it is nearly as *bumptious* as that of the Bantam; the breast being very protuberant; the tail very full and flowing, and well arched upon the back.

"As to comb, there should not be any, not even a spike. I do allow a very small *patch* of red comb-like structure, the size of a small split pea, lying close, like skin, at the root of the bill; but no spikes. The feathers of the top-knot are not simply red, for the lower part is black, the extension of the black up the feather differing a little in different birds; but always should be there. In a properly marked hen, the top-knot should be spangled like the rest of the body, and not black. Now as to white feathers in the top-knots of cocks, and hens also, they are always present in birds two years old and upwards; they are commonly absent till the birds are a year old; but they will surely come, in greater or less number, with the autumn

moult. They *must not* be considered a fault. Possibly, as a matter of taste, some would like them without white; and some certainly do (as Mr. Vivian) prefer them with white feathers.

"As to tail in the cock, it ought to be black, bordered with chestnut, so also the sickle-feathers; but the smaller side wavy feathers are like those of the body, rich chestnut, edged with iridescent black. The tail of the hen is chestnut, tipped with black. The cock's tail is often grizzled with white, and the hen's often speckled and scratchy with black; but such are, of course, imperfections.

"The cock's top-knot in shape must not be flattened (the 'pancake' top-knot)—in such cases the feathers are too thin and long; nor should it divide down the middle like a girl's hair. It must, as far as possible, preserve a rounded globular form, which it will do if the feathers are plentiful and not too long. I may just further add, that the Polish is a spangled bird; and hence I consider lacing (except on the wings) as an imperfection. I quite object to lacing on the breast of cocks—not an uncommon thing to see; lacing also on the backs of hens, that is, on the saddle and rump, is also wrong—it should be spangling."

The *White-bearded Polish* differ essentially, as we have already observed, from the occasional white specimens produced from the beardless black with white top-knots, and are a distinct and recognized variety; their chickens, both in colour, vigour, and all other respects, bearing an exact resemblance to the parents. They are unquestionably derived from the bearded spangled birds, inferior specimens showing distinctly faint smudgy spangles on the feathers of the breast, &c.; which, however, are totally absent in really first-class birds. White Polish possess all the characteristics of the family in the highest possible degree; the crests in good specimens are very large and perfect; our experience leads us to regard them as hardier and more easily reared on a clayey soil than either the Golden and Silver-spangled.

Black-bearded Polish are occasionally seen at our poultry shows, but can hardly be regarded as an established variety. The Editor's own experience leads him to regard them as an occasional production from the White birds—at least his own White have frequently produced Black; but he is unable to state what the characteristics of the chickens bred from the Black would be, as he has never attempted to rear any.

The *Blue* or *Gray Polish* are also the frequent produce of the White Polish, which they resemble in all characteristics except colour; as might be expected from their accidental origin, they cannot be depended upon to produce chickens resembling the parents, but occasionally throw cuckoo, white, or speckled produce.

The *Cuckoo Polish*, resembling in markings the Cuckoo Dorkings, are another occasional variation of the bearded breeds; but they have not been received with much favour at the hands of the public.

Buff Polish are exceedingly pretty when truly marked and well crested. To be perfect, these birds should resemble the Golden-spangled, with these important differences,—namely, that the feathers should be spangled with white instead of

black, and that the ground colour should be a delicate buff in the hens, with a greater degree of depth and richness of colour in the cocks. From these birds having only recently come into notice, they have not been bred up to this high standard of merit; but those that approach to it are exceedingly ornamental, and evidently would amply repay the trouble of a few years' careful selection and breeding.

The *Black-crested White Polish* may next claim our consideration, as there is abundant evidence to prove that such a breed formerly existed. R. P. Williams, Esq., of Dublin, a gentleman who has paid great attention to the history of the different varieties of crested fowls, has favoured us with the following remarks on these birds:—"The breed, up to about thirty years ago, was to be had in some parts of Ireland, as I have been informed by friends who knew it well, and describe it as a very superior one; they were extinguished, I may say, in consequence of a famine, and there being no Poultry Societies in those days. A few years after this time, I heard of the breed, and tried to procure it; and having heard that it was to be had at Bordeaux, I went specially for it, but was informed that there, as well as at Paris, the breed had been, but was not then, to be met with; so that it would appear that about the same time it vanished everywhere. From time to time I picked up birds from which I thought to have recovered the breed: and had I had the fine specimens of Crested White fowl now to be obtained, I think the breed might have been recovered. The last of those I had, a hen, is now in the museum of the Dublin Natural History Society. Her crest is black, and a few of the hackle-feathers black. The parties who last had the Black-crested White in Ireland were the descendants of the French Huguenots at Portarlington and Maryboro', which would lead me to expect the breed came from France, if not from Holland."

Mr. Brent also states respecting them that—"The last good specimen I saw was in the year 1854, at St. Omer in France; it was a hen, and belonged to a boat-builder, who lived by the canal. She was of large size, so that the Malays in the same yard appeared small in comparison; her colour was white, with a large black top-knot, some few of the feathers of which were, however, tipped with white: her bill and feet were dark slate-colour, shape very plump and round. Her owner described her as an excellent layer, the eggs being also of large size. He had endeavoured to get others of the same breed, especially a cock, but hitherto without success, although they were said to exist in Brittany."

The Editor of the present edition of the "Poultry Book," Mr. Tegetmeier, endeavoured for a series of years to reproduce this breed by crossing the different varieties of Polish—having as his foundation a white hen that showed a tendency to dark in the crest. The experiments were only partially successful: there was no difficulty in producing white chickens with black crests; but white feathers made their appearance in the crest the first autumn, and increased in quantity at every subsequent moult.

The *Sultans* or *Feather-footed White Polish* are a very elegant and pleasing

variety: they were first imported into this country from Turkey, by Miss Watts of Monkbarns, Hampstead; their exceedingly ornamental appearance has gained them many admirers, and they are now established favourites at our shows. For the following description we have to express our thanks to the lady above-mentioned:— In size, Sultans are smaller than the generality of Polish, the cocks weighing from four to five pounds; the hens being in proportion. In form they are very plump, full-crested, short-legged, and compact; the plumage pure and unsullied white throughout, and very abundant; their tails are ample, and carried erect; their thighs are short, and furnished with feathers which project beyond the joint, or, as it is termed, are vulture-hocked. Their legs are short, white, and profusely feathered to the feet, which are five-toed. The comb consists of two small spikes, situated at the base of a full-sized globular Polish crest; the wattles are rudimentary, both sexes being amply bearded. Good birds of this variety possess the peculiar structure of the skull that has already been described as characterizing the Polish breeds.

A few years since some very inferior specimens of feather-legged White Polish were imported, and, under the name of *Ptarmigan fowls*, were exhibited at several of the poultry shows. They attracted considerable attention at the time of their introduction; but were so inferior in size of crest and in character of comb to the Sultans, that the latter have thrown them completely into the shade.

Like the rest of the Polish or Crested group, Sultans are good layers, except in winter; and they rarely, if ever, sit. In their earliest stages they are delicate; but after having arrived at a fair size, they are quite as hardy as the other varieties of the group.

The *Rumpless Polish*, or *Ghondooks*, conclude our varieties of crested fowls. These very remarkable birds were first introduced by Mr. Higgs, of Southampton, who exhibited a pen of Black Ghondooks some few years since, when, from their extraordinary conformation, they attracted great attention. They were small Polish, with crests not fully developed, bearded, vulture-hocked, feather-legged, and perfectly rumpless, being totally destitute of that portion of the backbone which forms the frame-work of the tail. Their carriage was peculiarly upright and striking; and altogether they were very remarkable fowls. Some purely White Ghondooks were subsequently imported, and passed into the possession of the Editor. By carefully crossing these birds with other crested fowls, the size of their crests has been much improved, without losing their peculiar characters; and in this mode a variety of well-crested Rumpless Polish has been established, the white variety being very successfully exhibited by Mr. Tegetmeier, and the black by Miss Bush, of Clifton.

But little more remains to be said on the subject of Polish. Their management when chickens has already been alluded to in the articles of Messrs. Hewitt and Jones; one precaution, however, may be suggested, viz. the desirability of removing the pipes of membrane which surround the feathers of the crest, when the latter have obtained their full length. In all the other feathers of the body this is accom-

plished by the fowl itself: but it is obvious the beak cannot be applied to the crest; but by gently compressing each pipe between the thumb and finger-nail, it is broken and removed, and the feather at once expands to its full dimensions. Care must be taken not to interfere with the feathers which have not attained their full growth, as they are, when immature, easily pulled out, to the serious injury of the crest.

The sexes of Polish are difficult to distinguish at an early age; the first reliable indication consists in the form of the feathers of the crest. These are much more pointed in the cockerels than in the young pullets, and, to a practised eye, afford a ready means of distinction. As to their diseases, in damp situations they are liable to a chronic cold, apt to degenerate into roup; and they are, if too closely bred, liable to tuberculous diseases and deformity of the spine, causing what is usually termed humpback. They are subject to be infested with vermin of a larger character than the common fowl louse, but which are as readily destroyed by the application of flowers of sulphur. The results of crossing Polish with other varieties are described in the previous or following chapters. Respecting the inter-breeding of the Golden, Silver, and Black varieties, Dr. Horner states:—"When the Golden or Silver-spangled are crossed with each other, cock with hen, or hen with cock, I found that the chickens in both cases were purely marked,—*i.e.*, they were well defined Silver, or otherwise Golden-spangled. But when the Golden-spangled and the Beardless Black, with white crest, are thus united, the chickens partake of the colour of both parents in various degrees."

CHAPTER XVII.

BANTAMS.

THERE can be little question but that it is to the islands of the Eastern Archipelago that the origin of this Lilliputian family must be referred; but whether all our present varieties owe their descent to any one primitive stock may be the subject of speculation indeed, though hardly, at the present day, capable of proof.

Early in the seventeenth century the English possessed factories at Bantam, a town and district of Java; and thence the introduction of the domesticated Bantam into this country followed as a matter of course. But whether such importations were only of one sort, or included any of those varieties in which we now see them, there is no evidence to determine. The latter, however, would appear to us the more probable supposition, since, from the narratives of travellers and residents in those regions, it seems reasonable to conclude that there exist more specimens of the wild, and possibly of the domesticated "Galli," than are yet known to us in this country.

But under whatever circumstances they might have made their appearance in England, it is clear that for upwards of 200 years they have maintained their ground; and although fashion has undergone many changes as to the particulars of form and feather, she still continues to regard them with a favourable eye. However highly estimated in rural districts for their good qualities as nurses for game and the more valuable specimens of the smaller fowls, their head-quarters are generally found in the manufacturing districts and in the neighbourhood of large towns, where their diminutive proportions and contented disposition within narrow limits specially recommend them.

The different varieties of Bantams are numerous. At the present time the breeds most in request are the following:—1. The Sebright, or Laced Bantam (Gold and Silver); 2. The Black Bantam; 3. The White Bantam; 4. The Game Bantam. To these may be added the older breeds, such as the Booted or Feather-legged Bantam, and the Nankin and Partridge-coloured varieties.

The *Sebright*, or *Gold* and *Silver-laced Bantams*, although undoubtedly the most artificial breed of fowls we possess, may, on account of their extraordinary beauty, and the high value of perfect specimens, first claim our attention. Regarding the history of these birds, the following communication from the present editor, Mr. Tegetmeier, to the *Cottage Gardener*, contains the most definite account that has been made public:—

"Respecting the origin of these remarkable birds no satisfactory account has ever yet been given to the public; consequently, numerous and contradictory statements

are current. Sometimes they have been termed the 'Sebright Jungle Fowl,' as though they were the direct and unmixed descendants of a breed from the Indian jungles; but the wild original is unknown to naturalists. Others, again, have attributed their origin to careful crosses between the old Nankin-coloured Bantam, and some of our so-called Hamburghs or Pheasant fowls; whilst a third have referred them to a cross between the Bantam and the Laced Polish.

"The last supposition seems, at first sight, to be the most monstrous, from the assumed difficulty of getting rid of the crest and nostril of the Polish fowl; but, in reality, this is not an objection. I have, for some time, been devoting much attention to the different Polish varieties and their crosses, and can state from experience that, *by careful selection*, the Polish crest may be entirely bred out in the second generation—that is to say, that fowls may be one quarter Polish, and yet no trace of crest visible. I do not say that this will be the case in all those bred; but it will be in many: and the converse also holds good, that many birds reared from a half-bred and a pure Polish may show no perceptible falling off in the size of crest from that of fowls whose pedigree is unmixed.

"For example, last season I reared some cross-bred fowls between White Cochin hens and a White Polish cock; they were white, slightly crested, bearded, with blue legs, slightly feathered; one I kept as a sitter, and she was running this year with a very large-crested Polish cock. I hatched a few of her eggs, and have now before me a White Polish cockerel thus produced, with *very* full crest, the only trace of his illegitimacy being that his blue legs are slightly feathered.

"I mention these cases to prove that the Polish crest is not an insuperable objection to the Polish Sebright theory; but, fortunately, I have something more than mere theory to advance. The following account was, by the kindness of Dr. Horner, obtained from the present Sir Thomas Sebright, for the purpose of publication in the new edition of 'THE POULTRY BOOK':—

"Dr. Horner states: 'The following information was courteously given me by the present Sir Thomas Sebright himself. It was about the year 1800 that the late Sir John Sebright began to fashion the Sebright Bantam. The cross was between some common Bantam and the *Polish* fowl. These were bred in-and-in until the required marking and size were secured. Sir John then accidently found a short-tailed Bantam cock in the country where he was travelling. This short-tailed bird he inbred with his newly manufactured Bantams, thereby giving their progeny the present form of the short tail. Sir Thomas is quite satisfied that it was the Polish, and not the Golden Pheasant (now named the Spangled Hamburgh), with which the Bantam was first crossed. I thought, in my inexperience, that the top-knot, beard, &c., of the Polish could hardly have been got rid of; but the last two seasons alone have been sufficient to show me how easy it is to get rid of these appendages. Thus, last year, I had a young cock bird with a beard, and also with a crest of feathers behind a somewhat irregular rose-comb. This bird was bred from a Polish cock

and one of Sir Thomas Sebright's Bantams. This year I crossed this young cock with a Golden Pheasant hen, and obtained three chickens, all cocks. One of these is quite free from both beard and crest, and with a fine rose-comb and good wattles; the other two have no crests, but have some beard, fine rose-comb, and small wattles.'

"This account, I think, may be regarded as putting the question at rest, for I do not see that we can have any higher authority on the subject; and I must say that I feel a considerable amount of pleasure in having been the channel through which this interesting fact has been made known."

Sebright Bantams are of two varieties, Golden and Silver-laced. In the first the ground-colour is of a rich golden tint; in the second it should be a pure silvery white; every feather should be perfectly laced—that is, edged with a line of black, which completely encircles the feather.

One of the most remarkable characteristics of the Sebright cock is the total absence of the usual hackle and saddle-feathers common to the sex; he is also perfectly "*hen-tailed,*" or devoid of arched sickle-feathers; the principal feathers being nearly straight, and forming a square tail like that of the hen. The tail side-coverts are well developed; and great stress is laid on their being perfectly laced, as in few places are the colours more apt to run. The comb *must* be double, terminating in a well-formed point; while the legs and feet are required to be blue, and wholly free from the least appearance of a feather. The feathers on the head are apt to get dark, from the wider margin of the lacing; this, however, should be avoided, since a main point of the Sebright is the preservation of the same proportion of ground-colour and lacing throughout the whole of its plumage. The ear-lobe is small, and, in our opinion, should be white; but this is rarely, if ever, seen. Mr. Hewitt thus alludes to this point:—"In the Sebright '*Laced*' Bantams I have yet to see a specimen in which the ear-lobe is perfectly white; for, although so many have been bred by myself in the last twenty years, all that I have ever yet had were *blushed,* and many perfectly red in the ear-lobe. I freely admit that I should prefer the white, but feel confident that it is not to be generally, if ever, obtained. I have also invariably noticed that any unusual whiteness of the ear-lobe is accompanied by a sad falling off in the lacing, and therefore, if attainable only at so great a cost, it must not be insisted on. Whether the ear-lobe is white, or possesses the blue tinge, either form would place the bird above those of its competitors who, equal in other points, manifested the decided red stain. In the carriage of these birds we find the very extreme of pride, vanity, and self-importance; the feet are raised in walking much more than in any other of the Bantams, and planted again with the greatest deliberation and precision. When alarmed, their deportment is most striking; the wings drop to the ground, not listlessly, but as if determined to make the most of their tiny proportions; while the head is thrown back, and the tail raised, so that they all but meet."

But with birds that are so much valued, and bred to such a degree of correctness

of feather, a more minute description of their characteristics is desirable; and we have the advantage of adding the detailed description of Mr. Hewitt, who is known as one of the most successful breeders of both varieties.

THE CHARACTERISTICS OF GOLD AND SILVER SEBRIGHT BANTAMS.

COMMUNICATED BY E. HEWITT, ESQ., BIRMINGHAM.

WEIGHT AND SIZE.—*Cock.* Weight 20 ounces the extreme; if less, greatly preferred for *exhibition*, but for stock I have rarely found them useful at a less size, though I should desire them a few ounces less for *show* purposes.—*Hen.* Extreme weight 16 ounces; the same rule here holds good, for exhibition and stock, as described in the male Sebright.

CARRIAGE AND FORM.—*Cock.* Carriage, the height of self-importance; head drawn back, until the tail, which is well raised, nearly touches it; wings dropping about half-way down the legs; restless, impatient, and constantly moving; given to pugnacity, and always seeking antagonists, which they attack fiercely, despising disparity of size altogether, and, from their rapidity of motion, are frequently triumphant.—*Hen.* Upstart, gay, lively, and tyrannical.

GENERAL CHARACTER OF PLUMAGE.—*Cock.* Plumage very fine, close-lying, and in first-class birds laced accurately throughout. Across the shoulders is generally the most faulty, if not very correctly bred; in really good breeds no such imperfection of plumage arises. It is imperative in faultless birds that the lacings should completely encircle the feathers.—*Hen.* Brilliant, well-laced, very close-lying, and compact; each feather very long and narrow.

NECK-HACKLE.—*Cock.* Hen-hackled, perfectly laced; from the feathers being smaller near the head, the black predominates.—*Hen.* As the cock's.

SADDLE.—*Cock.* The conformation of the saddle-feathers the same as the hen's, laced regularly, as they approach the tail becoming wonderfully distinct and beautiful.—*Hen.* Laced perfectly on an unsullied ground. They generally look darker here, simply because the feathers overlap more than elsewhere.

TAIL.—*Cock.* Tail clear ground-colour (whether golden or silver, as the case may be); if laced throughout, preferred; but only most rarely attainable. The tail, however, must be tipped with black, and without sickles, or, as it is called, "hen-tailed." A clear ground-colour is a most important advantage in the tail of a Sebright, but very difficult to obtain in the male bird.—*Hen.* Tail somewhat longer than in other Bantams, the ground-colour perfectly clear, and the lacings distinctly accurate. In the hens this is much more easily attained than in the cocks.

BREAST.—*Cock.* Laced completely throughout.—*Hen.* Same as cock.

UPPER AND LOWER WING-COVERTS.—Laced completely throughout in both sexes.

SECONDARY QUILLS.—*Cock.* Heavily, accurately, and completely laced throughout; perfection herein is all-important.—*Hen.* Laced admirably all round, on a perfectly clear ground.

PRIMARY QUILLS.—*Cock.* Clear gold or silver ground, "tipped" with black. In very aged fowls of the Golden-laced, they frequently (almost always) become "grizzled" with white, particularly towards the roots.—*Hen.* Like the cock.

THIGHS.—*Cock.* Much darker than the body plumage; but still showing the laced feather.—*Hen.* As in male bird.

LEGS AND FEET.—*Cock.* Slate-coloured throughout; small and well-formed, being clear, and quite devoid of feathers.

COMB.—*Cock.* Comb perfect double or rose, set firmly on the head, without any tendency to fall over on either side; full of points, but these points are more "blunted" than in the Hamburgh fowls. It should end in a good peak behind, turning upwards; the whole neat, and not overgrown; a comb that is raised highly from the head, called "helmet-combed," is objectionable.—*Hen.* A very well-formed, neat rose-comb, the points at back well defined and up-turning; more livid in colour than most fowls. A depression at the back of the comb is a very common, but grave failing, and equally objectionable for breeding as for exhibition.

WATTLES.—*Cock.* Wattles small, florid, and not hanging loosely.—*Hen.* As in cock, but still more compact.

EAR-LOBE AND FACE.—White ear-lobe preferred, if attainable without failings in the "lacings" of the plumage, but a red ear-lobe is equally admissible; face very neat, expressively impertinent, and a little darkened round the eyes, comparatively with other fowls.—*Hen.* Ear-lobe as in the male, the face the very extreme of neatness, highly expressive, carrying with it a jaunty, daring appearance, and continually alive to all passing around it.

COLOUR OF EYE AND BEAK.—Eye of cock dark-red, vivacious, impatient, and sparkling; bill slate-coloured.—*Hen.* Eye dark-brown, slightly reddened; bill slate-coloured.

With regard to the selection of birds for breeding stock, Mr. Hewitt remarks:—"At three years old the Sebright becomes what is called kite-winged; that is, the principal feathers of the tail and wings are then grizzled with white, and they are sadly deteriorated for exhibition. Frequently, however, have I found that in this state they produce stock far superior to those that have been reared from these same birds in their pristine beauty."

It is also found that better markings are usually produced by the union of a heavily-laced bird with one that is scarcely sufficiently so, than when both parents excelled in this respect. "Why this should be so," says Mr. Hewitt, "I know not; but I am confident that those that are best-laced frequently produce offspring very far from perfect in their markings, while those exhibited by myself, which have so often proved successful, were bred as before stated."

In addition to these hints, Mr. Hewitt has favoured us with the following additional remarks for the present edition :—

"Of Sebright Bantams, whether Golden or Silver-laced, I am, by dearly-bought experience, perfectly assured that a decidedly 'hen-tailed' cock is rarely valuable for brood purposes, however prizeable and approved in the exhibition-pen. I do not insist on the unvarying imbecility of such a male bird, because a few exceptions have come within my knowledge; but the general rule as to eggs laid to such a cock is their entire sterility, or only one egg or so in many nests proving productive,—although the most compact 'hen-tailed' cock I ever yet met with has the sole range of my yard, and the eggs of the hens (running with him) are in almost every instance fertilized. The ground-colour of this bird's tail is perfectly clear frosted silver, the markings as complete as though 'laced' by the handiwork of an experienced artist, and the whole bird unexceptionable. This is the only instance I ever yet met with in which such a male Sebright proved a really satisfactory stock-bird. The combined experience of many other admirers of the Sebright Bantams is concurrent with my own—viz. that even a very trifling disposition to sickle-feather in the tail brings with it proportionably increased productiveness; and that, contrariwise, absolute perfection of hen-tailed character (in the male bird) as generally entails sterility. It must be ever remembered, these remarks apply exclusively to Sebrights for the increase of stock, and not to exhibition fowls, of this really beautiful variety. In the latter position, no one can entertain more positive approval than myself of the so-called 'hen-tail,' and his success there depends exclusively on his outward appearance, altogether regardless of his powers of procreation; but to introduce an entirely faultless cock as the progenitor of future stock, is always prone to the likelihood of disappointment. I have noticed, as a general rule, that even the slightest deviation from feminine character in the tail of the male Sebright—say the elongation by only half an inch of the two principal tail-feathers—brings with it improved probability of increase; and would therefore advise Sebright amateurs desirous of 'breeding' such fowls, not (as a rule) to depend exclusively and altogether on a 'hen-tail.'

"Still, however, I am perfectly convinced that very much of the disappointment now so generally complained of, as to breeding chickens in anything like proportionate numbers to the eggs incubated, arises altogether from the foolish principle of purposely selecting the most diminutive, and consequently the most weakly, fowls of this variety, as the parent birds. This plan, it will be at once allowed, would not receive the sanction of the breeders of any other kind of stock whatever, simply on account of its inevitable tendency to produce deterioration of character in the offspring; nor have I the slightest doubt in my own mind but that the dogged determination of Sebright amateurs to obtain small birds, by any and every means, has accelerated the present difficulty, as universally as the twin-mistake of constant interbreeding. In breeding these birds great care should be taken that all the 'stock' have perfect rose-combs, as no others are admissible for competition; and imper-

fections of this kind prove almost invariably hereditary for many generations, and are most difficult to 'breed out.' Another very essential feature is the entirely clear ground-colour of the old birds selected for stock, as even the slightest impurity in this matter is perpetuated in their offspring. In my remarks as to male Sebright Bantams, I particularly desire to be very distinctly understood. A cock of this variety for exhibition purposes, undoubtedly should possess neither hackle nor saddle-feathers; and as to the tail, should be altogether devoid of sickle-feathers—the hen-tail makes the perfect bird; but they rarely breed well, so for that especial reason are so much the more valuable when they do. When possessing a good hen-tail (and the side tail-coverts regularly and distinctly marked), it is impossible to imagine a more beautiful specimen in any variety of fancy poultry. The gait of some of these hen-tails is extraordinarily characteristic: and I have seen the carriage so peculiar, that the head and tail have nearly touched each other if the birds were a little alarmed; and thus displayed the lacings on the breast and wing-coverts to unusual advantage. In the Sebright chickens I have invariably found those covered with the darkest down, when first hatched, eventually made the best 'laced' specimens; and that the lighter coloured ones are as constantly more or less indistinctly 'laced,' when adult, in exact proportion to their appearance at the onset."

Black Bantams constitute one of the established classes at the poultry exhibitions; and judging from the great improvement that has been effected in them during the last few years, appear likely to maintain their position for the time to come. A lengthened description of their characteristics is not required, inasmuch as the plumage should be a uniform black, without the slightest trace of any other colour. In the cock the lustre of the feathers should be decided, reflecting the same resplendent metallic purple tints that are seen in high-class Spanish; the hens of course being of a duller hue. The comb in the cock should be a bright crimson rose-comb; wattles and face red; ear-lobes perfectly white, but strictly defined, and not implicating the face; the tail should be full, and with well-arched sickle-feathers; the legs short, and dark in colour.

White Bantams, although, like the Black, established favourites at our shows, scarcely require a more detailed description. The smallest possible size consistent with health and condition, a plumage of immaculate whiteness, a full sickle-tail, neat rose-comb, red face, white ear-lobe, neat small-boned white legs and feet, include their principal characteristics. In size they should be very diminutive, first-rate specimens not reaching one pound and three quarters a pair.

Mr. Hewitt, whose opinion is always valuable, has furnished us with the following notes on these two breeds last described :—

"Although the rule is strictly imperative as to Sebrights, that the male bird should possess a perfect 'hen-tail,' the contrary holds good in both Black and White Bantams, in either of which varieties a well-developed sickle-feather is the desideratum. When the tail is thus ample, it adds also very greatly to the general beauty of the

bird; and from the delicate flexibility of the principal tail-feathers, as also the side-coverts, the apparent *hauteur* and self-importance of these 'tiny pets' is very greatly increased. Of late years, at many of our chief poultry exhibitions, we have been accustomed to meet with specimens far less in size than heretofore; and adult hens, varying from ten to twelve ounces in weight (although in good condition), are not by any means a rarity, both among Black and White Bantams. The cocks will generally exceed the weight of their mates by about a quarter of a pound.

"A very prevailing fault in the White male birds (if arrived at maturity) is an inclination to assume a yellowish tinge, or even a very slight saffron hue, across the shoulders and saddle, which will certainly prove fatal to the success of the pen at any exhibition, if competing with fowls without this drawback. It is also a fault that it is most difficult to eradicate, as it is almost certain to prove hereditary. For this last-named reason the greatest care should be taken to avoid a male bird possessing this blemish, when selecting brood-stock. Yellow or blue legs are also most objectionable in White Bantams; their legs should be clear white, without any stain whatever. In both varieties the combs are rosy, and, together with the wattles, small, neat, and firmly seated to the head. Among Black Bantams it is by no means uncommon to find a cock of two or three years old assume a ruddy hue on the longest of the neck-hackles, and even occasionally to moult 'brassy-winged,' or actually red-shouldered. It is needless to say these fowls are then perfectly useless as show-birds, nor would I depend on any such fowl for stock. I have seen this failing at length developed by a Black Bantam cock, that had always been hitherto considered one of the best of his race, and belonged to one of our principal Bantam exhibitors; for three years he was *perfectly* black, and now attains annually an increased amount of the faulty colouring complained of. At several of the numerous exhibitions at which I have adjudicated, I have met with very perfect Black Bantams, both in size, colour, and general characteristics, with entirely white ear-lobes. I do not attempt to lay it down as an imperative rule, 'It must be so;' but I do state it as my individual opinion, that such perfectly white ear-lobes, by the striking contrast to the colour of the plumage, greatly increase the beauty of a pen of this variety."

In the *Game Bantams*, whether *Black-breasted Reds* or *Duckwings*, we have the *beau-ideal* of diminutive beauty. They are, in fact, exquisitely executed miniatures of the Game breeds whose names they bear. Many of the birds, indeed, that pass under this title, are neither more nor less than mongrels between these two families; the selection of the smallest birds and continuous breeding in-and-in contributing their powerful agency towards the production of a pigmy race. But there are also birds of this class free from any such imputation of impure pedigree, and as well entitled to rank as a distinct variety as any of those that have reached this country from the East. If we are satisfied, indeed, that the whole Bantam family have emanated from the Bankiva cock, the birds in question would rightly claim our first attention, so close a resemblance in all points do they bear to this supposed

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For ye waft me to summers of old,
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And when daisies and buttercups gladdened my sight,
Like treasures of silver and gold."—CAMPBELL.

THE present Work was undertaken under the impression that a selection of the more beautiful and attractive of our Wild Flowers, with Illustrations of them, would be useful to those who have neither time nor opportunity of consulting larger works on the subject. In order to confine herself within the necessary limits, the Authoress found she could only take the most ornamental Plants, avoiding, as interfering with her other Works, any Flowers commonly found in the Garden, her chief object being to enable the Amateur Botanist, who might find a pretty or interesting flower growing wild in their rambles, to ascertain its name and history. In addition to such details, a few remarks on the botanical construction of most of the plants have been offered, in the hope of inducing such readers as might be unacquainted with Botany to study so charming a science.

The volume presents to the reader almost all the information which is absolutely necessary for a general knowledge of this branch of the subject; the reader will likewise meet here with remarks regarding the great question of education, in which the Authoress indulges the hope that the botanical construction of plants, and the study of the science of Botany in general, may become a branch of general education.

"Nothing, I must confess," writes the Authoress, "would give me more pleasure than to see Botany as commonly taught in girls' schools, as French and music are at present; and I think it more than probable that in another generation it will be so—as, though the Linnæan system was unfit for females, there is nothing objectionable in the Natural Arrangement; and the prejudice against botanical names is every day declining, from the number of beautiful plants exhibited at flower shows, which have no English appellations. I sincerely hope the time may arrive, though probably I shall not live to see it, when a knowledge of Botany will be considered indispensable to every well-educated person."

In the systematic arrangement of the plants, the Authoress has followed Dr. Lindley's *Synopsis of the British Flora,* which few botanical students are without; and few genera are omitted, except such as do not contain any ornamental plants, or only include such plants as are rarely met with growing wild in Great Britain. While the Natural System is adopted in this work, it has also been borne in mind that many books of a leading character are arranged according to the Linnæan system; the Authoress has therefore added the Linnæan class and order of each genus, with a few words explanatory of the terms as they occur.

The volume is illustrated with sixty plates, representing nearly three hundred of the rarest ornamental wild flowers, drawn by Mr. Noel Humphreys, and carefully coloured after his drawings, grouped so as to form bouquets of flowers. The volume contains besides, descriptions of nearly all our known indigenous flowering plants, and a copious index, which completes the general attraction and utility of the work.

LONDON: WM. S. ORR & CO., AMEN CORNER, PATERNOSTER ROW.

PART XI.] PRICE ONE SHILLING. [JULY.

THE POULTRY BOOK:

COMPRISING THE

CHARACTERISTICS, MANAGEMENT, BREEDING, AND MEDICAL TREATMENT OF POULTRY;

BEING

THE RESULTS OF PERSONAL OBSERVATION AND PRACTICE OF THE REV. W. W. WINGFIELD, G. W. JOHNSON, ESQ.,

AND THE MOST CELEBRATED BREEDERS OF THE DIFFERENT VARIETIES.

THE WHOLE RE-ARRANGED, AND PARTLY RE-WRITTEN, BY

MR. W. B. TEGETMEIER.

WITH

COLOURED REPRESENTATIONS OF THE MOST CELEBRATED PRIZE BIRDS,

DRAWN FROM LIFE

BY MR. HARRISON WEIR,

And Printed in Colours under his Superintendence.

LONDON:

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MDCCCLVII.

LEIGHTON, BROTHERS' CHROMATIC PROCESS

BLACK EAST INDIAN, OR PUENOS DUCKS.

THE PROPERTY OF MISS CLIFTON.

ROUAN DUCKS.

THE PROPERTY OF CHAS. PUNCHARD, ESQ.

LEIGHTON, BROTHERS', CHROMATIC PROCESS.

WHITE AYLESBURY DUCKS.

THE PROPERTY OF CAPT. W. W. HORNBY, R.N.

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TOULOUSE GEESE.

THE PROPERTY OF CAPT. W. W. HORNBY, R.N.

progenitor. "The Black-breasted Red Bantams," says Mr. Hewitt, "are frequently of the most perfect character, in colour and general appearance being the *fac-simile* of a diminutive Game fowl of that breed, but not exceeding three quarters of a pound each. Gait, comb, and wattles, indeed, are precisely the same in both, for the comb is single and unusually thin in the best specimens."

In the opinion that the Game Bantams have been produced from the ordinary Game fowl by continuous inter-breeding, and by the selection of the smallest birds for stock, we cannot concur, since—although beyond all doubt small birds may be produced by such causes, added to scantiness of food, low temperature, and late hatching—birds bred from these again, and liberally treated, would doubtless return to the ordinary size of the class. The Game Bantam, properly so called, may therefore be fairly considered as occupying a distinct place in the family.

The Black-breasted Red Game Bantams are so exact in their resemblance to the Game of the same name, that it is not requisite to add a longer description. The Duckwing Game Bantams are not so well known; as far as our recollection carries us back, they were first shown by W. S. Forrest, Esq., at the Metropolitan Show in 1852. That gentleman has, in both senses of the word, remained the *first* exhibitor of this variety; and we have to express our obligations to him for the following detailed account:—

CHARACTERISTICS OF DUCKWING GAME BANTAMS.

COMMUNICATED BY W. S. FORREST, ESQ., OF GREENHITHE.

CARRIAGE.—*Cock.* Very upright; head and tail nearly touching; wings well let down.

NECK-HACKLE.—*Cock.* Straw yellow.—*Hen.* Brown; the edge of each feather pale straw colour.

SADDLE.—*Cock.* Bright yellow, darkest on the back.—*Hen.* Brown and ash, spangled with minute dark spots.

TAIL.—*Cock.* Black, shaded with green.—*Hen.* Black and brown.

BREAST.—*Cock.* Black.—*Hen.* Light chestnut; the feathers having buff shafts.

UPPER WING-COVERTS OR SHOULDERS.—*Cock.* Bright yellow, approaching to copper.—*Hen.* Brown, and ash-speckled.

LOWER WING-COVERTS OR BARS.—*Cock.* Black, with purple lustre.—*Hen.* Brown and ash colour.

SECONDARY QUILLS.—*Cock.* White.—*Hen.* Brown, and ash freckled.

THIGHS.—*Cock.* Black.—*Hen.* Pale brown.

LEGS AND FEET.—Yellow or white.

COMB.—Single in both sexes, but for exhibition the cock's should be carefully dubbed.

WATTLES.—Red; but the cock's must be dubbed.

EAR-LOBE AND FACE.—Bright red.

COLOUR OF EYE.—Brilliant orange.

COLOUR OF BEAK.—Must match the legs, being either yellow or white.

The *Feather-legged* and *Feather-footed Bantams* were among the earliest and most common of their race in this country. In colour they were to be found black, white, yellow, and also spangled red, black, and white. They were larger than the birds of the present day, and more stoutly built. In one respect they had with many a great recommendation in their comparative inability to employ their booted legs for the purpose of scratching; their utility, therefore, in the garden, by their destruction of grubs and insects, was not counterbalanced by any injury to the borders. But this, again, was adverse to their chickens' well-doing, who suffered from the inordinate length of these feathers—frequently four or five inches—on their legs and feet. In wet weather especially, the young broods were thus entangled and crushed, and the great merits of the Bantam as a mother were sadly depreciated. The Gold and Silver-laced birds alone excepted, specimens of all the other varieties were, and are still, occasionally seen, both with and without the booted leg and foot.

Mr. Hewitt remarks concerning this variety that—"Perfectly bred birds of this description are now very rarely to be met with, although some twenty-five or thirty years since they were not by any means an uncommon variety. The booted Bantam is an unusually hardy and extraordinary looking fowl, considerably larger, however, than the Bantams that we at the present time generally meet with; the point which Bantam-fanciers now consider all-important, diminutiveness, having been but little attended to, as they weigh nearly two pounds each. They are usually of a brown or gray 'speckled' colour throughout, having single combs, and very lively intelligent looking faces. The most evident singularity of this variety is the extraordinary development of the feathers of the thigh, which in well-bred fowls are so lengthy as to wear away considerably (by the friction of walking) upon the surface of the ground. If any of the largest of these feathers from the thigh are closely examined, they prove quite as long in the shaft as those of the wing itself. The 'boots' or feathers, extending along the outside of the legs to the feet (and in most instances to the two outside toes also), are frequently longer than the feathers of the wings themselves, especially if the fowls have been well attended to, and enjoy a walk where they are not likely to break them in pieces. By reference to my early statistics of this breed, I find the longest boots I ever remember seeing were in a cock; they measured nine and a half inches on each leg. 'Muffs' (as they were formerly called) of seven inches long were easily acquired. From this peculiarity, these fowls scratch less in gardens than any I ever possessed; but few advantages prove real benefits if tested in all ways. The boots, during the time of incubation, are apt to drag the eggs from the nest, to their destruction; and not unfrequently, during the first few days of their existence, prove fatal also to the chickens

by causing their strangulation. Both their eggs (which are produced abundantly), and the fowls themselves, are very excellent for the table."

Before we have done with the booted pets of former days, another section of them must be enumerated—*Creepers* and *Jumpers*, in which, in addition to extreme contraction of their lower members, a heavily feathered leg and foot still further impeded their powers of locomotion. These causes are generally united, though we have seen instances where the leg, though unfeathered, was so reduced in size that a kind of spasmodic affection was the nearest practicable approach to walking.

The *Nankin* or *Yellow Bantams* appear to have been among the earliest importations; and although now seldom exhibited, still have their admirers. Their prevailing colour is that of the pale orange yellow of the Nankeen cotton. The hens are usually slightly pencilled on the hackle; and the cocks show an intermixture of darker colours on the wings and saddle, and a well-arched black tail; they should possess rose or double combs, and short dark legs.

The *Spangled Bantam* immediately reminds one of its Hamburgh namesake, both in respect to the colour and form of its markings, as also the shape of its comb. Many persons, indeed, would suggest the probability of their being the offspring of crosses between the above birds; but from the permanency of distinctive features in the variety *now* known as Spangled Bantams, we should certainly be inclined to argue for their being considered a separate and distinct variety. The spangle should be well defined in both sexes, especially on the cock's breast; but their not having been in general demand as show birds, has been the cause of their receiving but little attention; and good specimens are therefore scarce.

The *Partridge Bantam*, though now rarely to be met with, was a great favourite some few years since for the purpose of rearing partidges. Latterly, however, a cross with the Game fowl has given an increase of size, which provides for the maternal charge of pheasants, as well as of the smaller game; and thus the Partridge Bantam has become comparatively scarce.

The following description is taken from some birds belonging to R. C. Sayers, Esq., of Clanville House, near Andover, which have most deservedly been selected for prizes at several exhibitions:—

The cock rose-combed, with yellowish-brown hackles, the saddle-feathers being lightly streaked with black; tail sickled, and of a rich black; back and wing-coverts partridge-coloured; wing-feathers bay, but dusky at their extremities; under parts of the body dark drab. The hens had a brighter yellow hackle, touched with black; breast and under part of the body drab; the rest partridge-coloured. The legs of both were light gray, and perfectly clean. In point of size they exceeded the usual average of Bantams, the three together weighing three pounds and four ounces.

Blue Dun Bantams have recently been exhibited; they are of a colour approaching closely to that of the Andalusian fowl, and have also been styled *Fly-fishers*,

probably from the fact that slate-coloured hackle feathers are in considerable demand amongst fishing-tackle makers, for manufacturing artificial flies.

Such we believe to be the principal varieties of Bantams known in this country, though fully aware that some others, not here alluded to, are fondly cherished by their owners as possessing distinctive points, which in their consideration would entitle them to a separate enumeration. But the different families have again and again bred with themselves, and with the common mongrel fowl of the farm-yard; and such promiscuous intercourse has necessarily resulted in a multiplicity of forms and colours, as incapable of accurate description, as undeserving the labour. Several, also, of those that we have just described, the Gold and Silver-laced excepted, occasionally make their appearance with muffs around their throats,—an addition which, however desirable it may be for the totally distinct character of the Tufted Poland, is utterly unsuitable to the delicate symmetry and close feather that should always distinguish the family now under consideration.

The character of Bantams as layers, sitters, and mothers, is far above that of ordinary fowls, all these duties being most satisfactorily performed by Bantam hens. As mothers, indeed, they appear to the greatest advantage from their activity, courage, and gentleness with their chickens. "I have had Bantam hens sitting for six weeks," says Mr. Everett, "and never had any difficulty in rearing the chickens. I should, however, advise keeping the brood for a few days on boards, or in a barn or outhouse, should the weather be unfavourable; since, from their diminutive size, they suffer from exposure to wet in a greater degree than larger chickens."

Our own experience leads us to agree entirely with Mr. Everett's testimony to their hardy character. From an early age they seem to exceed other chickens in activity; and excepting only some little additional care against damp,—of which their tiny proportions render them more susceptible,—no difficulty is commonly experienced in bringing them to maturity.

No one who has tried the experiment of rearing chickens under the same conditions as to age and treatment, confined in coops or yards or at large with their mothers, can doubt the ultimate superiority of the latter birds. The Bantam mother here possesses a strong recommendation in the comparative safety with which her young family may traverse the field or shrubbery under her ever-watchful guardianship. That there may be no excess above the standard dimensions, it is a common habit to sit the eggs late in the autumn. It can, therefore, be no matter of surprise to hear, where such broods are referred to, that they are difficult to rear; "though," as Mr. Bond, writing from Yorkshire, observes, "after they have once attained maturity, they do well enough with us."

CHAPTER XVIII.

THE SILK, RUMPLESS, FRIZZLED, DUMPY, AND BARN-DOOR FOWLS.

THE SILK OR NEGRO FOWL.

ALLUSIONS to these birds are frequent, both in the works of the older annotators on the poultry-yard, and in those of the early travellers in China, Japan, and some parts of India. The extreme singularity of their appearance would probably attract observation, when other breeds were disregarded. The curiosity of "hens that, instead of feathers, had hair like cats," so suited the lover of the marvellous, that it was carefully recorded, while matters of far greater importance to the naturalist, and equally within the cognizance and observation of the writers, were neglected.

Temminck states in general terms that the Silk Fowl is a native of India; but Mr. Edward Blyth, Curator of the Asiatic Society's Museum, at Calcutta, states more specifically, "The only silky fowls I have seen here were from China, or Malacca, or Singapore: the latter with single red comb and wattles; the former with complex blackish rose-comb, very short stubby beak, and a quantity of glaucous blue skin in place of wattles, imparting a most remarkable appearance."

Their most usual colour is white with a black or dark-blue skin, while the surface of the bones is also covered with a dark membrane or periosteum. The feathers have their web separated, so that their covering seems of hair rather than that which is ordinarily allotted to birds. The tail feathers, in good specimens, resemble fine gauze, for here their texture is closer than on any other part of the body; the tail itself is short, little more developed, in fact, than that of the Cochin; but a sickle-tail, arising in all probability from a cross with the White Bantam, is not unfrequent.

The comb is usually depressed, approaching in form to that of the Malay; but variations in this respect are frequent; and single combs, with those of an intermediate character, are by no means uncommon—the one first mentioned, however, is the best form; its colour, with that of the wattles, should be of a dull leaden hue; the face being thinly covered with feathers, shows its dusky complexion, which is still further brought into relief by a blue ear-lobe; of this latter colour are the legs, which should be heavily feathered, and many specimens are furnished with a good crest. In form they are very round, compact, and low on the legs; in this respect again resembling a well-bred Cochin. But we have Silk Fowls that differ widely from the above portrait, in colour no less than figure and size; for as the Silk Fowl breeds freely with any of the ordinary domestic poultry, cross-bred birds of all colours and appearance are not unfrequent.

Though exceeding the Bantam in respect of size, the White Silk Fowls are by no means of such weight as we should imagine on first seeing them in the yard, for their feathers, when in good condition, are very fluffy, and stand well out from the body, giving the appearance of far greater bulk than they in reality possess. Their ordinary weight may be about one pound and a half for the hens, and two pounds for the cocks.

The eggs laid by White Silk fowls are about an ounce and a half in weight, and of a pale buff. They usually lay about twenty eggs before showing any desire to sit; their care of the chickens is admirable, and on this account they are well suited for rearing pheasants or partridges—Game hens scarcely exceeding them in the courage and determination with which they defend their young.

The chickens of the white variety leave their shell clothed in the brightest canary-coloured down, with a full dark eye and bill. More attractive little creatures, indeed, can hardly be conceived. We have always found them easy to rear when hatched not earlier than April, or later than June; and in the different stages of their growth, the usual treatment for Bantams and the smaller fowls is all they require at our hands. To those who may wish to keep a few fowls in an aviary within the garden or shrubbery, the Silkies have many recommendations, for they are docile, and easily contented within very narrow limits. In such a locality they may be relied on to furnish a supply of excellent eggs for the breakfast-table; and when desirous of sitting, they may safely be intrusted with the eggs of any other fowl, in the event of our not being anxious to increase their own numbers. The point, however, in which these birds appear to least advantage, is their character as table-birds; for their black skin and dark bones are fatal objections.

Mr. Hewitt sums up their advantages and drawbacks very impartially, in the following remarks:—"I believe them to be a variety that quickly degenerate, when bred in our climate; as those I first possessed produced chickens in a few years after their importation, in which the peculiarities of their race were fast waning away, although no degeneracy was to be attributed to connection with other poultry. I am certain that no fowls I ever possessed were so satisfactory for rearing pheasants, partridges, and other delicate youngsters: under their protection, I scarcely lost a single chicken. Their unusual warmth, no doubt, produced this pleasing result; and they are certainly well worth a trial by those who feel interested in the production of Game artificially. They were also tolerable layers, and the eggs were of equal excellence to those of other fowls. The young chickens are both interesting, unique, and very beautiful. They are certainly a variety of poultry that absolutely require far more protection from hard and wet weather, than most others. Their downy covering soon becomes saturated; and if much exposed, disease will inevitably ensue.

"Silk fowls should be strictly limited to their own particular walk, and prohibited the possibility of access to any other description of fowls; for by crossing, the injury is equally apparent in the offspring, whether considered as fancy fowls, or

designed for table purposes. For the last-named service, so far as appearances alone are concerned, they are the very reverse of covetable.

"The skin of highly bred Silk fowls, if boiled, assumes an extremely dark violet colour, and the external surface of all the bones is of a precisely similar hue; should they, on the contrary have been roasted, they become even less inviting, for by this treatment they appear considerably darker still, and of course cannot be placed before visitors who are unaccustomed to them, without a general explanation that seldom proves perfectly satisfactory. Even though so untempting to the eye, they are not an indifferent fowl as to flavour: I have many times partaken of both pure and cross-bred Silk fowls, and found them, when well fed, equal to most others.

"I found in all instances that the 'silkiness' from which these fowls derive their appellation, is not transmitted to the offspring produced by intermixture with other varieties; these chickens simply betray their origin by the colour of the skin and bone—indeed, they exhibit but little of the general outward character of the so-called 'Negro' ancestry; and thence it is that country poulterers are themselves frequently unaware of this great drawback to their value as sale birds, until they are denuded of their feathers. Still, I must emphatically repeat (with all their failings), for the rearing of tender chickens requiring great warmth and care, they are really invaluable.'

RUMPLESS FOWL.

This is the *Gallus ecaudatus*, or Tailless Fowl of Temminck, and the *Gallina cauda seu uropygio carens*, or Fowl without a tail, or rump, of Linnæus. It is the *Rumpless* or *Persian Cock* of Latham, and the *Rumpkin* of others; the variety was known to Aldrovandus two centuries and a half ago, and he called it the Persian Fowl; his specimens appear only to have differed from those which we have seen in having a black plumage variously marked with yellow.

Sonini and Temminck state that it is a native of the Ceylon forests, and is called by the natives *Wallikikilli*, or "Cock of the Woods." This, however, is denied by Mr. E. L. Layard. Writing from Ceylon in 1850, he says:—"The Rumpless fowl is not a wild inhabitant of this island, in spite of Temminck. It is a rather rare, tame introduction from Cochin, I am told. It may appear like boasting, but I can confidently say I am more acquainted with the Ceylon Fauna than any man living, and that if the bird had existed wild I must have seen it. *Wallikikilli* is the name for the female of *Gallus Stanleyi*, meaning literally, *Walli*, jungle, and *kikilli*, hen. The name of the Rumpkin is *Choci-kukullo*, literally Cochin fowls."—("Gard. Chron.," 1851, 619.)

At the present date there are in the Zoological Gardens, Paris, specimens of Rumpless fowls under the erroneous name of "*Wallikiki*;" they are described, however, as of Persian origin, which is probably correct, as the bulk of the evidence appears to be in favour of the Rumpless breeds having originally come from that

country: there is no doubt but that the Rumpless crested-fowls described at page 147 were brought to England from Persia.

The Rev. J. Clayton, in the "Philosophical Transactions" for 1693, p. 992, says that he observed in Virginia that the hens and cocks were for the most part without tails; adding, that he was assured that our English hens, after some time, lose their rumps. Buffon inconsiderately accepted this as truth, and even Dr. Latham seems not to have felt certain of its being untrue; but that it is so, our readers will scarcely need to be assured.

The plumage varies very much in colour. We have seen that Aldrovandus describes them as being black; and Mr. Beetenson, of Birmingham, has them of that colour. They are also of various colours; in many, white feathers largely prevail. Some look like bad Silver-spangled Hamburghs; others, in plumage, resemble the Black-breasted Red Game. The cock usually has a rose-comb, but it is often single. In those with white feathers prevailing, the neck-hackle and back are yellowish; the breast, thighs, and wings grizzled with black, as if very imperfectly pencilled. The legs, bluish-white. Height about sixteen inches, and weight about five and a half pounds.

In the very light breeds the hen is white, with yellowish neck-hackle; rose-combed; slightly-grizzled tail; and legs bluish-white, as in the cock. Height about fourteen inches, and weight rather under five pounds.

The treatment they require differs in no respect from that desirable for the ordinary breeds. Mr. Beetenson, who has been a successful exhibitor of them, says he selects the finest birds, both in size and plumage, for breeding stock; and he is especially particular in these respects with the male bird, which, he thinks, has most influence over the progeny. Their eggs average two and three-quarter ounces in weight, but they are not better than the Dorkings as layers.

Mr. Nolan, of Dublin, gives them this faint praise:—"I consider them rather a superior description of fowl; and the hen-wives who mutilate their stock, both cocks and hens, by depriving them of their tail, cannot object to the Rumpless, as they are perfectly unincumbered by that appendage."—("Domestic Fowl," 32.)

Mr. Hewitt states respecting them that—"It is almost impossible to breed them to any particular colour; as with the most rigid care in the selection and watching the brood-stock, the chickens 'sport' into nearly every variety of marking and ground-colour. The only birds of this kind that I ever knew to breed truly—so far as colour was considered—were purely white ones; they were by far the prettiest collection of Rumpless fowls that ever came under my notice. They were all white, without exception, and every bird had a somewhat small single comb. Like this variety generally, they were good layers and sat well. The wattles were very compact, and the legs and feet were of a rather heavy, bony appearance, the colour being white. This strain of Rumpless fowls originally came [from the Isle of Man. From this island I have known others introduced into the Liverpool

market that were quite black; others a beautiful fawn, and likewise several lots irregularly 'speckled,' and, indeed, without possessing any tangible characteristic whatever, except being 'rumpless.' Extraordinary differences in point of size exist in these fowls; some specimens range as heavily as six and a-half to seven pounds each; other do not exceed two and a-half or three pounds. Some have small 'lark-crests;' others—and these constitute the majority—have none. As usually met with, they appear to possess no distinguishing formation of comb; rosy, cupped, and flat combs being equally prevalent. There is, therefore, no positive standard that can be laid down as *the* 'peculiarities' of this variety, save the one to which their nomenclature refers. The size of the eggs varies proportionately with that of the hens by which they are produced; they are white, and somewhat larger than might have been anticipated. I now proceed to mention a still more perplexing proof of their versatility of character; a friend of mine purchased a successful pen at a poultry-show, taking them away to a 'walk' where no other fowls ever trespassed; and yet the chickens were, in a considerable number of instances, furnished with fully-developed tail-feathers, being not rumpless. On inquiry of the previous owner, he stated, 'Mine have always done so from the time I first kept them; but the tailed birds will very probably produce rumpless chickens.' Three such birds were then purposely retained; and they produced the next year more than twenty youngsters, all of which, but one, were destitute of tail-feathers, and were rumpless also. The white ones I have before alluded to occasionally produced chickens that were not rumpless. I believe the Rumpless fowl to be a particularly hardy one, as even in exposed situations, on the sides of Welsh mountains, they continue in good health and prosper well, even in cases where 'the fowls at all times shift for themselves,' and the attention shown to the chickens is scarcely worthy of allusion. I can willingly add my testimony, likewise, to the good quality of a Rumpless fowl on the dinner-table, the flesh being abundant, white, firm, and of good flavour; but as a drawback to their utility, it may be stated that all Rumpless fowls are sadly prone to lay unfertilized eggs."

THE FRIZZLED FOWL.

This fowl, says Mr. E. L. Layard, whose letter from Ceylon we quoted when writing of the Rumpless fowl, "is called by the Cingalese *Caprikukullo*. It is found here but rarely, and the natives say they came from Batavia. This agrees with Temminck."—*Gardener's Chronicle*, 1851, 610. Its title of Friesland fowl is evidently merely a corruption of its proper name.

It is the *Gallus crispus* (Frizzled fowl) of Brisson, and the *Gallus pennis revolutis* (Fowl with rolled-back feathers) of Linnæus. Sonini and Temminck agree that it is a native of Southern Asia; but that it is domesticated, and thrives well in Java, Sumatra, and all the Philippine Islands.

Temminck states that the prevailing colour of the race is white, and that in

these the legs are smooth; but there are many specimens variously coloured with black and brown, and some of these have feathered or booted legs. We shall confine our description to those having white plumage and unfeathered legs.

The cock has a beak much hooked; hackle slightly tinged with yellow; comb cupped and toothed; ear-lobe white; feathers over the entire body white, and projecting, from being curved back from the body, so as to give the bird an appearance of being ruffled, and of having its feathers rubbed in the wrong direction; tail ample and well sickled; legs, bluish; height, eighteen inches; weight, five and a-half pounds.

The hen is entirely white, and with feathers curved back as in the cock; has also a cupped and toothed comb; small sharp head; height, twelve inches; weight, four and a-half pounds.

The following remarks on this variety have been kindly furnished for the presen volume by Mr. Hewitt:—

"No variety of fowls can possibly present a more unique appearance than does the Frizzled fowl. All the body feathers, without exception, appear twisted outwards—similarly to the curled feathers in the tail of a drake—exposing the down underneath to the influence of the weather; and, from the effects thus produced, I myself attribute the fact of their being the most uncertain layers I ever met with among any variety of poultry. I am aware I differ somewhat directly from a few other amateurs in the expression of this opinion; but I speak unequivocally when I state, that in cases of sudden rains I have proved that the Frizzled fowls continued in a state of dampness for several hours after the common poultry were again perfectly dry. That Frizzled fowls appear to have the singular power of partially closing the extremities of their feathers against such unlooked-for casualties, I am fully conscious; but the results prove they are susceptible to the injuries from such exposure. Those breeders with whom I have personally conversed all declare they do not approve of the Frizzled fowls, simply from their want of constitution; and that they carry so little flesh in accordance to the apparent size of the fowl itself when dressed for the purposes of sale. I have myself tested them as mothers, but find many infinitely superior; and, when killed for table, they are of 'passable' quality. The full-grown cocks generally weigh about five pounds, the hens nearly four. In plumage they are mostly white; still I have seen many brown and gray ones. They usually carry a somewhat sickly appearance, and generally, if handled, feel thin and spare. The combs are single, as also are the wattles; they are large, and sit loosely upon the birds. The tails, which are of full size, have, like the flight-feathers of the wings, a broken, irregular appearance on the vane, as though they had been purposely ruffled by passing the hand down them. I have met with many persons that have kept them for 'fancy' sake, who regretted the experiment, as they quickly became diseased, and generally out of condition, although enjoying the same advantages as all the other varieties of fowls that remained in perfect

health. They are quickly prevented laying by extremities of weather, looking forlorn and neglected; and always appear to suffer far more from exposure under such circumstances than the generality of fowls."

DUMPIES, OR SCOTCH BAKIES.

The *Times*, in an amusing article on the Metropolitan Poultry Show, held at the Bazaar, Baker Street, at Christmas, 1852, questioned the possession by these birds of any more valuable qualities than the facility with which they might be stowed away in a saucepan. But those breeders into whose hands they have as yet passed have recorded so favourable an opinion of their merits as layers and mothers, no less than for the table, that we shall be much surprised if, either in their present state, or crossed with other fowls, they fail to prove a useful addition to our poultry-yards.

These birds originally were obtained from Scotland; their general character so closely assimilates to that of the Dorkings, that the probability of their being descendants of birds of the latter breed, stinted in growth by the less genial climate of the northern district of our island, may readily be admitted; and this the more easily, when we remember how many would describe the early ancestors of the Dorking race as "stumpy, thick-set, white fowls."

For a detail of their several characteristics and points, we refer to the following description by Mr. Fairlie, of Cheveley Park:—"The Scotch Bakies, or Dumpies, are a breed of fowls closely resembling the Dorking in form, symmetry, and quality of flesh; the average weight of the full-grown male bird is from six pounds to seven pounds, and of the hens, from five pounds to six pounds; their legs are singularly short, not exceeding two inches in length from the hock joint; the comb is generally single, erect, and well serrated; the body round and plump, and the tail ample. As layers and sitters, they have great merit, and fully justify the oft-repeated remark made at the late Metropolitan Exhibition, of *what excellent sitters they must make.* They cover many more eggs than might be expected from their size; for while on the nest, they appear as if they had been pressed flat upon it. They are gentle and quiet when hatching, and subsequently prove gentle and attentive mothers, their short legs enabling the chickens to brood well under them, even when standing up. I have found them perfectly hardy, and regard them as a good variety, well adapted for the table; their eggs are larger, and the shell of a clearer white, than the usual average of an English market egg."

The results obtained by crossing these birds with other breeds are thus described by Mr. Hewitt:—"It is well-known that most of our largest breeds have a tendency to become leggy. In the Dumpies we at once obtain the best possible cross that could be desired for correcting the evil, as the leg-bone of well-bred birds barely exceeds a couple of inches in length. The colour of the plumage is mostly white; they carry much flesh in proportion to their apparent size, chiefly developed on the wings, breast, and merry-thought. Their superior qualifications for the spit have

urged a few persevering amateurs to commence a series of crossings, and the pro duce of two such experiments I will describe. With a Buff Cochin hen, the chickens proved very weighty birds, but not by any means distinguished by beauty; their recommendation consisted entirely in the two-fold excellency of being inexhaustible layers, and as sitters almost interminable. They were very careful mothers to their chickens, and tended them much longer than thorough-bred Cochins would have done. This cross exhibited a coarse, unseemly head, the comb flagging, heavily-serrated, and the wattles very long and loose. In colour, they were mostly grizzled with white about the wings, the ground being rich buff; they proved invariably silver-hackled; the body, too, had a somewhat freckled appearance, and they were not feather-legged: the colour of the legs was white. It was, therefore, next to impossible to detect their actual lineage by the eye, more particularly as they stood somewhat higher on the legs than the old Cochin mother. The other case was a cross with a very superior and darkly-feathered robin-breasted Gray Dorking. This cross was very good; the chickens were very neat, cleanly-looking birds, no way reduced in actual size by their dumpy connection, but rendered infinitely lower on the leg than the best Dorkings; from their extraordinary dumpiness, an appeal to the scales told immensely to their advantage. Many possessed the additional Dorking toe, and they were a very close approach to the most coveted conformation for this latter variety, but lacked apparent size; it was handling that told especially and unexpectedly in their favour. The plumage was an irregular speckle, and even the second cross with the Dorking did not materially diminish this eye-sore. They did not lay anything like so well, nor did they prove of the strong rude health that characterised the half-bred Cochins. They laid but very little better than Dorkings, and were but little disposed to incubation. Divested of their feathers, they were specimens worthy of any board, but this was their solitary advantage."

THE BARN-DOOR FOWL.

Under this designation we may include all fowls that fail to exhibit satisfactory evidence of their belonging to one or other of the permanent and distinct varieties. We might indeed be excused from any further comments by quoting Mowbray's concise allusion to them. "The common Dunghill fowl," he says, "needs no description; of middling size, of every variety of colour, and to be found in every part of the country."

Our only reason, therefore, for any further reference to these birds arises from the assertions that are still made in their favour, of their possessing advantages, in an economical point of view, over the various pure breeds. These we cannot admit, since there is no reason to regard them as generally either more hardy, or more prolific, or better suited for the table than the latter, while, in very many instances, they are excelled in all their points collectively.

It is Mr. Dixon, we believe, to whom we are indebted for the observation, that

no better means could be suggested for the acquisition of a knowledge of the peculiar forms and characteristics of poultry, than the close inspection of the chance collections of barn-door and road-way fowls, and the consequent endeavour to refer them to the several families from whose promiscuous intercourse they had been derived. Infinite variety, indeed, is the only property that could be safely predicated of this class; and the poultry student, therefore, who acts on Mr. Dixon's advice, will soon trace the connection in the common fowl of different localities with all, or nearly all, our distinct breeds.

Game fowls, for instance, have contributed liberally to this class; their merits in providing so large a portion of their own food, and the beauty of their plumage, having early placed them in favour with the cottagers and farmers of nearly every English district; hence the oft-quoted brilliancy of the feather of the Dunghill cock, and the various brown tints that so constantly decorate his hens; the wide fan-like tail is also referable to such an origin. The speckled fowls have probably received more or less of the Dorking blood; and among the black poultry of many localities, the traces of Spanish ancestry are evident in the general figure, and white ear-lobe of unusual size. The Hamburghs, too, have had their full share in the production of mongrels, their active form and attractive markings having representatives in many a village flock. Thus might we continue throughout the whole catalogue, from the huge Malay to the most diminutive of our Bantams, for each and all have zealously done their best to aid the general confusion.

The same category extends to what is called the Lark-crested fowl, where the top-knot, instead of being full and globular, as in the Polish, is scanty, and falls backwards on the neck in very meagre proportions. Some former infusion of Polish blood may have produced this effect, or it may have been the result of some freak of nature, in the same way as geese and ducks of ordinary form at times produce progeny similarly decorated. The Tasselled Game fowl is an instance of the latter supposition, which is further corroborated by the great uncertainty as to the chickens of that sub-variety reproducing this peculiarity of their parents.

All, indeed, that can be pleaded in favour of the Barn-door fowl is the low price at which they may be obtained; but when we consider that an equally low sum is all that we can ever expect to receive again for them or their produce, few will deny the good economy of a somewhat more liberal outlay at the commencement of our poultry-keeping. It will answer better to provide our yards with more profitable tenants, suited to our respective wants, and we shall also enjoy additional gratification from the possession of birds whose form and plumage are a constant source of interest and admiration. In this view the various associations for improving the breed of domestic poultry are doing good service, and, in the course of a few years more, we may hope that the mongrel "*Barn-door fowl*" will cease to occupy its present position.

CHAPTER XIX.

FOWLS OF UNUSUAL OCCURRENCE.

THE contributions of the American continent to our poultry-yard are but few,—probably, indeed, they are limited to the Turkey and the Musk-Duck; the *Columbian Fowl,* however, has been called a distinct American breed. These birds have been described "very noble fowls, presenting the appearance of a cross between the Spanish and Malay, but possessing much nobility and stateliness of aspect." There is hardly a feature in them that might not be expected from a union between the two varieties mentioned, both colour and form tending to confirm the correctness of this supposition. Doubtful as we are of their claims to be considered as a distinct race, nevertheless they have been highly spoken of for excellence as table fowls, for their hardy constitution, and the size and number of their eggs.

In one account, they are described as "much larger than Spanish, with fine velvety plumage, remarkably erect carriage, and a slight tendency to ruff or whisker. Their eggs were the largest I have ever seen produced by hens, far exceeding the usual size of Spanish; and they were also more prolific layers than the latter birds."

Any bird producing eggs that exceeded the usual weight of those laid by Spanish fowls, and, at the same time, proved itself a more constant layer, would be a valuable addition to the poultry-yard; but, as the Columbians are described as good sitters, it is obvious that their eggs cannot equal in number those of the Spanish and other non-incubating varieties, however much they may surpass them in size. Occasional exceptions, as in the account we have quoted, may, of course, occur; but these would not negative the general rule.

Columbians are described as having the upright deportment of the Malay. The weight of the cock is eight and of the hen six and a-half pounds. Their plumage, like that of the Spanish, is black, with a greenish metallic lustre on some of the feathers. Their comb is sometimes double, but more frequently single, large, deeply toothed, and should be erect; but it has a great tendency to hang over on one side. They are free from top-knot, but the cheeks and throat are bearded or tufted. The tail of the cock is full plumed, and arches towards the back of the head. Legs, dark gray; flesh very white and delicate, and chickens remarkably hardy.

The *Chittagong* is another American variety that has been brought into notice, from having been the undoubted progenitor, when crossed with Cochins, of many of the specimens of so-called Brahmas; the Chittagong may be described as a coarse gray Malay, capable of being bred up to an enormous weight, and possessing all the characteristics of that breed. The pea-comb in the Brahma undoubtedly owes its

origin to the cross between this bird and the Cochin. As Chittagongs have never been professedly exhibited in this country, a longer notice of them is scarcely requisite.

The Rangoon Fowl.—Under this title, some few years since, a coarse, ugly variety of speckled Malay took a number of first prizes at several of our leading poultry shows, and their eggs were sold at £3 3s. per sitting; when the awards were made by persons unconnected with the poultry yard from which they emanated, they were passed over without notice, and were subsequently put out to sale by auction, without a bidder. They would not be worthy even this brief notice, but from their having received so many prizes it has been thought desirable to allude to them.

In addition to the three varieties described, there are several other breeds, in all probability owing their peculiarities to a distant cross with the Malay. Of these the so-called *Russian, Siberian,* and *Brazilian* fowls may be taken as examples. Many of them are bearded and whiskered, affording a tolerably correct indication of a trace of Polish blood. None of them, however, are likely, either as economical or ornamental fowls, to come into general estimation.

The *Guelderland* fowl is the name given in America to a breed which may be regarded as Black Polish, without a comb or crest. They are described as having been "imported from the north of Holland some years since. They are clad in beautiful blue-black plumage; have no comb, but a small indented, bony substance instead, and large red wattles. They are of good size, great layers, and seldom incline to sit." The legs are black, and usually heavily feathered, and occasionally a very small crest of feathers proceeds from the back of the bony substance on their head.

Fowls are also not unfrequently imported into England from the continent which may be described as Bearded Spangled Polish without a crest; these birds, from the total absence of any appendage whatever on the top of the head, and the presence of the peculiarly arched Polish nostril, have a singular appearance; but they do not appear to have met with much favour amongst English amateurs.

CHAPTER XX.

CREVE CŒURS AND OTHER FOWLS RECENTLY IMPORTED.

THE new varieties that have been imported since the publication of the first edition of THE POULTRY BOOK have, in several cases, been described in the previous chapters. Nevertheless there still remain some few breeds that are not referable to any group previously alluded to, and which consequently call for a distinct description. Perhaps the most important of these are the Creve Cœurs, the celebrated Normandy table-fowl. Some idea of the value attached to this variety by our Gallic neighbours may be gained from a statement of the fact, that at the first great Agricultural Exhibition in Paris, in 1855, there were two equal sets of prizes announced; the first for Creve Cœurs, the second for all other varieties taken together. As they are essentially a French fowl, it will perhaps be desirable in the first instance to give the description of them published in the work termed "*Oiseaux de Basse Cour,*" by Mme. Millet Robinet. The authoress of this book, which was issued under the authority of the Minister of Agriculture, states:—

"In Normandy, especially in the neighbourhood of Creve Cœur, there is a variety of fowl which supplies Paris with the handsome poultry with which the markets abound.

"The hens are low on the legs, with large, fleshy thighs, the wings large, and the body square; the abdomen is voluminous and pendent, especially in those which are more than a year old; they walk slowly, scratch but little, and do not fly. Their plumage is black, or black and white variegated; they carry on their heads a large tuft, and a small upright two-horned comb; whilst a large cravat of feathers under the neck gives to them a matronly air. They are very tame, ramble but little, and prefer seeking their food on the dunghill in the poultry-yard to wandering afar off. They are somewhat later in laying, and, perhaps, lay less frequently than the common (French) fowl; but their eggs are much larger, and they continue to lay a longer time; they sit badly, and are apt to break their eggs from their great weight, which is, at least, one-third more than that of the common fowls; they are very easily fatted.

"The cocks, which are similar in form to the hens, have a brilliant plumage, somewhat golden or silver-coloured; their heads are handsomely surmounted with beautiful tufts, and large, toothed, two-horned combs, which, together form a kind of crown; they have also dense cravats of feathers, adorned with handsome pendent wattles." The capons of this breed are further stated to be four kilogrammes, or nine pounds English weight.

l. 123 Thereat stands to reply them.

124 Upstood Theseus

— 133 corpse Harlaw and nothing.

1b
dC

162 Church of Villa Sulla

to Rome

163 Church at Rome

2

The Poultry Book

p. 47 add Cochins — O middle-toe very long. — p. 41, 42 tail very short — primaries very short.

p. ~~43~~ 46 Cuckoo Cochins p. 58 Cochins grey mark — 57 Feathers marked like Ducks

Pigeon for Egypt.

65 Sykes in Feb. imported for Queen breeding at Brighton (as did by Africa Feb.)

72 Malays — 81 eggs varied in tint & colour 78 chickens pale shanks

p. 76 97. Cuckoo Dorking, remarkable for long neck & coloured pelt in both sexes. Cock

86 102. & 107 Spanish tender — p. 103. minute comb in both sexes. 103. 87 Shape of Skull. Absence of Comb

88 89 Two strains of Spanish: one for Holland. (2) 105 106 short pectoral development

90 ~~short Spanish Feb. not sitting~~ p. 97. ~~R~~

93 in Spanish Feb. great uncertainty in setting to comb: white face

95 ~~Two non-sitters~~ p. 119 ~~Spanish~~ Andalusian p. 121. ~~R~~

97 Set sexing such characters by Carf: one of 6 weeks. (2)

99 123 Peculiar of Game Feb. stand ~~bad~~ a 100 years

100. 124 Game differ pencil in hens of Game - (& Dorking)

Cochin differ in comb of cock & wing not-barred of Game; hens alike.

p. 131 not-barred (p. 102) also differ much

113 131 Cuckoo Game

103 131 a Game not-barred with Comb & Wattles alike

111. 139. Comb a peculiar vantage to fowl. carries wiping for Beam-comb;

116 ~~Pencilled Hamburgh barred~~ p. 155 2 bars barred of Andalusia — Comb not pencilled. 150 Hg non-sitter

123 Spangled Hamburgh — N 155 2 bars undergoes to Pheasant

123 124 165 Pheasant selecting particular hens to pair with

124 ~~Grey Hybrid Pheasant~~ 165 & 167 shorter — like Game ~~standing on leg~~ " Remarks. —

126 Feet scaped of breed of Feb. & Hybrid Pheasant by large size

129 2 ~~not-barred of~~ p. 155 Spangled Hamburgh

130 Hen-tailed Cocks p. 154 do strong generally set by feathers [but Hen-tailed Game are lazy p. 102]

135 177 Pencil Feb. at least 200 years old

136 172 Difference in top-knot of Cock & Hen Pencil. — Hackles in Cock, Comb

173 Blue-black on the Skull — low

Comb of intermediate — Wattles & Beard imperfect — Nostril covered 175 not 176

181 In Hen both Wattles, in Hen Beard — ~~191 Ghoonkas~~ 175 Covering of Skull & Plume

inter-maxillary bone absent. — do form of Comb

p. 136 Cuckoo 185 Pencil; Silver & Golden Spangled.

p. 188 Sultans — p. 191 Ghoonkas — Bantams

p. 154 Bantams; height of feather on leg — Breed many existing 157 Spangled

p. 161. 224 Breed of Silk Feb. p. 162 Degrees in the comb: Chickens

(2) by body Canary-yellow — 163 224 Silkies not known white, but slate & black & brown known.

165. Ruffled Feb. pendent tail-feathers — never turn to show —

Comb

209
~~177~~ Crex-Crex. Large toothed 2-horned comb.

241
~~150~~ Origin of Schright Bantam — Cuckoo comb.

248.
~~156~~ White Bantam, when mature tend to spurs yellow shanks & toes (2) ~~as~~ Laudsby — Rearing. — 10 with Black Bantam when 2 or 3 years old. Rearing — R

New Cent
204. Hindoos described

210 advantages of crossing Fowls

219 Frizzles, Combs meaning a mistake: Cuckoo Feather — a sub-breed of Polish. no top knot

224 Crossed Silky Fowls

231 good case of Reversion, without a Crest

~~234 Frizzle Combs Improved Coch.~~

236 Weight of Poultry & Ducks

250 Bantams with feather on leg & 2 outer toes longer than wing feather Ch. 25 Conclusion of Book