FERGUSON ON RARE, PRIZE, AND DOMESTIC POULTRY.

POULTRY AND PIGEONS.

THE BEST FOWLS TO KEEP.

WHAT ARE THE BEST FOWLS TO KEEP? This question is asked of us so frequently, that we believe we cannot do better at this season of the year than devote a space to its consideration.

The question at once elicits, not a direct rejoinder, but a series of questions, in reply. Do you require fowls mainly for the table or for eggs? If for the table, do you require a very first-class fowl, or one of general excellence for family use?

If eggs are your desiderata, do you require them large or small, and at what season of the year is the supply most required?

Have you got a free range for your fowls, or but small space? Is it necessary that you should have fowls that cannot trespass over a four or five foot fence? Will the non-sitting breeds suit you, or must you have such as will rear chickens?

In fact, the question that heads our article is not more pertinent than would be the inquiry, What kind of horse shall I keep?—to which it would be impossible to reply, unless the work required from the animal were specified.

Let us answer the second set of queries in detail. If first-class large table fowls are required, grey Dorkings, La Flèche, Houdans, or Crèvecœurs, are to be recommended. Dorkings are sitters. The French breeds rarely sit.

If large, useful, hardy family fowls are required, the Brahmas, or a cross between Brahmas and Dorkings, or between Brahmas and Polish.

If large eggs are your chief desiderata, Spanish or Crèvecœurs.

If numerous eggs, irrespective of size, Spangled Hamburghs.

If winter layers are in demand, early-hatched Brahma or Cochin pullets will fill your basket.

If your space is not large, try Brahmas, Cochins, or Houdans.

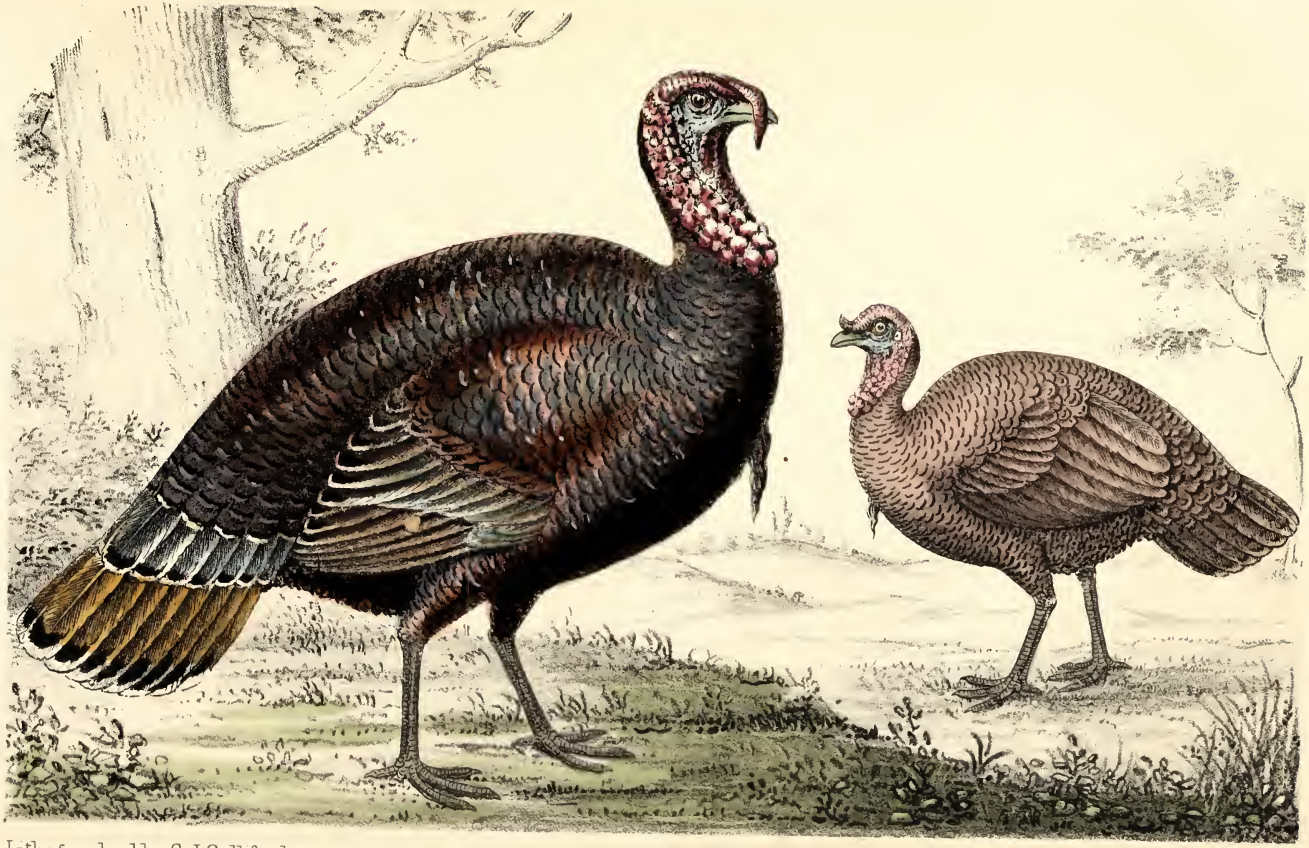
If a free range, where fowls have to be somewhat self-protecting, then Game, that will also furnish admirable, though small, chickens for the table.

Thus it will be seen that the most desirable breed for profit varies with the locality and the conditions, and we would therefore suggest to those of our correspondents who ask our advice to give the particulars of their own case.

Lithographed by C. J. Culliford,

22, Southampton Street, Strand.

HER MAJESTY'S POULTRY HOUSE,
at the Home Farm.



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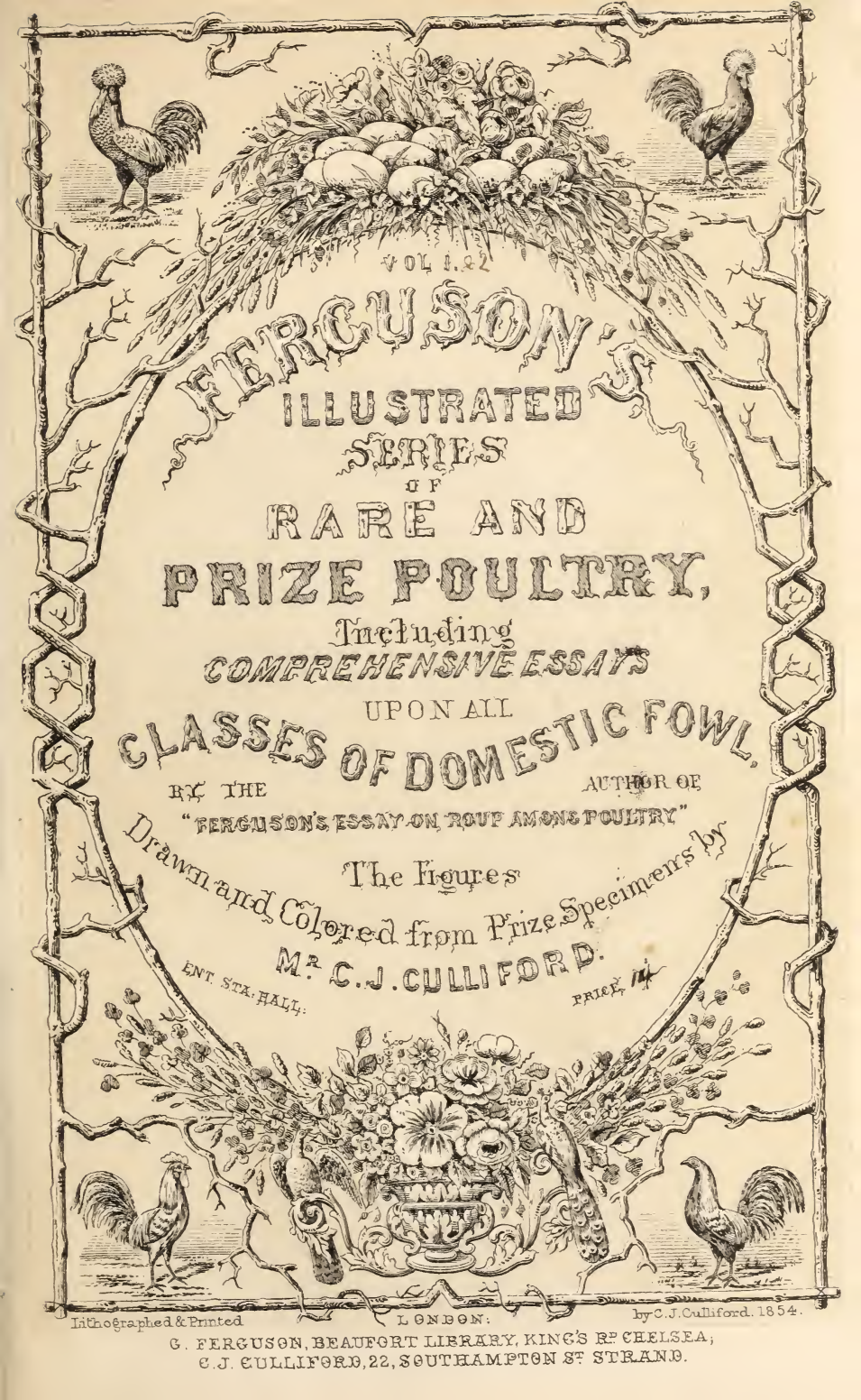
TURKEYS.

22, Southampton St Strand


VOL. I. & 2
FERGUSON'S
ILLUSTRATED
SERIES
OF
RARE AND
PRIZE POULTRY,
Including
COMPREHENSIVE ESSAYS
UPON ALL
CLASSES OF DOMESTIC FOWL,
BY THE AUTHOR OF
"FERGUSON'S ESSAY ON ROUP AMONG POULTRY"
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BY

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TO THE RIGHT HONOURABLE

THE EARL OF DERBY,

BY

HIS OBEDIENT AND HUMBLE SERVANT,

GEORGE FERGUSON.

JULY 1ST, 1854.

PREFACE.

During the few months that the first half of this volume has been before the public, it has obtained the approval of an influential body of the community, the sanction of the most eminent poultry amateurs, and the continued eulogy of the press. Nevertheless, to offer a work like the present, in which the natural and domestic history of poultry is amply discussed, their peculiar varieties clearly pointed out, the causes of those varieties carefully investigated, together with their requirements in health, and the preventive means to be adopted in cases of disease, and in which are recognised those laws of propagation which are calculated to minister as much to national utility as to the delight of the amateur, to offer a work, embracing such a variety of topics, as exempt from every vestige of error would, indeed, be presumptuous. Neither should the merits of a work be estimated by the number of its inaccuracies, but rather by the intrinsic value of its truths. A volume presenting the public with a mere reprint of truisms and known facts would be but useless though, doubtless, truthful in itself; but if channels be cut in unexplored regions, the line though not so truly straight is nevertheless the inducer of far more beneficial effects. We confess to having mentioned much that has been already recorded, but this work would be incomplete were the rudiments of the subject upon which it enlarges omitted from its pages. To the critic who may endeavour to undermine truth by exposing its weakest points as representatives of the

whole, we would say—in so large a field for discussion as this subject opens, we have dealt with some important facts at considerable length—criticise them; but had we dwelt upon every topic in detail, voluminous rather than popular would have been our reports. Nevertheless, our judgment, the result of serious deliberation, has been pronounced upon all points upon which our most eminent breeders are at issue. So we trust "the modest hints" will remain unmolested, unless facts, as proofs to the contrary, be produced, or they be found to violate rational consistency. For, be it remembered, although many things might be said to exhibit their weakness, still equally numerous might be the responses in their favour.

Without endeavouring to discover the primitive originals for every class of the extant race (*Galli*), or condensing the whole to a unity, by ascribing to one primeval pair rights to progenitorship in *toto*, we have taken a somewhat medium view, and regarded the principal classes only as distinct from one another, and the varieties as but offshoots. Colour, indeed, is in no way indicative of origin or class, it is the effect of external exposures; but not so, such peculiar markings as the Hamburgh's feathery coat presents, they could never have been perpetuated by the agency of accidental climatic influences. We do not refer to depths of hue or light shadows, but to the uniform and clearly defined pencillings which are distinct from the general ground (*see page* 282). Moreover the differences of form and character of birds we insist to be the grand distinction between classes, and to whatever temperature they be exposed they will ever retain them unless admixed with foreign blood. There are, doubtless, several varieties in the east with which we are at present unacquainted, but we confess that mongrels of various combinations will ever and anon be produced and regarded as distinct until their issue shall exhibit their heterogeneousness.

At pages 200 to 206 we have endeavoured to prove the impossibility of establishing a permanent family from the admixture of the pheasant with the domestic fowl. We trust

enough has been said to show that they were never allied, seeing that inter-breeding in the end is unfruitful, but let us not in our enthusiasm allow this fact to indicate too much. Although it proves that if the offspring of two specimens be unable to sustain a race, that such two are distinct from each other, and therefore of different origin, still it does not follow that all birds which are able to establish a race when bred *inter se* sprang from an identity of blood, but merely that they *are* of one species. The race of fowl *(Galli)* is, therefore, analogous to that of the dog in this respect. Surely no student of nature in the present day would advance it as his firm belief that the Spaniel, the Terrier, and the Newfoundland dog, sprang from one primitive pair, merely because they are found capable of breeding *inter sese.* Naturalists usually endeavour to get over the difficulty by such presumption, but it is none the more true because most convenient. As far as the vegetable kingdom is concerned we cannot regard it in any way analogous to that of the fowl. The botanist informs us that variety is produced by the means of grafting and slipping, also by suckers, &c.—which are not adapted to the propagation of fowls—that among plants of one size are found not only many that differ from one another, but some that are quite distinct. Now this is all we claim for poultry; we argue that the main classes were originally distinct, but allow that some extant races are but the effects of time and circumstances, and that many have been heterogeneously produced *(see pages* 167 *to* 169, 191, *and* 290 *to* 292*)*. Mr. Richardson after tracing the genealogies of the several varieties of the wild hog, assigns them all to one common race; but, when treating upon poultry, he is compelled to claim on their behalf several distinct primary progenitors.

The wild theory that the extant classes are derived from one pair, and that chance consummated the rest, can no longer be seriously advanced by the practical student, but merely by such as possess great credulity in the place of experience. The fact that poultry have until lately received but

little attention at the hands of the fancier, and been entirely confined to the domain of the producer for the market, would alone suggest the improbability of that constant and unremitting attention having been observed in breeding, which is requisite to the consummating in the offspring of any two birds, transmitable forms and appearances not exhibited by the parents; not to speak of the great watchfulness required in eradicating features manifest in both, and the implantation of forms and peculiarities inherent in neither, and which must have taken place were fowls confined to one pair for their original progenitors. Instead of which, wherever our researches have lead us, from the east to the west, we have discovered no pretension whatever on the part of the keepers of poultry to regard the appearance of their birds as deserving of note, neither to consider the peculiar colour of their plumes as recommendatory or otherwise save as auxiliary indicators of constitutional vigour, productive powers, or quality of flesh.

The primary originals deserving of regard are the *Gallus Furcatus*, or Forked-tail Jungle Cock—and the *Gallus Æneus*, or Bronze Jungle Fowl, but more especially the four following:—The Bengal Jungle which is represented as being of black-red plumage, but we consider it differs in no other material point from *Gallus Sonneratii*, another variety of jungle fowl, and a native of Hindostan, which we regard as the founder of the Game class *(see page* 220*)*. The *Gallus Bankiva* from Java closely approximates the shape and peculiar features of the Bantam tribe, and unquestionably must be regarded the progenitor of that race *(see page* 292*)*, whilst the *Gallus Giganteus* or Kulm Fowl is a native of the peninsula of Malay, and much resembles the Malay in shape, size, and general characteristics *(see page* 183*)*.

Thus we regard the Game Fowl as being descended from *Gallus Sonneratii*, the Bantam from *Gallus Bankiva*, and the Malay from *Gallus Giganteus;* but after all our researches we are unable satisfactorily to trace the Poland further than to the

Paduan or Patavinian, or the Hamburgh to the *Gallina Turcica* of Aldrovandi.

We do not imagine ourselves competent to pronounce decisive judgment upon matters which many eminent naturalists have carefully avoided, but we do flatter ourselves that our greatest endeavours have been to become available to as great an extent as possible upon all subjects connected with our work, and to realize that amount of confidence which a discerning public is ever ready to bestow where merit is inherent.

We have carefully traced the respective origins of the several classes, discussed the right by which some have become nominated, and re-nominated others—dismissed many collateral breeds from the distinction of classes and assigned to them their more appropriate positions as sub-classes, whilst we have enumerated and described the many varieties of each class—thus rendering the plan as concise as consistency would allow or our faculties suggest. We have given their comparative intrinsic value as fancy or farm stock, laid down just principles of propagation and plain directions respecting particulars necessary to be observed in breeding, rearing, and sustaining them in full vigour, with exceptional expedients applicable in cases of emergency—pointed out in detail defects to be avoided, features and properties to be aimed at—carefully treated upon the evil effects of breeding in and in, and the beneficial influences arising from judicious admixture—dilated upon the internal structure of the physical frame, the means to be observed in the prevention of diseases in general, and the most efficacious remedial measures to be resorted to in peculiar distempers, together with a succint physiological and pathological view of those maladies—whilst we have endeavoured to avoid as much as possible entering into prolix anatomical discussions or the use of technical terms. In all which we have respected the opinions of others, not, however, without a careful separation of truth from error, and a minute examination as to their respective merits as far as personal

experience and friendly corroboration have enabled us to analyze them.

The illustrations representing the eggs of the several classes are not supposed to be in exact conformity with the eggs produced by all the varieties of those classes, but merely fair estimates of the size and shape of those laid by the entire class to which they refer—thus, a better representation of facts is afforded than could be given by the bare mention of weights, which, however, have not been omitted. In describing plans for poultry-houses, and feeding compartments for the juveniles of the yard, we have left ornamental operations to be executed as taste might suggest or purse allow, our attention being wholly absorbed upon registering the actual requirements of the fowl in those departments.

The study, no less than the practical rearing of poultry, until the last twenty or thirty years, was deemed any other than a worthy pursuit, and only within the last few years has improvement to any extent been effected in this section of the farmer's stock. It has at length become a fashionable pastime, and many influential farmers begin to discover its real importance. The publicity given to the subject by our metropolitan and provincial exhibitions, and the stimulus which it has received by the interest taken in it by many distinguished gentlemen and devoted philanthropists, have already greatly extended the British poultry possessions, and we doubt not will ultimately produce the desired effect.

In the primitive ages to supply the common exigencies of nature was the grand consideration, but when civilization and refinement assumed a meritorious aspect, requisites of a higher class became simultaneously experienced. The muddy hut was exchanged for the spacious and ornamental mansion, and the hairy garb for more ingeniously devised fabrics. Progressive strides at length revealed the charm of nature, in the form of poultry elegance and beauty, and now they become domiciled

not merely for the satisfaction of the requisites of the corporeal frame, but as mirrors of nature's wondrous works.

But, in conclusion, we must repeat the grand object of this work is to place within the limits of the general public the advantages resulting from the possession of a genuine, well authenticated and standard volume, comprising not only the author's own experience, but the opinions and suggestions of others reduced from theoretical to practical matter; and further to illustrate, with correct and richly executed portraits, the choicest specimens procurable throughout the British empire. Thus affording ample knowledge for following successfully an occupation bestowing upon the public great advantages, and invariably eliciting the admiration of private friends, whilst gratifying the amateurs and breeders themselves, who in this delightful study find a healthy and highly interesting recreation. Taking advantage of the present favourable opportunity afforded by the vast amount of interest excited by the novelty of appearance in one kind of fowl, we hope, whilst administering to the curiosity of the world, to awaken in the public mind the benefits derivable from the bestowment of greater attention to the breeding and management of poultry for economical purposes.

Why Great Britain so long continues to import such immense supplies of eggs, the produce of foreign parts, cannot be satisfactorily arrived at, unless it be in the fact that the advantages resulting from this branch of industrial pursuit are here overlooked; surely this will not long remain the cause, seeing as producers of all other stock of larger growth, as sheep and cattle, we are unequalled, unrivalled, and alone; we trust, therefore, the propensity of the British breeder will be soon displayed in his efforts at perfection, and the prosperity of this branch of the national economy of Great Britain be as equally apparent in her smaller demand for those foreign supplies which she is so well able, by good management, to provide herself, as in those superior specimens which have been of late so frequently recognised at our exhibitions.

At the present time we are in a measure dependant upon the great continent for our supplies of poultry, which there is no law of nature to require; our soil and climate are as congenial as any other to the health of fowl of every kind; in Ireland large numbers of turkeys have been raised, and a profitable return can be shown, were persons to make that occupation more their study. We trust a taste is awakening among the wealthy landowners in England to encourage poultry breeding to a greater extent than hitherto. For whilst extending the domain of poultry in general they will be adding to the comforts of the cottager, by increasing the supply of an article as nutritious as it is dainty, as wholesome as it is luxurious, and which, we trust, will become as common to the common people, as abundant to the whole community, as it is at present common to none. To assist in that good work is the object of the present undertaking.

Beaufort Library,

King's Road, Chelsea.

ORIGIN

OF

DOMESTIC POULTRY.

Domestic poultry are divided into three distinct orders of the class *aves*, viz.: the rasorial or gallinaceous, the columbine or gyratorial, and the natatorial or swimming order.

Cock and Hen (Phasianus Gallus, Lath.) or birds of the Pheasant genus.

The Rasorial are considered analogous to the Ruminantia or ruminating animals, being equally susceptible of thriving in a domesticated state.

All such birds as are terrestrial in their habits, found either roosting or perching upon trees, reposing or scratching upon the ground for food, or have imperfect powers of flight and stationary in their habits, are included in the order Rasorial.

The distinguishing features of the genus Gallus are—*Bill*—short, stout, and naked at the base, convex above, and hooked at the tip, the upper recurving over the lower, from which is suspended two compressed double *Wattles*, or caruncles of an oval shape (more diminutive in the hen, but of which the wild hen is deficient), are of the same colour and material as the *Comb or Crest* that surmounts the skull, and which is of a firm fleshy membraneous texture and of a bright vermillion colour, flat at its side but serrated on its edge—*Ear-lobes* of a slighter texture and inclined to a whitish cast (in a line with the mouth).

Ear protected by fine, close, and short feathers.

Tarsi, or lowest part of the shank, in the male supplied with a sharp recurved horny substance which increases in length, with age.

Legs and feet covered with scales.

Neck-hackle increases in length as it approaches the lower part of the neck, and waves over the pinions of the wings and back.

Wings short, convex, and graduated, fitting closely to their sides—not extending over root of tail but dropping below it.

Tail furnished with fourteen quill feathers, seven on each side, forming two opposite planes—two uppermost feathers meet and form a sharp angle, which is extended by the lower until some few inches separate one plane from the other, the two uppermost included in the fourteen, termed "streamers" are the longest, well arched, and extend some distance over the rest in the shape of a bow.

Many ages have elapsed since the tribe in question was first reduced by captivity to domestication, so far distant the period that all researches beyond a certain time, instituted as may be with the utmost ardour and enthusiasm, have alike resulted in the same amount of discouragement and ill success.

Travellers inform us the jungles of India still claim tenants of this order, and to that country we are to look for the original stock; such however, we think, should be regarded as assertion only and but the result of studied plausibilities founded upon possibilities.

Their presence, existence in a wild state in any locality, goes no further than to prove the adaptation of that spot to the furtherance of the instinctive desire of the fowl to evade man's envious and insatiable requirements—and such

being the case they still remain comparatively secluded and tenants of the retired spot—but it does not follow they being thus found—that from thence alone they sprang. Although such may have been their native place, still no proof exists in that fact alone sufficient to justify the idea that such was their original native place.

The prevailing supposition is the ancestors of domestic poultry were natives of Asia, although other travellers have spoken of the presence of wild fowls in the interior of South America.

Gernell Carreri asserts the ancient Mexicans reduced great quantities to domestication for their habitual requirements in the shape of both eggs and flesh. Volumnious are the various travellers' reports respecting the discoveries of certain fowls bearing more or less resemblance to our domestic varieties; but with all we have heard, read, or seen, nothing definite can be arrived at sufficient to justify a contention respecting the maintenance of any one opinion.

Next follows the question which or how many of our varieties of poultry can claim hereditary rights to a direct descent from the original and primitive order?

In the forests of Guinea fowls have been discovered, though much smaller than our own, still bearing considerable resemblance. It has been asserted that, previous to the settlement of the Spaniards in South America, fowls were abroad in a wild state, and that upon their arrival they discovered such to be the case when subsequent domestication ensued.

Capt. Stedman has observed that a peculiar variety having ruffled feathers was domesticated in Dutch Guinea.

M. Sonnarat was of opinion the jungle cock of India was the origin and primitive class from whence every variety now domesticated have sprung; he procured several

pairs of specimens, and which he considered displayed characteristics sufficient for the ground work of every peculiar feature to be met with, when subjected to domestication, peculiar climatic influences, variations of food, and breeding. His procured specimens were in appearance nearly one-third less than our (5 lbs.) common bred birds, and measured 2 ft. 4 ins. from the extremities of bill and tail feathers.

Colonel Sykes informs us these birds abound in the woods of the Western Ghaunts.

Buffon also supposes them to be descended from the jungle fowl, a native of India.

Whilst other naturalists have affirmed they can be traced to the Capercailzie, or wild cock of the woods, formerly abounding in the northern parts of Scotland, but now almost extinct in that country, but still to be found in the northern parts of Europe. It would, therefore, be but assumption to insist upon any one of these localities as being the spot, or to name the variety that claims descent, seeing assertions and appearances without authenticated proofs form the only groundwork of supposition. Still, where birds have been and still are found closely resembling our stock, that locality we naturally regard as being more probably the spot than where fowls are totally distinct in their appearances and characters, or where altogether unknown. From the jungles of India specimens most resembling our own are to be found even now, in a wild state, and possessing the same bearings, attitude, and walk, and crowing in the same strain throughout the day and at early morn. This locality, therefore, we necessarily regard as being the probable (but not by any means conclusive) situation, and the clime and country of the primitive variety. They have evidently existed in a do-

mesticated state through many ages past among refined or semi-barbarous people, who, alike with the former, have too clearly distinguished the intrinsic value of so useful a provision to loose sight of an opportunity in such conformity with their desires.

They have, however, passed through many stages before being reduced to that entire domesticated submission for which they are at present so notorious, and in which their intrinsic value mainly depends; there is but little doubt these birds were at the earliest period heavy upon the wing, and possessed but partial power of flight, otherwise they would have retained a greater portion of their primitive character than now manifests itself; nevertheless, domestication has rendered them doubly deficient in the power and use of their wings—by feeding high, and thereby producing weight—and by confinement, rendering them not only entirely unfit for flight but reducing the hereditary power of transmitting the use of the muscles of the wings to the offspring. This is a sufficient cause alone to account for the many visible alteration in the appearance and characteristics of the race, but other changes of even greater import having been effected. Who, then, can tell the boundary of the peculiar and wonderful innovations of art upon the external and even internal condition of the fowl?

Sacred history has furnished us with an account of the provisions of Solomon's table, where fatted fowls are spoken of, 1st Book of Kings, chap. iv., ver. 23; they are likewise again alluded to, Nehemiah, chap. v., ver. 18 (B.C. 445). "Now there were at my table prepared for me daily one ox and six sheep, also fatted fowls."

It is also known they were kept by the ancient Greeks and Romans, and to the latter people we are doubtless indebted for the introduction of a "certain variety" into

England. In the spectacles of the Greeks, and also of the Romans, the cock occupied a conspicuous position; medals and coins of those people have been found with its effigy engraved upon them. It was consecrated to Minerva and Mercury by Polytheism; also dedicated to Apollo, Mars, and Æsculapius (the latter the god of medicine), and held as sacred symbols. At every Roman banquet this bird formed a highly esteemed dish, whilst poultry then as now was fed and fattened up to great perfection; few were the opportunities for sport, especially of a pugnacious character, that an old Roman would neglect to seize, and as his darling virtue valour, was discerned to be inherent in the cock; no wonder that it won so far the favour of the emperors as to become one of the ministers to the imperial sports.

The most minute researches that the keenest hunter into history can make have failed to elicit further information, or approach more near the source and origin of the domestic fowl.

THE SHANGHAE FOWL,

Commonly called Cochin-China.

HISTORY OF THE SHANGHAE.

THIS most gigantic of all domestic fowl is at length universally admitted to be a native of that part of the Celestial Empire called Shanghae, but owing to the circumstance of Cochin-China having been the place whence it was imported into England first, the name of "Cochin-China" has attached itself to this species with a familiarity somewhat improper it must be allowed. The patronymic "Cochin-China" will, undoubtedly, with the multitude retain the preference it gained through an accidental event.

This addition to our varieties of poultry has been but very lately introduced to us. The first specimens that made their appearance in England came as presents to the Queen, and her Majesty being desirous that they should be naturalized, and propagated throughout the British Isles, commanded that eggs should be dispersed among some few of her subjects who would be most likely to assist in carrying out her wishes. Since then the *Shanghae* has wonderfully increased its numbers, being comparatively well known, and reared extensively by amateurs and breeders of eminence.

Some splendid specimens from the royal stock were, at the Dublin Cattle Show (April, 1846), for the first time publicly exhibited. For their stupendous size, their shape, the beauty of their plumage, and striking appearance, they elicited abundant admiration, and were subsequently

presented to Lord Heytesbury, then lord lieutenant of Ireland.

The specimens our breeders first exhibited differed considerably in some particulars from those which gain prizes in the present day. They were then furnished with a more abundant tail; in many instances the hinder parts were more diminutive, the thigh joints somewhat smaller, and finally they did not then attain so great a growth as now.

A superficial view will seldom, if it ever did, lead to a just appreciation of the Shanghae fowl's form. Their massive body, short heavy wing, the deep contraction underneath their crop, the feathers growing down their leg even to the very toes—and more preferred where most the feather grows—form striking contrasts to our English fowls. Strong contrasts, great abruptness, in some points violations of our European laws of symmetry, in others strict adhesion to them—indeed a general orientalism of style throughout, is the distinguishing characteristic of the *Shanghae.*

Their heavy-clad and clumsy-jointed thighs give them a most ungainly gait; but yet in certain attitudes, as may be seen on reference to the illustrations, their noble frontal outline, from the erect and brilliant comb down to the feathery toe, the full mild eye, the proud and graceful arching of its finely curving neck, the gay appendages which amply hang suspended from the well-balanced and handsome head, and richly ornament the throat, the hackle opening gently to display the full advancing breast, the short but decorated leg, the outspread foot—all these combined present a beautiful and most imposing front.

As already has been observed, a superficial observation of the Shanghae's peculiarities of form will generally lead to most unfavourable impressions respecting the figure of

this fowl. As the most exquisite chords and most harmonious tones of music require the educated ear to catch, so to appreciate the points and excellencies of this peculiar bird demands a cultivated and discerning taste, an unprejudiced attention to the harmony of parts, proportion, colour, and the climatic influences prevailing where the original stock first sprang.

To found a judgment relative to the pretensions of the *Shanghae* to beauty upon such specimens as occasionally meet the eye about our public thoroughfares—fowls turned adrift by economic owners to pick up their living where they may—is just as reasonable as though fastidious foreigners formed their conclusions and opinion on the Saxon race in general by studying a London scavenger's form and style. If you would ascertain to what height of beauty *Shanghaes* are raised by a judicious course of management —by scientific breeding—seek for an opportunity to view the flocks of *Shanghaes* reared by our eminent breeders; and if you cannot accomplish that, avail yourselves of the advantages which our poultry-shows present, though in such exhibitions the eye is much more likely to be caught and carried captive by the brilliant multi-coloured plumage of the familiar and more gaily decorated birds.

Notwithstanding these disadvantageous contrasts, high well-bred Shanghaes will, to an observant eye, well bear comparison with fowls in greatest favour and repute for gracefulness of carriage, beauty of feather, handsomeness of form, and the perfection of their characteristic points, although it is quite true their gracefulness of bearing, beauty of plumage, fineness of form, the characteristics so peculiarly their own, are perfectly unique; a most conclusive reason is therein presented, why we should judge them by such rules as correspond exactly with their own differential points.

CHARACTERISTICS OF THE SHANGHAE.

For the use of those who may not be familiar with the terms bestowed upon the several component parts of the external form of fowls in general, the following diagram is

EXPLANATION.

a, Comb.
b, Ear.
c, Ear-lobe.
d, Wattles or Gills.
e, Neck-hackle or Cape-feathers.
f, Saddle-hackle.
g, Stern.
h, Thigh.
i, Shank.
k, Pinion.
l, Wing.

added, the reference letters upon which will be as keys to the solution of such points, as every reader may not be acquainted with.

To persons who are unacquainted with the attributes which first-rate birds of this class should possess, and consequently are wanting in sound judgment to decide upon the qualities essentially necessary to the composition of a valuable *Shanghae*, I would emphatically recommend a visit to some dealer of acknowledged probity. From such an one procure a pair of thoroughly valuable fowls, and though they cost double—nay, treble—the sum for which inferior birds may be obtained, let it be taken into consideration that such pair are destined to become the founders of a line—the ancestors of a race which may be multiplied to infinity; and when all their numerous progeny possess accumulative value in themselves—which certainly they will if the stock be good, and subsequently well sustained by intermediate importations of good blood—who then can fix the point of value on the gold that purchased birds whence sprang a colony of Shanghaes of the choicest breed? Some five years hence look back and count the value of the stock reared from the first fine pair, and you will then acknowledge that the investment of an extra pound or two has yielded an enormous rate of interest. But, ere I leave you in the breeder's hands, let me propound such clear descriptive rules for guidance in selecting worthy fowl, dwelling minutely upon shape, colour, and indeed, one very point which can inform the tyro, interest the general reader, and corroborate the opinions of our amateurs and breeders of the highest rank.

On points of colour fanciers are very various, and individual tastes may be indulged in at discretion. Good birds like good horses are always of a good colour, save when the highest prizes at our shows may be concerned; let

but the following points and properties present themselves, and colour holds a secondary place; be they but absent, and not all the richest hues their feathers may develope will avail to gain the bird a prize:—

The head of both cock and hen should be short and broad, but neat and round, with a well arched forehead, producing a bold and noble effect upon the visage.

Face of a lively vermillion, not coarse as in the generality of the larger breeds, but of fine texture.

Comb in the cock should be single, erect, and straight, without inclination to curl over or aside, moderately serrated, thick at the base, without excrescences or sprigs, of fine grain and texture, and standing about $1\frac{1}{2}$ to $1\frac{3}{4}$ inch high from the skull to the centre, and is of a clear bright vermillion. The hen's is single and of the same colour, but much smaller, slightly toothed and remarkably neat and straight, rising towards back, and standing from one-third to half-an-inch from the skull to the highest point. We have seen birds of first-rate appearance having slight sprigs in one side of the comb—such, however, we disprove of, but still acknowledge them to be rather the fruit of domestication than a proof of foul breeding.

Wattles of the cock are broad and double and of the same colour as face and ear-lobes, are loosely and evenly suspended and of about two inches in length, and neatly folded; in the hen they are very neat and small, and of a similar colour.

Ear-lobes are very full and folded, should betray no trace of white; a mealy, rotten, or mouldy ear-lobe is decidedly objectionable in either cock or hen; but clear vermillion-coloured ear-lobes are proofs of breed, and a distinguishing and peculiar feature to be met with but seldom in any other variety.

Beak, in both cock and hen, should be of a decided yellow or greenish tinge—the former very much enlivens the countenance and relieves the eye, must be short and strong, slightly curved and thick at the base, in fact, it cannot be too short; a lengthy beak, as in the Malay, is a bad sign, and every visible quality of good breeding is lowered by such a connexion.

Eye is bright and prominent, but mild and not given to blink. The iris corresponds in colour to the general ground of the bird's plumage, only more intense and deep, is full of expression, calm but dignified. In the hen the expression is solicitous, maternal, and confiding, and so apparent that one glance will suffice to enable the reader to corroborate this testimony.

Neck is stout but can scarcely be too short, is well arched, presenting with the outline of the breast and back a bold and dignified appearance, is full and thick towards the base and deeply set.

Neck-hackle or cape feathers should be full and ample, well trimmed and compact, and suspended over neck and shoulders.

Breast should be full and deep, indicative of a sound and robust constitution.

Back and shoulders, broad and muscular, the former presenting to the eye a gently rising slope towards the tail.

Thighs short, stout, and firm, held well apart in due accordance to the breadth and weight of body they sustain, should be fully and thickly covered with a mass of projecting feathers even to the hock, and covering a portion with their tips.

Shanks should be short (long shanks being very objectionable), thick, and straight in bone, and vary in colour from a pale yellow to a vermillion yellow, with occasional crimson markings at the back or where the scales are

absent; are both clean and feather-legged. Some of the noblest and most perfect are clean and bare-shanked, still, in my own estimation, Shanghaes should always be well feathered—technically, booted down the leg. Upon the paramount necessity of this a contrary opinion, as I have hinted, is maintained by several eminent judges of the Shanghae, therefore, the rule cannot be well considered as substantiated and as yet decided in its favour. I will not, therefore, lay it down as absolute; nevertheless I cannot refrain from rendering one reason for the condition advanced, and which is engrafted upon the principle of uniformity, a principle that, I contend, it is impossible too far to carry out. A feature of the greatest prominence about the species is peculiar and excessive featheriness. Feathers should, therefore, "go the entire bird" literally from head to foot. It is, however, of the utmost consequence that the leg feathers differ not in colour from the general hue prevailing over the entire form, else were the shanks much better bare; the feathers should be apparent down to the end of the toe on the outer side of the leg.

Toes—usually three in front and one behind upon each foot, but in some of the finest imported specimens, the additional hind claw may be found. Although a cross with the Dorking frequently results in the fifth claw being visible, still it does not follow that all birds having the fifth claw are, therefore, thus produced, although many are. We have ourselves imported birds direct from Hong Kong, having a supernumerary toe, as in our well-known Dorking breed, and can, therefore, vouch for the accuracy of this statement. Whether four or five, they should be well spread, and the centre one nearly double the others' length.

Wings should be short, and of convex form, with the pinions buried beneath the breast feathers, must closely fit the

sides, their feathery points hidden beneath a portion of the saddle-hackle, which should be laden with a mass of feathers, hanging like heavy foliage, fringing the thighs and stern.

Tail feathers short, and but the last inch or two, that is, the tips only, exposed to view, being nearly covered by the body and saddle-hackle feathers, which grow in profusion; should have but just sufficient elevation to maintain the upward line of the back, until the feathers droop, in scimitar-shape curves, and should be well rooted in the stern. The feathers usually become more and more visible as the bird advances in years. In all, there should be fourteen quill feathers, seven on each side.

Stern should be densely covered with fluff, in a circular form.

General feather—ample and full, all mealiness should be avoided, and a broken appearance discarded.

Carriage of the cock, bold and dignified, with a self-confidential attitude; although the body should possess a somewhat forward inclination, the head itself cannot be too erect. This attitude in the hen is more apparent and decided in its forward bend, consequently, the back and hinder parts are more raised and elevated.

Gait or walk is sedate and measured, a step especially taken by the Shanghae. Their gait and carriage irresistibly conveys the idea of an easy motion, joined to a certain dignity of bearing; whilst, from the point at which the heel is lifted up, until they plant the foot again upon the ground, so beautiful a circling curve is drawn that, really, they have a most graceful action as they march.

Do not, however, force them into flight, or you will throw their dignity into a wofully waddling plight.

Size—A full grown cock weighs from 9 to 12 lbs.

„ hen „ 7 to 9 „

Colour will receive further consideration when under the head of varieties. I consider the attributes of a Shanghae should be considered by the following degrees:—Firstly, form; secondly, size; thirdly, featheriness; fourthly, colour. That is to say, I would sacrifice a certain amount of weight to form, featheriness to size, colour to featheriness: and where the first three properties be perfect, it is a fourth consideration whether the choice be black, buff, or partridge-brown; at the same time, it is of the utmost importance that, whatever be the colour selected, it should be of a decided and settled hue, and not a mixed feather. Therefore, for justly distributing prizes for the proofs of careful and select breeding in the production of noble specimens, the varieties should be divided into classes, and not only so, but feather-legged birds should no more compete with clean-shanked specimens, than blacks with whites or browns—but feather-legged birds should be matched against feather-legged, blacks against blacks, and whites and browns against others of their own feather.

This is really necessary, seeing, although our "judges" are usually impartial men, and endeavour to act worthily, and with fairness, still they themselves entertain a preference for this or that colour, and decidedly prefer either plain or feathered shanks; and the colour they themselves delight in, imparts to the qualities of the bird a further interest, and sets off to advantage its other merits, whilst the other specimen, equally proportionate, but not so estimable with regard to colour, which necessarily operates upon the eye of the most impartial judge, in a greater or less degree, constitutes an extreme difficulty, a protracted, tedious, and unsatisfactory judgment, and which can only be remedied by dividing the birds into classes, according to their peculiar and visible characteristics.

I moreover consider no full grown Shanghae should be considered eligible for a first class prize under the following weight :—

Two year old cock, 10 lbs., minimum weight.
„ hen, 8 „ „

Some authors have described the Shanghae as doubling the wings upon its back in a most curious way. Among our stock we certainly have one that doubles up the wings as they relate, but not another, even of the same stock and hatch, betrays such a peculiarity. A skilful and well-known veterinary surgeon has subjected it, in my presence, to a long, careful examination, but could find, neither in joint or muscle, any departure from the general conformation that might account for the manœuvre. I consider it merely an upward tendency of the wing feathers, which, in young birds, frequently curl the wrong way, and lie uneven. The wing of the Shanghae is always more or less elevated by the stern, but in the peculiar specimen above adverted to, the extreme tendency is perceptible.

Among the usual varieties, some are marked upon the breast with touches of an inky shade, distributed in the form of a new moon, or horse shoe. This must not be accepted as a standard of their value, as many first class birds possess no such marks. Some birds are firm in feather (but not close), that is, possess feather of a silky and transparent character, others, again, are rotten feathered. Seek always to procure the former. Many fine looking birds there are which, upon being handled, are discovered to be half made up of feathers ; others, again, which, on a superficial observation, do not seem so large, when taken to the scale, are heavier birds. These latter are fine and full in feather, but well set, their coats appearing as though made for them. Not that a large amount of feather constitutes

a fault, quite on the contrary, only we would desire a corresponding fulness of flesh.

VARIETIES.

The plumage varies much in colour and in tint; there are whites, grays, buffs, cinnamons, mottled, or cuckoos; black, brown, and partridge-breasted reds; duns, blacks, and the Emu, or silky Shanghaes.

Whites are, when well feathered, and of good form, of the greatest choice and beauty. There should appear no trace of black, or pencillings, about the feathers of the hackles, for their value lies in delicacy and purity; neither brownish casts or discolourations, so frequently observed, and so surely a result of an admixture of blood of a darker strain. The pure white variety is comparatively rare; few perfect specimens are to be met with, a fact sufficiently accounting for the enormous sums they have occasionally realized. Large towns, possessing atmospheres surcharged with smoke, are most unsuitable for the production of white Shanghaes; but if you wish to show that whites are really white, then seek to prove it underneath a country sky, and on a good grass walk.

From a white cock and hen, imported in 1851, we bred three cockerels; of these two were sent into the country, the third forwarded to a friend at Bermondsey. This last we the next season visited, and, to our great surprise, found he had moulted dun—blue dun; throughout the bird there was not one white feather, save in the tail, and there they were mixed, white and dun. This, although strange enough, still scarcely seemed to justify its being considered as merely a fact, and one which could not be accounted for, nor did we feel disposed simply to consider that the feathers had conspired together to play pranks upon our curiosity,

and see if they could leap at once from milky whiteness to the dull tint which London smoke would ultimately colour them. To solve the mystery, we took an opportunity to give certain directions to our Chinese agent, who, on his returning home to Shanghae, discovered, upon prosecuting his inquiries of the breeder who had reared the fowls in question, that the grandsire of the cock was bred from a white cock and a dun hen; so was the riddle rendered clear. It may, with confidence, be accepted as an established truth, connected with crossing colour, that differences of feather, usually referred to chance, set down as purely accidental, and considered unaccountable, are most invariably the mere and consequent results of some such cross as that which we have instanced.

Many white birds are produced by a cross with the white Dorking, but such specimens are valueless as fancy stock; are, moreover, in nearly all cases, badly feathered down the leg—present whitish and mealy ear-lobes, coarse face and comb, and other indications too plainly indicating their origin to pass off as pure. Still, when matched with pure Shanghaes, and the produce likewise, these visible appearances by degrees become less and less apparent in the offspring.

It is necessary to remark, so far from whites being, as some affirm, but weak and sickly birds, they are, in my opinion, quite as vigorous and strong as the most robust of their compeers, with the exception of the brown and partridge variety. And, in this belief, I am supported by a numerous circle of ingenious correspondents. The fact, indeed, must be admitted, that many of the white variety kept throughout London are but weak and sickly birds, dull in their plumage, and withering in their frames; but when our correspondents were importuned on this point,

the reason was at length elicited: the "whites"—unfortunate wights!—are too conspicuous a bird to be allowed to live in open and exposed localities and situations, where they would be a mark for thieves, and fall a prey to their rapacity; so, since the choice lies between the fowls and breeders, which shall be victimized, and the first option unquestionably falling on our human biped, as an inevitable consequence, the white-robed martyr is condemned to undergo confinement (often underground), whilst their far happier, because more dingy and less valuable, fellows are permitted to exist—to live, indeed—in upper air.

As before mentioned, but few perfect specimens are to be met with, many are long in the leg, and frequently knock-kneed, with but few feathers down the leg; but when quality and characteristics are secured, beauty is combined.

It cannot but be deplored that there should get into circulation such one-sided statements and reports respecting the comparative health and hardiness of the several varieties, whilst such important items are omitted in the statistics furnished by poultry breeders generally.

Greys—unquestionably a sub-variety of "white"—are pencilled both in their neck and saddle-hackles, and in the wings and tail. When regularly marked, they have a very neat and finished appearance. Occasionally their pencillings are more irregular, and sometimes they have greatly the appearance of being a spangled sub-variety. Minute inquiry has established it an indubitable fact that they are but a cross of colour, not a separate variety.

Buffs.—The cocks range from a bright yellow to a deep ginger tint; the hens from a light straw to a deep fawn, the former tint being especially preferred. The hackles, both neck and saddle, present the different shades of orange

hues, and sometimes brilliant crimson-yellow tints, the body somewhat darker, with black tail; this latter should contain fourteen feathers, seven on each side; and before purchasing they should be counted, and the tail itself examined carefully, to ascertain if any of them have been plucked away, a fraudulent practice frequently resorted to to get foul feathers from fowls' tails.

Canary or Lemon Buffs.—These birds should be of a light and settled lemon tinge throughout, with leg feathers of a corresponding hue, with no pencillings, black, white, or mealy marks about the hackles, but with bodies of a somewhat slightly darker tint, and black tail. These, of all Shanghae varieties, are held in most universal admiration and esteem. More gaily coloured birds may, we admit and deprecate, attack the superficial fancier first, but when the effects of gaudy tints have faded from our vision, buffs will continue still to charm the eye, and eventually gain the verdict of the fastidious connoiseur.

It is, moreover, an unquestionable fact that amongst this variety are found the largest proportion of really good birds in other respects—principally arising from the circumstance that they have received from the hand of the fancier the largest share of his judgment and attention.

I would impress upon my readers as a most important point to be remembered by them, that save in the feathers of the wing and tail, no dark discolouration nor black pencillings should appear. It does not follow that because good birds are sometimes found with such defects they thence become legitimate appearances and marks. Because some breeders have reared up considerable numbers of most undeniably good birds, this flaw, however, running through them, a wish possesses them, and not at all unnaturally, to have those marks legitimatized which all our judges hi-

therto have branded with illegitimacy. We should contend, in whatsoever a degree perfection may, in poultry-breeding, as in other things, be difficult to reach, perfection, none the less, should be our standard still; and with good reason in the present instance, since, as was before laid down, these same appearances which we are specially speaking of, form the criteria for determining purity of breed; when pencillings upon the hackles are, we repeat, discovered, an evidence therein exists that, at some period or other, lately or remote, a cross of colour has occurred. The sign by which such crossing is betrayed, must not be lightly set aside.

Cinnamon variety comprises birds from a pale-tinted to a deep reddish brown; they are not nearly so bright and showy in their plumage as the "Partridge-browns," neither so neat and finished as the *Buffs;* but are, upon the contrary, dull in colour, often a dead brick-red; nevertheless, some good exceptions may be found among them. We are possessed of nine or ten of this year's chicks belonging to the *Cinnamon* variety which are most excellently coloured, more especially the pullerets; this,we conclude, is owing to the sire having descended from a pair whose mother came from a *buff* cock and *cinnamon*-coloured hen.

I have frequently observed that amongst this variety are to be met with some of the best feather-legged specimens. It must be most particularly borne in mind that, where a cross of colour does take place, it should be with such tints as blend together with the most artistic nicety of calculation. It would be well worth while for general amateurs to pay greater attention to the harmony of colour, being an important element in rearing handsome plumaged birds. Breeders of beautiful varieties have gained all the celebrity their fowls possess in this respect by strict atten-

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PARTRIDGE SHANGHAES.

tion to the mode in which nature herself paints all her most enchanting pictures.

Mottled or Cuckoo Shanghaes are not, by any means, attractive either in their form or feather; are usually white, with mottled grey. A firm, compact Cuckoo is a novelty, seeing they are almost invariably both long in thigh and shank, with narrow and contracted breast, and seldom attain to any considerable weight; are, moreover, rotten in feather, and frequently possessing white or mealy ear-lobes, together with other indications too plainly indicating, to admit of doubt, they claim no right to be considered a distinct or primitive variety.

Black, Brown, and Partridge Reds.—The black-red cock resembles, in colour, the "Game cock" of the same feather, having black breast, thighs, belly and stern, and tail of the same colour, but shining with metallic lustre; the neck-hackle of a reddish yellow, with crimson wing-coverts; saddle-hackle of a deeper colour, but shading off towards extremities, and back of deep dragon's blood; is usually ginger or bay winged, the extremity of greater wing-coverts barred with steely blue, with feather legs of a bay, or brownish hue. The general ground of the hen is more of a reddish straw, with orange neck-hackle, and black tail. In the purest strains there are no ink stains in the neck and saddle-hackle, and, in that respect, are peculiarly distinct from the brown reds. In my opinion, these birds should rank next to the lemon buffs in point of beauty. Brown and partridge reds are frequently very handsome birds. The cock of this variety presents a breast ranging from a reddish brown to a partridge-spotted umber, with dark ink stains in the hackle-feathers, which latter are of a deep reddish yellow, with crimson pinion-coverts, and black and partridge tail. Many of the hens are very beautiful, if

spotted regularly, are usually richly-coloured fowls, but exhibit dark ink stains about the hackles. They are certainly more showy than the black-red hens. By the same rule affecting whites, no marks of white or grey should show themselves throughout. When well matched, they form most distinguished groups. I most decidedly maintain that this variety is the hardiest of all the tribe of Shanghaes, and amongst them may be found some of the shortest legged and heaviest birds. Nearly all the communications received upon this subject fully corroborate this view.

Duns (or bluish slate) are seldom found of an unmixed tint, but if a fixed hue throughout be obtained, fine handsome birds are the consequent result. The hens possess more beauty and are neater in their feather than the cocks —the genuine dun tint prevailing more strongly throughout the feather of the female than the male, in which a dingy brown too often supersedes the brighter hues. Duns are unquestionably the result of crossing colour.

Blacks are at present somewhat scarce, and it is at all times difficult to procure them free from foul feather—feathers which will demolish every chance they otherwise might have of taking prizes at our poultry shows, for though I stated that the colour of your birds is not a point of moment, still there are admixtures which detract so much from otherwise fine specimens, as to reduce their value to an exceedingly low point so far as fancy is concerned.

The fact that this foul feather is so often met with in the extant *black* variety, justifies the beliefthat they are but a cross of colour, not a distinct sub-class; a theory which we shall continue to maintain until authentic, ample proof can to the contrary be adduced. We hold, however, that there at one time existed a primitive variety of this sort; but,

as in one or two instances beside, it has become extinct or nearly so, though not until it had crossed many of our other colours, now looked upon as quite distinct; and that it thence occasionally shows itself, even in a brood of lighter-coloured birds.

We some time since imported two light *buffs* (brother and sister) having but a slight pencilling in the hackle, and from particular inquiries into their origin understood they had not been crossed for several generations back at least. Upon breeding them together—a practice which, save for experimental purposes should be adjured—two of their chicks threw *black*, a proof that latent blood of the *black Shanghae* had for some time lain dormant in their veins, and after that exhibited itself; this sub-class, while an extant race, had crossed our family of buffs and shown its influence at last, though years had intervened and colour had become apparently restored and purified.

Emu Fowl or Silky Shanghae.—It does not come within the scope of my design to readjust descriptive names, or cavil at acknowledged terms, but to describe the various fowl by recognised appellatives, therefore exception will not be taken at the designation "Emu," as applied to a variety of Shanghae whose plumage bears considerable resemblance to the woolly coat of the Australian "Emu."

This fowl is a little smaller than the other varieties of Shanghaes, is usually of a dull brown or hen partridge colour, but of a settled hue. The wings are somewhat tucked up, and the hinder parts raised; the tail feathers, however, hang downwards in this respect far more so than the generality of Shanghaes. The feather more resembles hair in its character and appearance. The comb, low, shrivelled and crooked, and the head longer than in other varieties; shanks yellow, rather long, and sometimes bare;

the thighs close, giving the appearance of a slight tendency to become knock-kneed. The general form of the body resembles the other varieties though less compact. They are not considered quite so hardy as the species in general, though possessing a fair share of its good qualities.

Trusting that so far duty has been well performed to the readers of this work, in presenting descriptive matter capable of furnishing sufficient ground for the cultivattion of further knowledge on the subject. It must be admitted on this ground is sown the seeds of just ideas, which, I trust, will extend into improved tastes; let me remind them that many of the remarks are more particularly applicable to such as seek to gratify their fancy. On the other hand, it is impossible for those who only rear up fowl for economical purposes to understand too much concerning the conditions necessary for the improvement of our poultry to the highest point attainable.

DISPOSITION.

Tame, inoffensive, sociable, the *Shanghae* seldom exhibits aught of a pugnacious disposition. They soon become acquainted with their feeder and with each other also. The male bird is exceedingly affectionate towards his hens, and may be often seen contemplating the laying hen with most particular interest, oftentimes going in and out the nest as though preparing it for her reception; but when she once has entered it, he mounts guard beside her, chuckling his gutteral but joyous whisperings into her ear, until the moment that her labours are accomplished, when he departs with loud proud acclamations, triumphantly proclaiming far and near, and wide as echo's reach, his hen's praiseworthy work.

These cocks, beyond all poultry *beaux*, are gifted with the power to soften the asperities of temper, and to win the love of hens the wildest and the most indifferent—as hens will sometimes be—to the advances of their lords. They never go a courting but to succeed in wooing, soon reconciling to the connubial state their feathered brides. Where other cocks have failed to bring to terms the ladies of the farm-yard harems—and these same ladies ofttimes are especially perverse and prudish—the Shanghae's gallant has soon reduced them to submission by some means best known to himself.

However much the appearance of this species may be inimical to favourable first impressions, their gentleness is a most excellent substitute for the gentility they lack; clumsy precipitancy in their wooing does not accompany a clumsy figure; then, although their person is ungainly, their manner is very winning, and a fascination dwells within their bright good-tempered eye, which will inspire with soft emotions the most unsocial and intractable of hens.

For example, a hen that, from her wild and savage disposition, was the abhorrence of all cocks, a feeling she most cordially reciprocated; between herself and every other fowl about the yard mutual antipathies existed. In vain we placed her with the gayest and most captivating suitors; nought would she have to say to them, creating much chagrin and rage thereby within the breasts—and through the feathers of the ruffled chanticleers. At length we placed a Shanghae Petruchio with this winged Katharine, and with amused anxiety awaited some minutes witnessing a few preliminary steps he took towards his vixenish betrothed's good graces. Upon the first advance the feathery fury flew away. Eschewing all impetuosity the nowise baffled lover coolly showed his paces at a respectful distance from her—distant

politeness served his turn; and whilst his sweetheart's flurry was subsiding he imperceptibly continued narrowing the space which intervened between him and his object, until, without affording the least pretext for flying in a passion, he soon found himself just within ogling distance of his prize. Our time and patience being now exhausted we at this moment left the fowler with the bird he sought to snare. The following morning found the bride standing complacently beside the bridegroom (no unusual circumstance with the Shanghae cock).

Although so tame, running towards us at a call, eating their food from our open hand, they have an insuperable objection to being handled, struggling with wing and leg to be released when taken off the ground—not wildly flapping nor yet screeching out—neither when released seeking by flight to avoid all further ruffling of feather and of temper, but on the contrary submitting unreservedly to a repetition of the distasteful treatment—yet, just as often as taken up, again using their utmost force to re-assert their personal liberty. Should any of my readers be disposed to test this patience, almost amounting to stupidity, in the Shanghae, let them remember that its stunted wings so disproportioned to the heavy body assist it but little in alighting upon the ground; care must, therefore, be taken lest in the struggle it should fall too heavily and thereby become much injured.

POULTRY HOUSE AND YARD.

In instances where space for poultry is but limited, our *Chinese* visitors are found convenient guests; they can put up with worse accommodation than our dainty Europeans, requiring little space compared to the extended room needed by almost every other race. We do not mean to

say that *Shanghaes* will thrive the better for confinement, neither that fowls in general pine and die if kept within a narrow range. No fowls can have allotted to them too wide a field for developing their faculties, too great a ground for enjoyment and content. In cases where their liberties are abridged more careful tending is required, the laws of cleanliness more rigidly enforced, when such is done to counterbalance want of room wherein to roam at large, the Shanghae fowl will live content, will thrive, and prove productive still.

The perches in the roosting compartment should not exceed two feet from the ground—the obvious and sufficient reason being, the incapacity of their short wings to aid them in descending safely from a height, which to any other class of fowl would be but moderate. Some breeders dispense with perches altogether for their fowls; we, on the contrary, most strenuously advise (but not for chicks) a thick round roost thirteen inches in circumference, and raised two feet above the ground, a height the best adapted for them. Where *Shanghaes* are kept in greater numbers, a range of roosts should be erected; the first a foot in height, the second double, and so on, whilst the last should have an intervening space between it and the wall, sufficient to allow the birds abundant room for the convenient disposition of their hinder parts. For obvious purposes of cleanliness, the perches should not be erected one above the other, and should be tolerably thick, because their length of toe and weight of body render it absolutely necessary; their claws should have a good firm clutch for their maintenance, without too great an effort of their own, of an agreeable and easy equilibrium.

Upon the other hand, if forced to sleep upon the ground, their litter must be daily cleansed away, especially in sum-

mer time, whereas if they be perched a little height above the ground, once cleansing thoroughly within each week will be sufficient, if only six or seven are kept together; but if in greater numbers, more frequent cleanings must of course take place.

As before mentioned, when confined, cleanliness is of the utmost importance, and must be rigorously enforced or the Shanghae will suffer, if not as soon as other varieties, equally sure from its evil effects. Being densely feathered, a heap of ashes is a requisition to enable him to clear himself from the annoyance resulting from the presence of troublesome animalcules which infest all fowls at the warm seasons of the year, especially where means of eradication are wanting. Although he may emerge from the heap appearing in plumage the worse for his roll, and anything but a credit to his keeper, one shake, one flap with the wings, a few vigorous strokes with the bill, and the owner is then satisfied a visible as well as an invisible improvement has been effected.

A supply of calcareous matter, as oyster shells, &c., or lime rubbish, is imperative to the well doing of the hens, and the perfect formation of a substantial shell to the eggs. Being very productive with regard to egg stuff, a large portion of matter capable of being especially rendered available for that purpose is required.

Any waterproof and well ventilated shed, or outhouse suitable for other poultry, will answer every requisite for the Shanghae. The yard should be well drained, or have a decided fall, and be laid with gravel (composition being in many instances injurious from its poisonous component parts).

A small piece of soft ground, grass, or herbage, for a daily stroll, if accessible, will form a paradise of every requi-

sition. Actions such, surer proofs than words of obligations felt, will ever be perceptible and reward the keeper; and their little requirements if attended to will result in mutual advantages.

(Poultry houses, with plans, &c., will engage an after part of this work.)

FEEDING SHANGHAES.

Good feeders are the *Shanghaes*, but it must be confessed they greatly *do* prefer to eat from a full bowl—mouthfuls at once—to picking up, like other fowl, the scattered grains that lie about the ground. Being so deficient in activity, if, among other poultry, they are forced to stir and turn up everything to find their food, or at the regular meal times scramble for it, they stand but a poor chance of thriving. The food which is afforded other fowl is equally agreeable and beneficial to the Shanghaes, if they can only manage to appropriate *enough* to be agreeable. By a reiterated series of experiments, I have conclusively ascertained, they cannot eat so quickly as the *Malay*, and the smaller tribes; therefore, where they are kept together, care must be especially taken that they have enough to eat, or they will surely fall away in condition to very much below par. Whilst preventing such mishap, be it, however, borne in mind fat fowls are equally objectionable, unless for the table requirements. In moulting time, it is true, full feeding and providing for is of importance; but, when laying hens are sought for, moderate condition and good production are attainable by liberal but not excessive feeding.

MANAGEMENT OF BREEDING STOCK.

In breeding Shanghaes—and the same applies to every every other class of fancy fowl—most especial care must

be observed to avoid the slightest chance of crossing breeds; even two *prize* birds, differing in species, will, if crossed, be rendered valueless as *fancy stock.* Highly injurious consequences also will ensue, such as reduction in weight, degenerated qualities, and so forth, if birds that are related to each other breed together, more especially so, if brother and sister be the relationship they bear.

When breeding from relations is, however, unavoidable, as when the stock runs low, or other special reasons urge you to continue up the self-same strain, the following course I recommend as having been attended with invariable success throughout a protracted series of experiments, made with a view of ascertaining how far it might be possible to cross varieties, and yet evade its general effects and natural consequences; retarding, in as great a degree as possible, the inevitable progress of degeneration "crossing" invariably *must* cause.

Never permit relations, such as brother and sister, to be paired together; they are immediately and intimately of the self-same blood; unmitigated rapid decline, and an eventual annihilation will assuredly ensue from breeding "in and in" with them. Rather place dam and son together, or daughters with their sires, for there the consanguinity is in part diverted, as the sire and dam may be of different strains, and so the daughters will not be entirely of the same blood as that the father's veins contain; nor is the son's blood quite identical with that flowing through the dam's. From this produce may be taken a stag of the sire side to breed with the granddam, and the pullets from the dam side to match with the grandsire.

Be it distinctly understood, however, that such practices are not by any means commended, saving in cases where it otherwise has been determined to breed "in and in."

Prize birds need never be expected to result from such proceedings; but where it is at all practicable, import, from time to time, fresh blood into your breeds, and so avoid all possibility of a degenerated stock. For breeding purposes a Shanghae cock, when prizes or high breeding are the object, should not mate with more than four hens; indeed, in cases where degeneracy has once shown itself, not more than one or two should be allowed to walk with him. By strict observance of this rule, the virtue of the depreciated fowl may be partially restored.

Properly speaking, new blood should every other year be introduced into the general stock, since breeding "in and in" cannot be otherwise than followed by most disastrous consequences. In breeding from pullets, cocks about three years old should invariably be placed with them, and their first clutch of eggs, being very small, should not be kept for hatching purposes. Stags should be matched with two or three-year-old hens, being then mature, whilst cocks are frequently three years arriving at that stage.

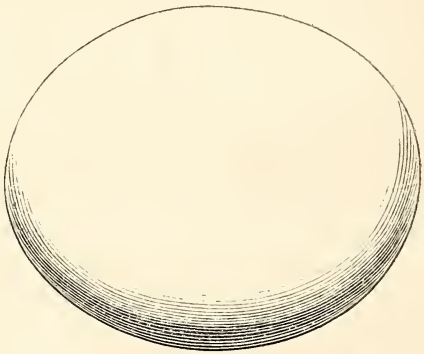
To farmers, or extensive rearers of poultry, who possess large, heterogeneous stocks of fowl, but who, for various reasons, may feel indisposed towards re-stocking their old breeds with fresher strains, I would emphatically recommend one of these methods; namely, either to kill off all their master cocks, and replace them with a few good Shanghae cocks, or else select four or five of their favourite first-rate hens, and place them with a vigorous Shanghae, then carefully set aside, for incubation, all their eggs, and the result will be extremely beneficial, and most gratifying. The small varieties will thus be superseded by a strong, hardy, ready-fattening and more abundant egg-producing fowl. Many of the excellent qualities of the Shanghae

will be undoubtedly exhibited, and a most ample, quick return for capital invested in them be the inevitable result.

The experiments we have tried, in crossing various breeds with Shanghaes, prove that the Dorking class of fowl is best adapted for the purposes of profit; at the same time, there really is no class of poultry but, as a vehicle for gain, may be immensely benefitted by a cross with the Shanghaes.

SHANGHAES AS LAYERS.

The Shanghae is, unquestionably, one of the most productive of domestic fowl. Their eggs are usually of a buff, or pale chocolate tint, depending for their depth of shade upon the colour of the bird from whence they spring.



FAC-SIMILE OF THE SHANGHAE'S EGG.

The shell is of considerable thickness, and highly granulated. The average weight of a mature hen's egg is about $2\frac{1}{4}$ ozs., being small in comparison to the size of the producer; is blunt in shape, and frequently rounded equally at both ends; they are usually of a delicious flavour, but the quality of food supplied, and the healthiness of the hen,

and other circumstances, equally applicable to all eggs, tend very much to add or diminish their excellence in this respect.

Although very productive, there are exceptional cases, and this quality differs with the varieties: there are bad laying Shanghaes, as in all other classes of fowl; but, taking them as a body, they are most assuredly, wonderfully prolific. It will be seen that the chief difference in form betwixt the eggs laid by the Shanghae and other fowls is, that one end is so considerably more obtuse than eggs in general. But this obtuseness does not sufficiently characterize *all* Shanghae eggs, so as to be a test whether an egg be from a Shanghae or not; some differ in their form so little, from the product of the ovarium in other fowls, that it requires a keen and practised eye with certainty to say, from form alone—in instances where the peculiar bluntness is but very slightly marked—whether or not such and such eggs are from the Shanghae. A certain strong and general distinctive mark, however, being that Shanghae eggs are highly granulated, their surfaces being completely dotted over with minute and white spots, it appeared to me that some remarks were necessary upon this point, since eggs have, in some instances, been sold for Shanghaes, which were only common ones, but tinted to the peculiar colour of the genuine egg.

It is likewise necessary, if perfect and sound eggs be desired, to keep the hens in moderate condition. Being hearty eaters, if allowed to become too fat, disease, with its attendant evils follow; inflammation of the egg passage, and, consequently, soft or but partially shelled eggs and apoplexy are not unfrequently the result.

Among our stock we have three hens which laid, in twenty days, an aggregate of fifty-seven eggs. Another hen

laid forty eggs in forty-seven days, and several of them double yolked; the number would, undoubtedly, have risen higher but from the circumstance that, during the same period, she one day showed a strong desire to incubate.

There are recorded cases of some Shanghae hens laying two, and sometimes three eggs in one day. No hen can lay more than one egg in any single day, save through a freak of nature, or mishap. The bunch of rudimental eggs, or ova, may by accident get shaken, and, in consequence, those nearest ripe may fall, and afterwards be, by a natural effort of the bird, cast prematurely forth.

Again, some have, by a resort to quibbling, inculcated the belief that Shanghae hens are MONSTROUSLY productive. An egg may thus be laid at nine o'clock to-morrow morning, and another laid at eight the morrow morning afterwards; *ergo*—say these ingenious gentlemen—two eggs a day are laid!

I am aware the Shanghae hens occasionally lay two eggs in one day, and sometimes within a few minutes of each other; even three, in some few cases, have been deposited in the nest, but such are isolated occurrences. No person purchasing stock should expect such excessive production; it more frequently happens when more than one are laid, there is but one perfect, the other being soft, or but partially shelled.

A fly, or fall from a lofty perch, fright or flurry, or a pugilistic encounter, are sufficient causes, during the laying season, to account for this accident (for such I certainly consider it). Now the Shanghae usually lays each day, for many successive days, and in the event of her depositing, from the above cause, an egg one day before its proper time, it naturally results in two eggs being laid in one day—the fact of its being one day in advance, results

in the frequency of such supernumerary egg being imperfect, and but partially shelled.

I have had hens of a different class which, from similar mishaps, have laid one day before their time, but seeing their usual times for laying were but every other day, the unnatural, or premature delivery, was usually deposited in the intermediate day, and nothing further was said or thought about the occurrence, although, in reality, equally remarkable with the former.

Upon one occasion, one of a superior strain of game hens became squeezed between some planks where she had been trespassing to her stolen nest: we removed her to a close apartment, alone, and secured her from further wanderings. In the afternoon of the same day she laid an egg, but the ensuing morning two were deposited, neither of which were, however, perfect, being only partially shelled, and exposing a soft membrane.

I trust no person will purchase Shanghaes, imagining the probability of a double supply being deposited in the nest. Although extremely productive, still not to such an extent as to countenance frequencies so opposed to their natural organization.

Their eggs occasionally contain two yolks, "called double-yolked eggs." These are seldom productive, almost invariably resulting in the process of incubation being carried on until developed in the form and substance of chicks, but the objects of nature's freak are seldom excluded as living specimens.

(Upon this subject I shall have occasion to advert in an after part, when treating upon "Malformations, &c.")

Pullerets usually commence laying about the age of five months, and the average produce six eggs in seven days, frequently laying forty eggs without showing any strong

desire to incubate; the average weight is from $1\frac{3}{4}$ to 2 ozs. (though in exceptional cases the weight may be greater).

Contrary to the practises in which indulgence our other fowls have frequently annoyed us, it is extremely rare for Shanghaes to seek out a hidden depôt where to bestow their eggs; indeed, I have known instances wherein, deprived of every comfortable little corner they had been accustomed to, and nothing remaining for their accommodation but the bare, hard ground, they regularly and most contentedly deposited their eggs in that deplorable condition. Undoubtedly, however, it is most unwise and cruel to endeavour to force them into seeking out, with difficulty to themselves, places wherein to lay their eggs. It evidently is owing to their natural indolence that they remain contented under such circumstances, and it is only due to their nature, not to their own good-will, that they so punctually follow the dictates of nature. Whilst young and growing, however, and, indeed, until well feathered, they are frequently as active as the nimblest denizens of the poultry yard.

SHANGHAES AS LAYERS, COMPARED WITH SPANISH, DORKING, AND THE POLISH FOWL.

Fairly to elucidate the subject of their comparative value merely as "stock,"—not fancy birds—it becomes necessary to determine not only what the cost of food is which they take into their several crops, but what the *crop* of eggs amounts to which they severally yield.

The following results, which have been selected from the mass of evidence collected during our anxious and minute researches into this most important point, will solve a problem mooted to serve the purposes of sound economy.

In April, 1851, we from one hatch selected, of the several classes named, four pullets of each class. These birds were of the purest and the most distinguished breeds, therefore were on a perfect footing of equality, and, consequently, much more eligible for this purpose. Keeping these several classes in as many separate compartments, for two consecutive years—a term but just expired—a strict account was kept both of the amount of food each class consumed, and the amount of eggs deposited by each, together with the price which they produced.

TABLE I.

Hatched April 10, 1851.	When began to lay. 1851.	Number of eggs laid to April 10, 1852.	Average weight of Eggs each.	Number laid from April 10, 1852, to April 10, 1853.	Average weight of Eggs each.	Total No. of Eggs laid during the two years.	Total weight of Eggs.	Price per hundred realized at market.	Total value obtained.
			oz.		oz.		oz.	*s.* *d.*	£ *s.* *d.*
4 Shanghaes	Oct. 19	709	1¾	1059	2⅕	1768	3569	5 6	4 17 3
4 Spanish...	Dec. 7	452	2	928	2¾	1380	3456	6 0	4 2 9
4 Dorking...	Dec. 1	471	1¾	919	2¼	1390	2891	5 6	3 16 4
4 White crested Black Polands	Nov. 26	512	1¾	935	2⅓	1447	3077	5 6	3 19 6
								£	16 15 10

It will be seen from the foregoing Table that for the first year of this trial the "Shanghaes" surpassed all their competitors.

One reason for this may be found by noticing that they began to lay much earlier, though, certainly, throughout the entire race, they still outnumbered all the rest. It was,

however, more in the number of their eggs, than in the total weight of them.

Neither is this more than a moiety of the question necessary to be discussed. The relative and comparative cost of keep for "Shanghaes," "Spanish," "Dorking," and the "Polish" fowl, must have its share of weight in balancing accounts. This section of the subject will be best displayed by rendering the following Table:—

TABLE II.

OF EXPENSES ATTENDANT UPON HATCHING, REARING, AND KEEPING FOR TWO YEARS.

	Cost per week.	Aggregate cost.	Cash produced by sale of Eggs.	Net Profit.
		£ s. d.	£ s. d.	£ s. d.
4 Shanghae Hens and 1 Shanghae Cock	1½d. per head.	3 5 0	4 17 3	1 12 3
4 Spanish Hens and 1 Spanish Cock	1¼d. „	2 14 2	4 2 9	1 8 7
4 Dorking Hens and 1 Dorking Cock	1¼d. „	2 14 2	3 16 4	1 2 2
4 Polish Hens and 1 Polish Cock	1⅛d. „	2 11 11	3 19 6	1 7 7
Total		11 5 3	16 15 10	5 10 7
Cost		... ...	11 5 3	
Profit		... ...	5 10 7	

Upon a superficial glance at the foregoing it would appear that the profit upon our fowls was reduced into a miserably small compass; five pounds ten shillings upon twenty birds, after two years of trouble and eleven pounds' expense,

besides risk of loss from casualties. But you must understand we do not in this example propound rules for the disposal of your poultry or their produce. Some will best study their own interest in home consumption—others by selling the eggs as "new laid;" but, in the case in question, the only course to be pursued in coming to a fair conclusion on their comparative worth as "stock," was selling the eggs at market in bulk.

Again, we must explain that with each separate class we kept a cock, making four cocks to sixteen hens; whereas if the sole object be producing eggs and chickens for our culinary purposes, one male bird is enough for, at the least, ten hens; therefore, in calculating our own scanty profits on the mere principle of temporary gain, it must be borne in mind we kept two cocks more than were for common purposes required.

Once more—and it is of great importance that these points be well considered—although the birds were domiciled in open, healthy situations, still being to some extent necessarily penned up—to carry out the experiments upon them—they consequently lived in sole dependence on the food given them. In farms, among our cottages, and many places else, where they can pick up half their sustenance, their cost of keep is obviously less; therefore, that portion of the case resolves itself to this, the greater or the less profit poultry yields, is regulated by the circumstances under which the fowls are kept. Disposing of them by the bulk at market, new-laid eggs will not obtain a much better price than any others; whereas by retailing them while new, double the price may be obtained. But, I repeat, the fowls in question were retained for special purposes, and as the habits, with the different requirements of feeding, were in each case held in equal and due consideration, an absolutely

just example was afforded whence to draw correct conclusions on the comparative worth, and relative appropriate standing of each class.

Premising this, I will advance upon another aspect which the question bears. It will be seen, by reference to our Table I., the *Shanghae* fowls began to lay—as generally is the case—six or seven weeks before their rivals; and by the time they all arrived at twelve months old, the *Chinese* had deposited a greater quantity of eggs by far than their opponents. During the second year, however, the *Spanish* fowl, its keenest adversary in the race, made ground upon it at so great a rate, that on arriving at its close it was but one hundred and thirteen ounces in the rear, which difference, divided by their numbers, gave to the *Shanghaes* only twenty-eight ounces and a fraction each a-head of *Spanish;* and as the cost of food to feed these last was, in round numbers, half a guinea less than that expended on the first —whereas the produce of the former realized but fourteen shillings and sixpence beyond the yieldings of the *Spanish*, —the final difference between the two, during two years, was but eleven pence each—forty-two pence divided among four.

By this it seems that though throughout the first year's laying, the *Shanghaes* outstrip all their competitors, yet, in the second year, although they still keep in advance, the *Spanish* gain upon them so considerably as to reduce the difference to a trifling odds. Upon a run of two consecutive years, these two prime rival breeds get almost neck and neck together at the goal; and if we dive deeper into the question of the comparative intrinsic value of the several layings, it then becomes a matter of the utmost nicety to say which has the advantage. The extra profit of the *Shanghaes* arose from this, that only sixpence difference of

price was obtained upon each hundred eggs when sold at market; but if common sense could regulate the mode of trading eggs, and weight be made to govern market value, then a different result would have occurred.

From this it would almost appear that *Shanghaes* really should be placed but second in the rank of egg-producing stock. When every point is fairly poised, and a just standard fixed, whether it then takes precedence of all useful fowl, or shares the empire of our favour with a rival is the next subject of inquiry.

The first thing in their favour is the circumstance that where the object sought in keeping poultry is obtaining eggs for market, in which case the greatest number is the greatest good, such may be best attained by rearing *Shanghaes*, and only keeping them until they have attained to three and never more than four years' growth. Although by that time, certainly, they have become too old for tender appetites, they none the less have meantime yielded handsome profits on their cost.

Another favourable point about this species is, that during the winter months, when new-laid eggs are rare, and from their scarcity of so much higher value, they prove a source from whence we always can obtain supplies.

If on the contrary eggs are required for home consumption, or for retailing as "new laid," the Spanish fowl must have the preference. In such a case numbers are not so much an object to be sought as more abundant weight. An egg of moderate size procures you, say one penny—but if a little larger three half-pence may be obtained; size in such instance is of greater consequence than merely numbers, and in that respect the poultry for your barley is the Spanish.

The Dorkings appear to be the lowest in the scale, but

be it remembered their province, in which they stand unrivalled and alone, is in the production of flesh.

So after all it only can be determined, by the peculiar circumstances under which these rival candidates stand in their relations to our several interests, which of the two former shall get the greatest share of votes in the election of a poultry queen (see Part II).

SELECTION OF EGGS FOR HATCHING PURPOSES.

It is an indisputable and remarkable fact that the eggs of the Shanghaes are frequently more productive of male than female birds. The prevalent idea is that round eggs produce pullets, whilst the long ones cocks; such is, however, at variance with facts. Another opinion is that when the air bag, which is located at the blunt end of the egg, and may be seen by holding the egg between the fore finger and thumb, and placing it between the eye and the candle—nearest the latter—when such vacuum is central, a male bird is produced, whilst if on one side, a female. There is something true in nearly every false theory, or such would stand but a very short period indeed; and in the above some slight pretension to such is apparent, but it must be acknowledged but slight. Supposing, as is frequently the case, a round egg has the air bag central, what becomes of the theory then? Little can be ascertained with respect to the differential sex by mere shape; the heaviest eggs, whether long or round—whether the air bag be central or aside—usually produce cockerels, whilst the lightest, pullets. (See Part II.)

No ill-shaped, or stale eggs should be selected whilst perfect and fresh ones are obtainable. They should be carefully placed in bran, in the same position as the hen invariably leaves them in her nest, and require turning

every other day; but if it be the intention to forward them any distance, they should be placed upon the smallest end.

SHANGHAES AS SITTERS.

When a hen of any class betrays symptoms of a desire to sit, or incubate, she is termed "broody." The hen is, from her comfortable, maternal size, and gentle disposition, peculiarly adapted for filling the office of incubator. She can, if need be, cover seventeen or eighteen eggs, though thirteen are sufficient for her, as, with greater numbers, she is liable to break them in the nest. In the cold months her animal heat is hardly equal to the task of supplying warmth to an excessive number. In the summer time, however, we have frequently placed under a hen the highest number named, and reared up a good brood; but still it is somewhat imprudent to adventure such a quantity at once. The chances are, some will be trampled on soon after being hatched; besides that, with too large a brood, the most impartial mother may be incapable of ekeing out the tit-bits so that each member of her extensive family may get a share. The sitting *Shanghae* is also very careful in her stepping in and out the nest, which should be always placed so that she may walk, not be compelled to jump, into it. On this account, a deep nest must not be provided, since eggs are frequently destroyed by the down-plumping of the hen. Though somewhat shallow, it should be of wide enough dimensions, since the *Shanghae* swells out her form to an amazing size. If at any time it is found desirable to move a hen to another court-yard, there is seldom any difficulty in inducing her to take her seat in any place you please, especially if the removal be effected after dark.

The Shanghae hen's principal fault—if such it can be

considered—lies in her frequent desire to incubate. Many are the methods employed to counteract her feverish excitement, and check the desires that actuate her, such as plunging into cold water, swinging round and round by the legs until actually giddy; but I feel compelled to decline describing or even enumerating these methods, considering all such hard measures to be both cruel and useless.

Some time since, a hen belonging to our stock visibly indicated her determination to thus carry out the dictates of instinctive longings. To check this unwished for symptom we fixed her in an open coop within full view of kith and kind. The sight of their untrammelled freedom operated so medicinally upon the latent love of liberty within her, as to purge off the obnoxious longings causing her confinement, and but a few days longer were required to eradicate its influence, and she was discharged from further custody. As the season advances the difficulty in the way of checking their desire to incubate increases. In this example the desire to sit continued from the twenty-third unto the twenty-eighth of February, a period of some five days; but, on a subsequent occasion, eleven days were occupied in gaining a result the same as previously produced by this compulsory sitting on the bare, cold narrow space enclosed within the coop.

Some *Shanghaes* exhibit more desire to sit than lay, others again—and these comprise the great majority—desire to incubate after depositing some five-and-twenty eggs, whilst others entertain "brooding" ideas but once within a season, and only then after affording fifty or sixty eggs. We tried experiments upon those hens which laid again within a month of hatching. One example will suffice us here.

This hen was set the seventeenth day of February, and

she hatched her brood on March the tenth, on which day we took her chicks away, and placed her on a second batch of eggs, which she hatched safely on the thirty-first. This brood we suffered her to rear, and seven weeks afterwards she had commenced to lay again; thus thirteen weeks were occupied in incubation and in rearing up her young; whereas at former times, when we permitted her to bring up her first batch of chickens, laying when nature inclined her to the act only, seven weeks elapsed before her powers of production were restored. I am convinced it is not the lack of eggs within which causes the desire to incubate, but that this "broodiness" retards their growth. The second cluster, when once formed, increases most rapidly in size until attaining full maturity, unless the feverish heat accompanying broodiness checks its development.

The symptoms are well known by an adherence to the nest, a continued clucking, a spreading and drooping of the wings, a ruffled feather, with an angry, irritable countenance.

I contend her desires in this respect act upon her system, and not the system upon the desires, as is usually supposed; for this reason, were a hen the day before, or even after she had hatched her brood, placed in a light and cool apartment in the open air, not many days would elapse before her clucking would be unheard, and soon be superseded by cackling, and the voice of the laying hen distinguished—seeing she would forget her former desire, and, forgetting, no longer wish. Now, if her system was the seat of action in this respect, her desires would be far more permanent, and not so easily evaded. Be it also borne in mind, although her desires act upon her system, she, at the same time, desires not until her system is sufficiently advanced to allow her to carry the object out.

For this reason, when she is about laying her last few eggs she continues longer in her nest each time, until the last is deposited, when she remains a constant sitter therein.

This is, however, one of the subjects that will be enlarged upon under a special head; nor had it been touched upon here, but that the circumstance of the Shanghaes laying so soon again after they hatch required a word, at least, of explanation. When allowed to indulge in their instinctive desires, they should be set apart from the laying hen, in a separate compartment, not shut in the nest—that is a very absurd method—but should have a few feet enclosed at its entrance, sufficient to allow them to remove from their sedentary position and enjoy a roll and a scratch, and satisfy the requirements of nature at pleasure, without the peril of being unseated by another more powerful of their own species, so frequently the case when allowed to incubate in the roosting apartment. Chopped straw is suitable for the nest material during the summer months, but hay, being softer and warmer, though more inclined to engender the accumulation of animalcule, is best adapted for the winter, or cold weather. There should be a continued supply of food and water where it may be readily obtained, but they should never be fed whilst sitting in the nest.

No attention is requisite or desirable being paid to the advancement of incubation. Far more harm is occasioned by peeping at the eggs, or turning them in the absence of the hen, than good: until the twenty-first or twenty-second day, as the case may be, no interference should take place.

The Shanghae's eggs, like those of other domestic fowl, occupy the term of one-and-twenty days in carrying out

the hatching process, but frequently only twenty days is their term of durance; though, in case the eggs are stale, the utmost limit of their time is usually filled up, and sometimes five or six hours more expire before the chick emerges from captivity.

SHANGHAE CHICKENS.

The *Shanghae* chick, from its first step into the world, displays the characteristic tread with which the breed peculiarly walk and tread their way through life, exhibiting also, at the same time, that tameness which distinguishes this bird. It is amusing to observe their consequential strut among the chickens of a smaller class, as though the little *Shanghae* were well aware it would eventually become the greatest of them all, although now no larger than the rest.

The feathery down upon their legs is seen as soon as they are hatched. The beak exhibits a decided greenish tinge; the eyes appear almost as black as sloes. Their colour greatly varies during the period of their chickenhood, frequently hatching very light of tint, and afterwards betraying darkish feathers in the wings and hackles, until at length the chicken hatched canary colour grows into partridge or dark brown. Little can be determined of their tints until the down gives place to feathers. These, as elsewhere observed, are very slow of growth (especially when the produce of young birds); whilst game fowls, as well as many other sorts, are getting fully feathered, and their strains and colours may be decided on, a Shanghae of the same age is clothed in naught but down and fluff.

They are, however, wonderfully strong and hardy, and thrive remarkably from the first moment of their birth until arrived at mature growth. Those petty circumstances

which so often injure other chickens scarcely ever take effect on them. Their constitutions being robust and strong, such feeding as will suit whatever classes they may at the time be living with is sure to agree with them; nevertheless, as rice is certainly their most natural, and consequently proper food, we will notice here that grain particularly. It should be prepared by scalding, steaming, or swollen out until each grain is full to bursting, but on no account broken nor mashed up.

When chicks are troubled with looseness in the bowels, rice, from its binding qualities, is a most excellent medicine, especially prepared as directed. For the retention of this medicinal virtue, and that its effects may not be blunted, rice, though so good for general food, should not be too exclusively given; for notwithstanding it is always of a binding character, still can its properties be somewhat changed—its medicinal quality lost by too constant use. Clean water must ever be provided for their continual use, or recourse will be had to the neighbouring pond of stagnant liquid filth, so foul and injurious to chicks of any growth. Diarrhœa, gapes, roup, and other diseases are engendered from its foul effects.

Young *Shanghaes* are most particularly fond of mangel-wurtzel and turnips, especially the former. These, if given in a crude state, should be cut lengthwise through the middle. Such food is not adapted certainly for regular or substantial meals, but to amuse them in the interims of feeding-hours; and this one observation bears within itself a most important principle connected with the successful rearing of your chicks: keep them amused between the intervals of meal times, and best by such means as this. If you do not cut these roots at all, they will be generally neglected; but, on the other hand, if cut too much, or in

small pieces, the chickens will gorge and cram themselves, contrary to the intent with which such food should be afforded; added to which, some of it will be left and trampled under foot, get stale and dirty, and in that state, when eaten up, is likely to induce a strong disgust towards it; whereas if cut in half, as we described, and then suspended by a piece of string above their heads, just within reach against a wall, it will be kept both fresh and clean, thus being tempting to their young appetites.

Barley, well steamed, or soaked five or six hours, becomes a beneficial and nutritious food in change when chickens are some two or three weeks old. Previous to that age, sopped bread, bread and (sweet) milk, boiled liver and raw beef, chopped fine; eggs, boiled about twenty minutes, and cut small; boiled rice and groats—these, all in turn, and given in small quantities, are highly beneficial; but whenever they exhibit a distaste for any special food, immediately desist from placing it before them for at least a week together. Suspend a cabbage by its roots, and suffer them to entertain themselves by pecking at it as it hangs; and, if convenient, place slantingly a truss of straw in some dry corner, throwing into it, about once a week, a handful or so of groats. The exercise of scratching for them will amuse the little creatures very much, and, as I said before—and now for its important consequences once again repeat—whatever will afford amusement to your chickens will afford a profit to yourselves.

It is astonishing with what perseverance the little things will run up and down, diving their tiny beaks into the straw, in the hope of finding some of the grains of groats. We have watched chickens hunt among the straw until our patience has been quite exhausted, long before they

found a single groat, yet is their faith, and hope, and energy all unimpaired. Where once they find a prize they still believe that prizes may be found again. The chickens soon begin to stray from the maternal wing; the Shanghae hen, too, quickly ceases all remembrance of her short-lived love for them, and frequently begins to lay again within a month of her confinement, pecking the chickens then which may have the temerity to seek the now forbidden nest. Instances, indeed, occasionally occur in which the hen will suffer favourite chickens to assemble still around the family bed, even while she herself is "laying" in it.

We have a hen that upon one occasion hatched a brood of chicks which we removed soon afterwards, with the exception of a pulleret that was left remaining with her. The hen began to lay again twenty days after the time she hatched the brood just mentioned, whilst our young pulleret regularly accompanied her into the nest when she retired there to lay. The hen, after depositing some one-and-twenty eggs desired to incubate, and, for experiment, we suffered her to have her longings gratified; then highly interesting was the sight to observe the pullet watching about the poultry-house door during the entire three weeks of incubation, seated occasionally into the nest during the temporary absence of the "brooding bird, and always in the night. When the old hen moved off to feed, the filial affection of the little creature would display itself in all the extravagant but pleasing gesticulations, all the mad pranks and capers, of a body bursting with mirth and gladness. Running before, behind, beside, atop, and underneath its mother, sure such a funny little spectacle of gleesomeness was never witnessed by us as we then beheld. And when at length the chicks were hatched, our pulleret

was a very second mother to them, actually gathering a portion of them underneath her wings, and calling them in imitation of the parent fowl. This chicken, profiting by the tuition, doubtless, or imitating and emulating too the example of the hen, on one occasion, in our presence, flew at a stout grimalkin, who exhibited a hostile view towards the youthful family of which their sister thus instituted herself a co-defender with her mother, though, at the same time, labouring under great trepidation at the sight of its grim, common enemy. These traits and circumstances are here detailed as an evidence, that even fowls possess a portion of those qualities which form the boast of man himself.

It must be borne in mind, that if a very early brood of chicks be desired, for instance, in the months of February or March, though I consider that the latter month is soon enough, and more adapted to secure a good strong brood, added to which, a Shanghae hen should not be "set" too early since no dependance can be placed upon her keeping to her young beyond a month, or at the most five weeks; and as we frequently experience cold and wet after that period, it is sure death to chickens, when compelled to run about half naked and alone, with no protection from the damp and cold; therefore, if early broods be desired, then set apart for "mothers" some other class of fowl—Game, Dorking, or almost any other class, but not the Spanish or Polish to hatch your Shanghae eggs, whereby, you will ensure a brood against mischances. It will be found, in general, that cockerels take after the mother's side in form and colour, whilst the pullerets favour the father chiefly in those particulars; nevertheless, as may be gathered from some of the preceeding observations, their antecedent crossings, when crossings occurred, possess a powerful influence upon the colour of chicks, so that it is quite possible

to breed from two light-coloured birds, and yet obtain dark broods, arising from the circumstance that the progenitors of the two breeding fowls have been crossed or bred from fowls of a darker hue.

The full grown cock weighs from 9 to 12 lbs., the hen, 7 to 8; in height, the male bird stands from 22 to 25 inches, the female from 16 to 20; this difference may be generally accounted for thus, being but slow in getting feather, when they are hatched during the months of March or April, all the fine weather lies before them, which they take advantage of to get well feathered and gain strength before the cold weather arrives, which may accompany the year's decline, and if keen winds prevail, when they have been hatched only a month or two, the mother hen can generally provide them warmth and shelter from every detrimental influence; whereas, if hatched so late as June, the ensuing winter may attack their naked limbs before they become well provided with the feathery armour.

Their growth will also much depend upon the manner of their rearing, whether fed on grain or meal; the uncrusted corn not being so good for them; whether they have an ample run in field or meadow, or be cooped up in a garden or otherwise confined, with other matters which shall be treated of under a special head, suffice it, that from what we here have said the reader may form his own conclusions on the discrepancy existing in the weight and height of birds of the same strain and age, but reared under different circumstances.

SHANGHAES AS DEAD STOCK.

A Cockerel of 3 months old should weigh about 2½ lbs. net ready for the spit.

„	4	„	„	4 to 4½ lbs.	„	„
A Pulleret	4	„	„	3¼ to 3¾ lbs.	„	„
A Cockerel	6	„	„	6 „ 7 lbs.	„	„
„	7	„	„	7½ to 8 lbs.	„	„

The average cost for keep may be set down at threepence per pair per week, including all expenses, hatching and so forth. If but a brood of seven or eight be reared, the expenses will become proportionally greater, save where no dogs nor cats are kept; in such a case the family scraps will serve to furnish a considerable item of supply, in keeping a small number like the last named. If on the contrary they be numerously kept, or on a farm, threepence per pair per week will more than cover the expense. As an example of comparative cost and profit, the following Table is appended:—

TABLE III.

Dr.	£	*s.*	*d.*	*Cr.*	£	*s.*	*d.*
Feeding, and other incidental costs attendant upon keeping four pairs of chickens to the age of four months, at 3*d.* per head per week	0	16	0	To four pairs of chickens, weighing 7½lbs. per pair, at 9*d.* per pound	1	2	6
				Costs	0	16	0
				Balance of profit	£0	6	6

I have reckoned here ninepence per pound for young chickens, and in July; this is as low a price as any one would sell at: and we have also set them down at the least weight, with fullest scale of costs; and still upon eight chickens there is gained as much as six shillings and sixpence profit.

Persons who only keep the lesser quantity of fowl, labour of course under disadvantages, and the costs of keep are necessarily much higher in proportion to their numbers than where extensive flocks are reared. The expense which must necessarily be incurred by but a few will not be much increased with a greater number; and when the

costs are spread over an extensive flock, the expense per head is very small indeed.

Another item on the credit side is, that where so feathery a subject and so downy a birds as the Shangaes are kept to any large extent, the feathers can be made to form a source of further profit.

Nevertheless, be it remembered, a few birds well cared and provided for will be productive of greater advantages to the owner than a flock improperly managed. One or two broods, well and carefully reared, will produce a larger number of fine specimens than a dozen negligently and carelessly provided for.

The flavour of the flesh is different in different specimens, and truly we have tasted some very indifferent. Whilst some are white and juicy, delicate and finely flavoured, others are the very reverse. I am, however, quite convinced that with attention, and by fair as well as by full feeding, *Shanghaes* may, in almost every instance, be not only rendered palatable, but really capable of gratifying the fastidious epicure. (See Part III., pp. 107-8.)

It will enhance considerably their quality and flavour, if before killing they are deprived of food seven or eight hours, during which time however they must be placed in darkness, to prevent or check a detrimental longing after food; and thus the crop, receiving no addition to its contents, will become empty, and their internal parts quite free from that offensiveness which often otherwise communicates a taint to the entire flesh—a grossness which the process of cooking does not always entirely overcome.

CONSTITUTION.

The Shanghae, being a hardy race of fowl, is subject to few diseases, by croup or roup seldom effected (where

common attention is bestowed), for which alone, setting aside the virtues and utilities on which we have been dwelling, their introduction into this country was a valuable boon to Britain. Whilst as a further claim which these peculiar birds possess upon our regards, is the coincidence that their propitious advent into England seemed to signalize an epoch whence we may date those general, simultaneous, and successful efforts which are now bidding fair to render poultry one of the staple productions of the United Kingdom, and in national utility and importance, as well as evidencing that rare tact, sagacious management, and indomitable perseverance, distinguishing our British breeders of all kinds of stock in such an eminent degree, as makes them both the pride and boast of England, the admiration of the world, and patterns to agriculturists of every clime. In general estimation, "poultry" will shortly stand almost as proudly, and proportionably as high, as "cattle."

We heartily hope and confidently predict, that through the well-directed and enlightened efforts of contemporary associations, working harmoniously towards one common point, the enthusiastic emulation wisely excited by the honorary prizes and pecuniary rewards bestowed upon the fortunate—but not more fortunate than meritorious—competitors at our poultry shows—seconded, and as a necessary consequence, completely carried out by individual exertions to the farthest limits of attention, enterprise, and industry—such an enormous aggregate of success must necessarily result, that native supplies of food for human sustenance will so abundantly increase, articles of food, formerly, and even at this day quite inacessible to the multitude, and much too dear to form a common item in the marketing accounts of even respectable housekeepers,

—food nevertheless nutritious as it is dainty, luxurious as it is wholesome—will become as common to the common people, as abundant to the entire community, as it is at present common to none.

It must be fully evident—being completely verified by the success which has invariably attended the domestication in this country of the various breeds which own a foreign origin—that our own country is as favourable to the production and increase of Fowl as any in the universe.

DISEASES OF THE SHANGHAE.

The principal diseases to which this class of Fowl is peculiarly liable are—white-speckled comb, apoplexy, paralysis, and twisted tail.

In common with other fowls, Shanghaes are liable to corns. These are often occasioned by their having nothing softer to be constantly walking on than gravel. To this material, good in its proper place, fowls must not be confined; it is most necessary that a portion of their "run" should be a plot of grass. Let Shanghaes, or any other fowl, be properly provided with a moderate grass-run, and corns will seldom grow beneath their feet. We have said "seldom" quite advisedly, for there is one more cause from whence these corns may spring, and that is perching too high. Compel them to descend from such a height as brings their weight heavily upon the ground, and those excrescences will soon appear upon their feet. Elsewhere we deprecate the use of roosts raised to too great a height, and therefore need not here repeat the reason which we gave against their elevation. When hammocks are discovered to be most convenient dormitories for our aldermen, then Shanghaes may be compelled to perch on elevated roosts.

Some persons who rear Shanghaes are much alarmed for them on account of the peculiar barrenness of feather, which attends the chickens if they be hatched late in the season. This barrenness, however, need not occasion fearful anticipations on their behalf. We have before remarked upon the backwardness of feather in the young Shanghae; and where your chickens are in an evidently healthy state, be well assured their lack of outward covering denotes not anything of import further than as a practical illustration of the consequences that will follow hatching at a period when the season is advanced, and the peculiarities of the class. These observations must not be considered to apply in cases where disease *has* caused the feather to fall off: when such, however, *is* the case, the symptoms will not be confined to barrenness; but as disease, in which a dropping off of feather is an accompaniment, is incidental to all classes of our domestic fowl, that portion of the subject must be reserved for the particular portion of our work treating of their diseases generally. Barrenness of feather is likewise the natural consequence of breeding stags with pullets: the breeding from birds themselves imperfect in feather necessarily results in the offspring being still more imperfectly feathered, and of protracted growth. There is as much perceptible difference between the appearance of the coats of young Shanghaes produced from mature fowls, and those of pullets and stags, as exists between the former and our other fowls.

A symptomatic disorder of some considerable frequency in the Shanghae is the "white-speckled comb," the accompanying appearances of which consist in small white spots scattered in patches on the surface of the comb. However, this is not, as is most commonly supposed, a local ailment; consequently it is completely useless to confine the treat-

ment for it to the affected part, since the incipient cause is elsewhere to be found. The appearances alluded to are occasioned by excessive internal heat, frequently caused by hot and stimulating food, at other times arising from repletion, but quite as frequently from the fowls being forced to drink dirty and unwholesome water. Again, it sometimes springs from general uncleanliness, or it will be induced by any cause creating costiveness, a state of body Shanghaes are somewhat liable to fall into. This foul condition will first appear upon the comb, but does not long confine itself to that locality, and if severe will spread, and in the sequel rot the feathers, which thence drop off in bunches from the bird.

In this complaint, from whichsoever of these sources it may spring, the outward application of oil to the affected parts will never be attended with the slightest benefit. We are aware that this assertion may be looked upon as incorrect by some who have resorted to such remedial measures. They have gone on and persevered in dressing the affected parts with oils and what not, and at length the bird has, it is true, recovered; but the fact was this—while they were operating outwardly, and at a distance from the fountain-head of the disorder, Nature herself was busily affecting a more wholesome state of things inside, and when she had at length put out the fire raging within, the smoke which had been issuing from it of necessity disappeared. But the comb, as already mentioned, is not the only part affected, seeing it originates from the heat and impurity of the blood, and if not timely prevented, its operations extend to the neck, where it spreads and removes the feathers in patches, as in the moulting season, with this difference, however, in the latter fresh arrivals soon became apparent; but in the disease in question the

feathers are rotted from the stumps which remain in, thereby rendering the growth of the new impossible. Oils may allay irritation and render the feathers more durable, but external applications are absolutely useless, save as auxiliary emollients following upon other remedies, when the inducing causes have begun to cease in their effects; and even then the advantage of using oils is doubtful, unless the patients be separated from their companions, being attended with the liability of attracting other fowls to peck the anointed parts.

Chickens, alike with full grown fowls, are subject to its ravages, but are far more susceptible to a lengthened and protracted attack. The fact is, the inducing causes of this complaint are an incipient state of apoplexy, whilst freedom from this disorder is indicated by a healthy appearance of the comb.

Remedy.—Cut off all supplies of grain, hard or stimulating food; provide soft diet, as oatmeal and bran, or coarse middlings mixed in cold water to considerable consistence, —allow green meat,—also well mix half-a-teaspoonful of flour-of-sulphur in the water pan, and allow no other liquid. (Peas and beans are not only bad, but will often bring on this disease.)

Apoplexy.—To the effects of this disorder Shanghaes are peculiarly liable, naturally resulting from a short thick neck, in connexion with a capacious full habit of body and voracious appetite. The first indications are a frequent twiching of the head, a restlessness in that compartment, a constant change in its inclination or bearing, first this and then that position, as though clearing the brain from feelings and sensations of stupor; frequent blinking of the eyes, with slow aldermanic motions of the body members, induced by aldermanic feeding and condition, and fre-

quently resulting in a sudden rush of blood to the head, overpowering the brain, when speedy death ensues; there is no remedy when once seized, as life becomes extinct in a few moments; still, previous to the actual fit, if one or other of the indications before alluded to be observable, the following preventive means should be immediately employed. After removing a few feathers from the upper part of the back of the neck, near the head, place two leeches thereon for the space of two minutes from the time they first "take," when the blood may be observed, and if of a light colour, they should be removed; but if inclining to black their presence is required for three minutes in addition, at the end of which time they may be removed; a little short down from the birds person may then be plucked and placed over the wound, and the bird removed to a separate compartment away from companions, or the appearance of blood may engender strife. Every heating, or stimulating description of food, also such as is of a fattening nature, as well as grain and hard food, should be avoided, whilst coarse middlings and green meat, in a crude state, may be given freely with steamed oats occasionally, taking equal care to keep the bowels freely, but not excessively open by the use of oil. Where a resort to the medicine chest is necessary, one teaspoon-full of castor-oil, as a dose, will be found the safest and most active remedy.

Paralysis—mainly issues from two sources, viz., a gouty habit of body brought on by high feeding, and may be traced to the same cause as that which produces apoplexy, the difference being in this case, the pedal limbs become affected instead of the head. It frequently occurs, a hen whilst suffering from this disease, in its first stages, appears in other respects healthy and well: the comb may be of

the healthiest hue, eyes bright, feathers close, appetite still keen, and yet unable to rise in the nest prepared for her; but the after effect is somewhat different; by degrees the appetite fails. But why? because digestion has been overtaxed; this is the last effort of nature to effect a cure. A body already too full of humour is, however, crammed; indigestion follows one, two, and frequently three days expire, before the food so administered, passes through its necessary stages, when the hen usually retires from the scene, being unable any longer to bear up against the stroke. *Remedy.*—The removal of the seat of the disorder, as before adverted in apoplexy, will effect the required influence over the power of the muscles, if taken in time, but when once brought helpless before the fire, although the same means as in that disease are the only applications calculated to prove beneficial, yet restoration is extremely protracted under the most favourable circumstances.

The other main cause of paralysis arises from damp, or exposure to draughts, or wet when full in moult, producing loss of appetite; in this case, equally important with the former, is the removal of the origin and cause of the attack, but immediate remedial measures are necessary to prevent an unfavourable result. The indications of its existence are a staggering of the entire frame, general debility, loss of all muscular power in the leg as though paralyzed, causing a retrogade motion of the body, a great and rapid reduction in weight, and thereby a tangible protrubrance of the breast bone. *Remedy.*—Removal to a dry warm apartment, regular feeding, with soft and nourishing diet, such as parboiled rice, oat, or barley-meal, and warm milk, if the latter meal about one-fourth part bran should be mixed with it which will render it less doughy and easier of digestion—should be given in small quantities, but with

frequency throughout the day, and water, in which a few blades of saffron have remained until the medicinal virtues have been extracted, should be supplied.

Twisted or Lateral Curvature of the Tail.—This deformity is not by any means peculiar to Shanghaes, all fowls are subject to this malformation (especially the produce of in and in breeding). It is an organic disease taking a local form, its name indicating the appearance it produces. Fowls confined to limits insufficient to afford that amount of vigorous, and thorough exertion, which instinct urges most animals to take when left unconstrained, if occasionally turned out upon a large grass "run," for only limited periods are very prone—especially when young—to abuse the privilege by running about so furiously and incessantly while at liberty, as to exert too great a strain upon the tail, brought into excessive use while balancing the body over rough and uneven ground, and results in an unfortunate sprain and contraction of the muscles on the same side as that on which it bends—no external or internal application can prove effective whilst the cause remains; but, if well "walked" upon even ground, they may grow out of it by degrees. I will here observe, poultry of every class should be permitted to enjoy the utmost amount of exercise circumstances will permit—not as a luxury, and only now and then, but as a constant daily practice. Elsewhere we intend to enlarge upon the reasons that can be assigned for this mode of treatment, which differs somewhat from the practice of some breeders of considerable eminence; meantime let the reader act upon the recommendation, as best calculated to insure to his poultry both good feather and full health.

When kept fasting, the Shanghae, being very hearty, if given hard dry food, is apt to eat too voraciously, and

thereby cause indigestion. Where the former has occurred, care should be taken that the meat consists of only a small quantity of soft food, such as meal, &c., and as with apoplexy course middlings and green meat, either crude or boiled, should be supplied; in the latter case, administer ten grains of jallap in the form of a pill, but only resort to drugs where the case is very obstinate. In administering this drug we prefer mixing it in a small quantity of tempting food, in order that it may be bolted so effectually as to prevent its rejection from the stomach when once it has been taken; but to do this, the dose must be so small as to be capable of being swallowed at a gulp. Some breeders, while they adopt the same medicine, prefer to mix it in a greater quantity of food, but if that quantity be sufficient to neutralize its nauseousness, you hazard neutralizing also the proper action of the physic itself.

The next disorder, "Rupture of the Foot," requires some preliminary remarks before giving an exposition of its symptoms, and the mode of treatment necessary to be adopted. This wound—for such it in reality is—originates in the following circumstances:—In Hong-Kong, Shanghae, and the other provinces of China where the Shanghae is indigenous, the colour of this fowl is utterly disregarded, "buffs" and "cinnamons" being almost unknown. In England, on the contrary, these colours are especially the fancy, and the rage for them induces some dishonest dealers, when unable to procure the true specimen, to resort to stratagem for the purpose of furnishing a supply sufficient for the demands of the market.

The lightest-coloured Shanghae cocks are selected, especial preference being given to such as exhibit the least trace of black upon the neck-hackle; and these are matched with first-rate "squatty" white Dorking hens, the result of the cross being, that some of the chicks take

after the Dorking mother, others after the Shanghae father. Some, again, take after the mother in respect to colour, while assuming the form and character of the Shanghae (these latter are particular favourites); the remainder will appear of an unsettled, mottled, mixed feather, with features inherited indifferently from both parents. The favourites are again mated with Shanghaes, and the produce in like manner; and, upon the authority of several distinguished breeders, added to proofs in our own possession, we can vouch for the fact, that from the proceeds of these beautiful "buff" and "cinnamon" specimens are sometimes obtained.

Absence of colour in the white Dorking hen tends to diminish colour in the produce of the union between her and the Shanghae cock, which by degrees reduces and tones down to that pale tint so much admired. But it so happens, in certain instances these fictitious birds will show the extra claw of the Dorking breed; to obviate this difficulty, the obnoxious member is amputated within a few days of hatching, and to this circumstance is to be attributed the wound or outbreak of which we are treating.

Generally the wound is quickly healed, as are most injuries received by birds upon their pedal limbs; but occasionally, the deprivation of this claw being effected within so short a period of birth, wounds break out after the cut was apparently healed, and assume the form of ulcerated scales.

Several communications on this point are now before us; in one, the bird is represented to have been purchased before the age of three months, at which time he seemed to be perfectly well, and sound upon his legs, although our correspondent confesses to neglecting that examination of the shanks, which, together with a scrutiny of other points, should always be made before a purchase is effected. In

about four weeks he began to exhibit symptoms of lameness, which continued and increased during the succeeding month, and by that time a wound appeared upon the shank, over the fourth claw. Upon examination, only one leg seemed to be suffering absolute injuries, whilst the lameness apparent in the other was, nevertheless, much more observable, and at the expiration of three weeks both shanks exhibited the "breaking out," which spread also considerably upward.

This certainly is a severe case; but two other communications show also symptoms similar enough to establish an identity of cause—exhibit evident traces of originating in one common source. Why breeders should thus cut and mutilate the bird in so unnecessary a manner we cannot conceive, seeing, they must be well aware, that the extra claw is to be found even in fowls imported from Shanghae direct, besides in numerous bare-legged, but first-rate birds, brought from Hong-Kong and other parts of China. From the last-mentioned place we some time since received two specimens of the greatest beauty, yet possessed of the additional claw.

To return, however, to the *sore* point itself. We recommend that as soon as the bird is seen to be at all lame, he should be subjected to a strict examination, to decide whether the dealer's craft has produced that effect. Should such be the case, the affected part should be bound up; if the symptoms afterwards assume an inflammatory character, poultices must be applied for a few days. At the expiration of that time the wound should be bound round with a small piece of dry linen, to prevent foreign matters coming in contact and producing inflammation. It appears to me to indicate the existence of nature's efforts in the reproduction of the lost member, seeing until the bird becomes full grown he is subject to the occasional outbreak.

THE SPANISH FOWL.

HISTORY OF THE SPANISH.

Before entering upon the subject of the peculiar characteristics possessed by this invaluable fowl, a preliminary inquiry should be instituted as to the causes whence it has derived so definite a geographical name, seeing that not in Spain alone, but throughout vast regions outspreading towards the eastern and northern parts of Europe, extensive flocks of fowl belonging to this class are naturalized and reared. Why Spain should be thus honoured with the exclusive privilege of furnishing a patronymic for this bird becomes a legitimate subject for investigation, now that Cochin-China's right to name our emigrants from the Celestial Empire has been made the subject of dispute.

The fowl called Spanish is not a Spanish aboriginal, but was first brought from the West Indies by the merchants of Spain, and through them naturalized and propagated in that country; thence the European markets generally were in turn supplied and stocked; the name is therefore a misnomer. These birds differed from the present Spanish, inasmuch as the circuit of face was not nearly so large, neither was the colour of the face so milky white, whilst the feet and shanks were much darker. We find that, previous to the introduction of the bird in question, a diminutive species, known by the name of the "Maux," was the most common class of poultry reared by the inhabitants of Spain; these two were crossed together,

varieties were thence produced, and the present sub-varieties of the Spanish fowl are partly the result. In Holland, previous to the naturalization of the Spanish fowl, a domesticated bird—in colour a dun, or bluish slate—though much inferior to the Spanish, prevailed; but if we carefully observe the variations in this latter class, it becomes evident such differences are the production of admixture with the primitive breed.

Of first-rate specimens, Spain at the present day can make but little boast; whilst from the Netherlands may be obtained birds of the greatest beauty as to form and feather, and of the highest value as regards quality and breed. And notwithstanding Holland was originally supplied by Spain, the mixed varieties previously propagated in the latter country were quite sufficient to procure in time a cross and mixture, which defies all effort to detect in them any resemblance to the original stock, unless acquainted intimately with the nature, form, and habits of the bird.

The Spanish fowl has long been naturalized in Great Britain with great success; and, considering the high perfection it has attained, we presume we are justified in asserting that the fact corroborates what we in our article upon the Shanghae advanced, that England's climate, with Englishmen's care, is as well adapted to the genus "Fowl" as any in the world. That the particular class of poultry brought from the Indies was a primitive breed is amply evident; but that birds bearing the name of Spanish, though far from being purely of that breed, possessing neither their beauty nor good qualities, do in the present day prevail, is certain; whilst there are others which, although not literally belonging to the primitive stock, being unquestionably an admixture, are nevertheless upon a perfect footing of equality, and, if intrinsic value be the

criterion of rank, justify, by their good qualities, the name of Spanish.

VARIETIES.

In England many genuine birds have met with crosses, more or less resembling one or other of their progenitors, and in course of time a name has been appropriated to the offspring, as though each were a separate species. On this account we will describe at length their several peculiarities, although, in consequence of the innumerable crosses that have occurred, it were a work of supererogation to describe the *pedigree* of such a heterogeneous multitude; for when crosses have occurred, the form, colour, and general appearance of a brood of chicks, even of the same blood, differ extensively from each other. There are the Whites, Anconas, Minorcas, Andalusian, Maux, Tasselled, Double-combed, and the Blacks, besides a sub-variety perfectly black, save that it shows a little white upon the breast. The cock of this latter, so noble in appearance, so regal in his carriage, is a very majestic bird; his picturesque and florid comb is of a blood-red colour, and abundantly serrated; a tuft of black fluff covers the ears and part of the face, and behind the comb arises a small tassel; there is also a similar cluster beneath the wattles. The eyes are partially encircled with a few projecting feathers of a brownish hue; the legs are of a dull leaden colour; and the soles of the feet are a decided yellow.

A pair of these birds was imported from Holland to a friend of ours, who assured me he entertained a full conviction of their being an original variety, having successfully bred from them for the last four years, and none of the broods so obtained differed in any respect, in form or colour, from the parent birds. This appears to prove the

probability of his opinion. However, still further to strengthen and confirm such conclusion, let him persist in breeding the fowls for a series of years; and if the same success results, it will demand both our serious consideration and strictest investigation into the minutia of the subject. Until then we must be allowed to retain our opinion on the subject, which is, that they will ultimately prove to be merely cross birds. We believe the Polish fowl has been intermeddling here, since many of its habits and actions are manifest, and it is evident that the hens evince greater inclination to incubate than the genuine Spanish fowl: in this is displayed a strong characteristic of the Polish genera when crossed.

Whites inherit the usual qualities and peculiarities of the Black; but the general feather being of the same colour as the face, they present no strong reflections of light and shade, as do the Spanish fowl, and no strong contrasts, for which the Blacks are peculiarly distinguished. When kept in good airy and healthy situations, they present, however, a very delicate and refined appearance; and it should be remembered, that there are some who do not admire strong contrasts, but prefer a subdued and settled delicacy, especially, as is the case with these birds, if their milk-white feather isr elieved by a healthy vermilion comb, with sparkling, joyful eyes; the legs and feet also form a partial relief, from being more or less dark. These birds are not usually so hardy as the Blacks, but are frequently bred from, as well as reared with, the latter.

Blacks bred from Whites are in general as hardy as the primitive variety of Blacks, while the Whites bred from the Blacks are not so hardy as the latter, showing a peculiarity resulting more from colour than constitution. Here we must again pause to make one remark. We have

known instances, and therefore can corroborate the testimony of those who have asserted the fact, that the black Spanish fowl has moulted white in plumage, but at the same time has thrown black chicks.

We know an experimental and successful breeder of Spanish fowl, who has frequently carried off the "palm of victory" from our poultry shows, who, some years since, for experiment, paired a white Pile game cock with a Spanish hen, and most of the pullerets resulting therefrom resembled the father, whilst the cockerels more or less took after the mother. Again, he selected from the pullerets those most resembling the Spanish, and placed them with one of his own purely black Spanish cocks, from the issue of which he selected the purely black pullerets, and bred them with a fine Spanish cock; this was practised for several successive years, until he at length obtained separate prizes for three of the produce, as pure Black Spanish. Since that period some white-coloured birds have occasionally appeared in his broods: those which came white from such stock invariably took after the old Pile ansestors, as disturbers of the peace, as well as in constitution, but in no other respect showing the white face and ear-lobe as full as in any of the Blacks.

There are but few of the White Spanish produced from such a cross as this; but still we are assured that the birds, however fine their appearance, if they moult speckled white, or complete white, have either been bred in and in, and so produced rottenness of feather, or at some remote and unknown period been crossed by a white species, although the event has long transpired, and the greatest vigilance employed in breeding from a pure species has ultimately restored them to their perfect colour. The Game fowl is the only bird that can be put to the test,

whether really genuine or otherwise. We once knew of a bird being chosen for the combat by a breeder, to make up a number, and its appearance indicated all that the best breeders considered essential as to qualifications, action, &c., and obtained universal approval. Such appearance and exterior must indicate neither flaw nor imperfection; and, rely on it, the breeders of Game fowls would neither overlook nor excuse a defect, for, of all men, they are the most practical and particular in breeding fowls, and much may be learned from them. When this bird had proceeded but half way through the battle, he dropped his tail, and made a sudden retreat, and, as they say, "cried for his mother." What does this prove, but that appearances may deceive? The bird above alluded to was in perfect health, had been running master in a country walk for a period of eighteen months, and had been carefully bred from a stock possessed by the breeder for five years' past; but, from the above circumstance, the owner entertained the conviction that previously an injudicious cross must have taken place; he therefore wrung the bird's neck, and, as the requirements of his table demanded the fowl sacrifices, so the whole of the "strain" received similar treatment.

Much as we disapprove of applying this test to our birds, we cannot refrain from mentioning the fact, that however good a bird may be in appearance, no proof exists in that alone, as to whether he is really genuine. If, however, the chicks show well, and no signs of a cross appear for many successive years, the best of proofs is therein furnished.

The Ancona, of all sub-varieties, show too clearly the results of a cross. There seldom is much white about the face, and in many cases none; the ear-lobe is, however, of

that colour, though not so long and full as in the Black. The comb and gills are generally more pendant, and if examined, the former will be found more deeply serrated, and thrown towards the base; but they possess the general characteristics of the Spanish class, and are good layers. They are of a very unsettled colour, spotted with white, but far from regularly marked; they also present many other shades and colours.

Minorcas are also very similar to the last named, lacking the white face of the Black variety, but possessing their long and well-covered head and suspended wattles. The ear-lobe is white, but in very few instances of a clear cast, but verging towards the side into a somewhat flesh-coloured tint. The shank is not so long as in the true Black, and there is not that especial dignity of bearing so much admired in that variety. They are good layers, but bad sitters and mothers. As they are so common in many of the inland counties, they do not require minute description. In Devonshire especially, Minorcas are very abundant, but in the majority of instances nothing more can be observed in them than in a common Black fowl; indeed, they are rapidly degenerating, little pains being taken to improve, or even keep up, the stock: when this is the case, such must ever be the result.

The Andalusian is unquestionably a cross of the grey Maux, the now extinct aborigines of Spain. When carefully selected, the chicks thrown black and white, and those most resembling the originals, bred together, a neat (bluish grey) bird may be obtained. They are good layers, and better sitters and mothers than the Blacks (still not to be depended upon), and have shorter shanks; whilst their principal peculiarity consists in a tail standing very erect, the feathers of which, in many specimens, nearly touch the

Lith. of graphed by C. J. Culliford.

22, Southampton Street, Strand.

BLACK SPANISH.

hackle feathers of the neck. The Andalusian variety is generally well plumed, and the chickens are quicker in feathering than the Blacks. They are good feeders, and may be very easily and quickly fattened, the flesh being excellent. The cheek of this fowl is more or less coloured, and from among the same brood of chicks we have invariably found the darkest birds possess the whitest faces; they are a very hardy fowl, and possess a fair share of the Black's good qualities.

The Maux is the original domesticated species of Spain: we have seen but one specimen of the class, and believe it to be extinct. They are of a bluish grey cast of colour, and do not present a white face, but possess white ear-lobes, which are rather full, compared to other varieties of domestic fowl, although less than in the Black Spanish. They have large comb and wattles; are somewhat short about the leg, both in shank and thigh-joint; and are smaller in body, exhibiting white quills in the wing feathers.

There are many other sub-varieties, or different coloured varieties, which have crossed with the Spanish proper, but they neither deserve nor enjoy a distinct name. These are to be found in many of the countries bordering on the Mediterranean Sea, are scattered throughout the inland countries, and even in England there are heterogeneous breeds which have evidently been crossed by Spanish, and bear more or less resemblance to that fowl, as may be observed in passing through the streets or suburbs of London.

The true Black Spanish is a most strikingly original and very beautiful bird; one of the few which, without the slightest hesitation, we can affirm to be a really distinct class of domestic fowl. The peculiar characteristics dis-

tinguishing them have undoubtedly been much more fully developed by the breeding in and in with such specimens as were of the highest character, and with others equally eminent; but their ancestors possessed similar peculiarities, although not in so high a degree. We regard the Spanish fowl of the present day as being the result of culture carried to a great extent, and a proof of the highest and most careful breeding.

CHARACTERISTICS OF EXCELLENCE.

A full-grown Spanish cock weighs from 6½ to 7 pounds; the hen from 5½ to 6 pounds. The former stands from 21 to 22 inches in height (this may, however, be exceeded); the latter, about 19 inches. The principal features, and those which form the most striking contrasts to other fowls, are their complete suit of glossy-black, large face and ear-lobe of the purest white, enlivened by comb and gills red as coral, and of extreme development. The peculiarities of these contrasts compel us to describe them in detail. The plumage is of a rich raven black, throwing up lights of bluish and greenish purple when exposed to the sun's rays; the feathers of the breast, belly, and thighs, are black, and particularly decided in their hue. The hens are of a similar feather, but less brilliant. The *face and ear-lobes* of pearly whiteness, especially the latter should not be of a bluish tint or fleshy hue; the face should extend above the eye, encircle it, and meet the comb; it still increases as the bird grows older, continuing to enlarge in size (especially with hens, which seldom have a really good show of face until two years of age), even beyond the time of their full growth; and the more face and ear-lobe, the more valuable the specimen is considered in either cock or hen. They should never be found "blushing;" red

blushing hens should be especially avoided. The *comb* of the cock should be single, very large, erect (the more erect the better), of a coral redness, and serrated, and extend almost to the nostrils; with hens, this uprightness of comb cannot be attained, owing, not only to its abundant size, but to its thinness at the base, being at that part very slight, compared to the cock's; it should be fine in texture, and exhibit no sign of excrescences. The *wattles* are singularly long, pendulous, of high colour, and neatly folded. The *head* is long, but neat in appearance (there should be no top-knot behind the comb, neither muff round the neck). The *beak* is long, and generally of a black colour, though towards the middle is often observed a small patch of a lighter hue; it should be slightly curved, and thick at the base. The *eyes* are very full, bright, and of a rich chocolate or chestnut colour; rather prominent, beautifully suitable to the white face, and harmoniously blend with the entire plumage. The *neck* is rather long, but strong and thick towards the base, the neck-hackle being of a glossy black; if any trace of red or white is visible, the specimens should be excluded, with all of the same description, from the poultry-yard, and placed at the cook's disposal. The *chest and body* are broad and black, the former being particularly decided in its hue. The *wings* are of moderate size, and much longer than those of the Shanghae fowl, but shorter than in the Game, whilst the coverts are beautifully shaded, and of a bluish-black. Bluish plumage Spanish are considered very superior as fancy birds to those of a greenish hue, and the nearer they approach the raven cast the more admired. The *thighs* are neat, but long, as also is the shank, presenting both together, a rather long leg; the shank is of a leaden colour, or dark blue, but sometimes of a pale blue white; but speci-

mens which exhibit dark blue and white on the legs must be dismissed. The soles of the feet are of a dingy flesh colour. The *tail* is rather erect, well balanced, and finely adjusted, presenting (if well plumed, as it should be) a very elegant green-hued shade, and sparkling with metallic lustre when exposed to the sun's rays; in the hen, the tail is long, full, and well squared.

The general form and position of the Spanish fowl is very lofty and upright; the tail rather erect; the bearing being the reverse of the Shanghae fowl, as the back of the latter bird inclines upwards, while the front parts have a contrary tendency, thereby forming extraordinary large proportions behind, whilst the back of the Spanish fowl passes sharply downwards. They are very proportionate, and altogether display a grave and majestic deportment, while their general bearing is replete with grace, coupled with a beautifully symmetrical form.

CONSTITUTION.

The constitution of the Spanish is good and sound, but as they are more liable than the generality of other fowl to be injured by cold, it is imperative their roosting-houses should face the south, so that they may be protected from the cold winds; more especially as they require a large amount of warmth, in consequence of the long and protracted moulting to which they are subject. The cold affects their comb also, which is occasionally frost-bitten, with a liability to mortification. Another malady to which the Spanish fowl is particularly liable, is that of producing soft, or non-shelled eggs; this, however, will be treated of under the head of "Diseases."

The Spanish is a hardy bird, and well adapted for town life; in fact, I scarcely know of any species so ably quali-

fied to withstand the effects of smoke as the Spanish fowl, for they will retain their beauty of plumage in almost any situation, the colour being so peculiarly suitable for repelling every detrimental effect. Moreover, the white face is not soon affected, as the feather forms so strong a contrast as to almost defy the stain of smoke being rendered perceptible. Where smoke is prevalent, eggs are invariably valuable; and for this reason the hen which lays the greatest number of eggs is the most desirable fowl; moreover, the Spanish will bear confinement equally as well as the "Shanghaes." They (as is the case with the generality of black fowls) are less liable to roup than are lighter-coloured birds; in fact, the Spanish fowl is less subject to this disease than are most of the black varieties. Although we have recommended them as good fowls for town, nevertheless we can at the same time fully guarantee that they will behave themselves well in the country also, where, if in the enjoyment of a grass walk, they will amply reward their owners by their truly elegant appearance, as well as by their bountiful production of eggs.

DISPOSITION.

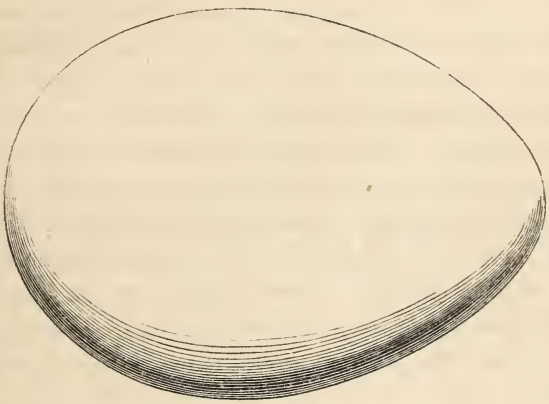
The Spanish fowl is not pugnaciously inclined, and although two may be kept together, they will rarely fight or quarrel; nevertheless, they are very averse to strangers, and if only separated for one or two days, will disagree seriously among themselves upon being re-united; and after having battled for the pre-eminence, or in case the master hen should still hold that position, she will follow up the privilege of authority by harassing strangers, until perfectly well assured of having firmly established her wonted authority. Subsequently to this mode of procedure, she will again form intimacy with all her associates

indiscriminately; which proves she may be passionately excitable, but not revengeful, merely paying her current debts, not cherishing nor hoarding up malice.

PRODUCTIVENESS OF THE SPANISH.

The eggs of the Spanish are, as previously observed, very large, the produce of mature hens averaging $2\frac{3}{4}$ ozs. each, and are particularly delicious in flavour—many exceptional cases occur of weights considerably beyond this being deposited in the nest, but taking the average $2\frac{3}{4}$ ozs. may be considered a fair estimate; they are, invariably, of a clear and pure white colour, with a very smooth surface. The Spanish are free layers, generally producing two eggs consecutively, and then missing a day. Pullerets generally commence laying at the age of six or seven months, and occasionally before that time, whilst some later. I would here just remark that good housing and feeding have very much to do with the promotion of laying; the same is also greatly affected by hatching sufficiently early to insure a warm coat before the setting in of cold weather, which very considerably retards the operations of the ovarium. I have frequently found that those pullerets which commenced laying before the age of six months, when arrived at perfection, seldom produced such large eggs as those which had not laid before they were seven months old; indeed, I prefer the latter age, which, in after years, abundantly makes up for former backwardness. Early laying appears to be but a precociousness produced by stimulating food, or by fowls being too highly fed. From records, we have for some years kept concerning the several ages at which our hens have commenced laying, we are provided with abundant proof that many fowls which at first pleased us by laying before

the age of six months, proved to be more subject than others to defection in the avarium, besides being more frequently troublesome through their production of shell-less eggs, with a soft layer only that could be squeezed to any form, although a perfect egg might be laid by the same hen at another time. From subsequent observation and experiment, we find that such hens are frequently incapable of producing a sufficiency of calcareous matter within,



FAC-SIMILE OF THE "SPANISH" EGG.

to form coverings for an abundance of eggs. I have before me, from a practical correspondent, a communication expressing sentiments similar to those advanced, with this addition, that he has received from his friends numerous hens which have been renounced on account of this supposed incurable malady; namely, the production of shell-less eggs or non-shelled eggs; and has invariably succeeded in effectually curing them by the following method, one more likely to prove useful and effective as being simple

and rational:—In lieu of barley, that had heretofore formed their usual diet, he fed them upon oats; he also administered half a teaspoonful of prepared chalk every other morning by dissolving it in their drinking water; this he continued for three weeks, giving no oats for breakfast but coarse middlings wetted up into a stiff mash, in which was infused two or three tablespoonfuls of old mortar. By these means, their weight became gradually reduced, and being well supplied with brick-rubbish, gravel, and oyster-shells, they laid more regularly; and at length the ovarium was reduced to a healthy condition. Being supplied with no more nourishment than they could procure calcined matter for, thenceforward every egg came forth well and firmly shelled. I repeat, that the malady in question is principally the result of high and abundant feeding; for if a hen be too profusely fed she will lack diligence in searching for those minute particles that furnish calcareous matter. Spanish fowls are more subject to the disease of which I have been speaking, than the generality of poultry, and for this reason—high feeding should be strictly avoided.

SPANISH AS LAYERS—COMPARED WITH SHANGHAES, ETC., ETC.—*See Part I.*

As regards productiveness, the Spanish are unquestionably of the first order, and surpassed by none saving the "Shanghaes" which exceed them, however (as shown in Part I., Table I.), more in the number than in the weight of eggs produced. We would here observe, that the Shanghae fowls (the four birds alluded to previously) during the two years produced 113 ozs. of egg-stuff beyond the amount yielded by the Spanish, which if brought

into Shanghae eggs of $2\frac{1}{5}$ ozs. each amounts to fifty-one eggs, and being sold at market, as was all the produce of those birds, at the rate of 5*s.* 6*d.* per hundred, the value of the fifty-one eggs is brought to 2*s.* $9\frac{1}{2}$*d.* Now the extra expense of producing this 2*s.* $9\frac{1}{2}$*d.* by the means of keeping the Shanghae fowls during the two years alluded to was found to be 10*s.* 10*d.* For the convenience of our readers we furnish them with the following Table:—

TABLE IV.

	Average weight of eggs laid during two years.	No. of eggs when brought into Shanghae eggs of two and-a-fifth ozs. weight each.	Comparative intrinsic value of egg stuff, at 5*s.* 6*d.* per 100.	Cost for keep during the two years' trial.	Comparative net profit upon each class.
	oz.		£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*
4 Shanghaes	3569	1623	4 9 3	3 5 0	1 4 3
4 Spanish	3456	1571	4 6 $4\frac{3}{4}$	2 14 2	1 12 $2\frac{3}{4}$
4 Dorking	2892	1315	3 12 $3\frac{3}{4}$	2 14 2	0 18 $1\frac{3}{4}$
4 Polish	3077	1399	3 16 11	2 11 11	1 5 0

We here show that the Spanish produce in two years, as far as comparative intrinsic value is concerned, is but 2*s.* $10\frac{1}{4}$*d.* behind the Shanghae, whilst the latter, during the same time, costs 10*s.* 10*d.* more to keep, the difference, therefore, is 7*s.* $11\frac{3}{4}$*d.* in favour of the Spanish. We here discover what really is the intrinsic value of the Spanish eggs, but when sold by the hundred, regardless of weight, they make a very different return.

The mere selling by the hundred cannot affect such

intrinsic value, although some say that the value of an article to the possessor is the amount it realizes. This to a certain extent is correct, especially as regards substances possessing little or no real value in themselves through their absolute or comparative utility, such as diamonds and other precious stones. Who then obtains the advantage? We reply the purchaser; for if they be bought at the rate of 6*s.* per hundred, regardless of weight, and afterwards are sold out at a certain price each, according to size, they evidently prove themselves the more valuable as being of superior weight, although obtaining at market only 6*d.* per hundred extra, which is but a poor return for the 100 half ounces that 100 Spanish eggs usually weigh over and above the same number of other fowls' eggs.

Now, supposing purchasers or consumers to keep fowls, and that their families are partial to eggs as food, do they mean to assert that three large Spanish eggs, each weighing $2\frac{3}{4}$ ozs. will go no farther than three Shanghae eggs weighing only $2\frac{1}{5}$ ozs. each, which difference amounts to nearly 2 ozs. in every three eggs? Certainly not. Spanish eggs, therefore, are of greater intrinsic value than those of the Shanghae, for in round numbers the 100 half ounces being brought into Shanghae eggs of $2\frac{1}{5}$ ozs., produce twenty-three eggs, which are surely worth more than the 6*d.* they fetch at market when sold by the hundred. We therefore assert, that those who keep fowls, take their produce to market, and sell the eggs at a certain price per hundred (little difference being made between those which are light of weight and others that are heavier), are not the persons who derive benefit from fowls laying larger eggs; but such as Shanghaes, which lay smaller eggs, and greater numbers of them, should be the fowls of their choice. This

is while business is carried on at market upon the present system of selling at a certain price per hundred; we hope, however, that this mode of dealing will be abolished, and a more equitable system of vending be adjusted. We therefore consider that persons who consume their own eggs, and so receive the full advantage to be derived from superior weight of Spanish eggs, will derive more profit from this fowl than from the Shanghae.

The flesh of the Spanish fowl is juicy and of fine flavour, and in high repute as a table fowl, but not equal to the coloured "Dorking" in point of delicacy; the colour is, however good, and strongly contrasts with the feather. The flesh of the white Spanish is not considered so fine in flavour nor equal to the black variety for the table; nevertheless, they are not amiss, especially if killed when young.

MANAGEMENT OF BREEDING STOCK.

In breeding stock, it must be invariably from one of these motives what specimens are bred from,—viz., whether for fancy only, whether for fancy combined with moderate profit, or profit *versus* fancy. If either the first or the second be the object, then it is necessary that the specimens selected should display shape, figure, size, carriage, feather, and a full development of all the characteristics that distinguish the Spanish breed, especially in the male. Lanky, gawky, thin, flat-sided birds are almost always produced by breeding pullets and stags, or other miniature birds together. Stags should never be matched or mated with pullets, but with old hens; again, pullets should never be mated with stags, but with cocks of two or three years' growth.

It is obviously manifest, that by the infusion of fresh

and vigorous blood, selected with judgment, we are enabled to produce the proofs of the highest breeding, and are rewarded with those choice specimens which figure so conspicuously at our exhibitions. These results do not occur promiscuously, but are alike the result of careful and select breeding. First-rate qualifications are really and absolutely necessary for the production of first-class birds of any kind; and here, as in all other particulars, the details must invariably be closely attended to. For instance, the face should not only be fully developed, but it is important that redundancy in that feature be proved hereditary, or in breeding stock considerable disappointment may ensue.

For this reason every breeder should keep an accurate pedigree of his stock, whilst every purchaser ought to insist upon seeing that pedigree distinctly traced before effecting a purchase; for our own part, we would never breed from a bird, however good his appearance, without reading or ascertaining for a certainty his pedigree. No breeder of Game fowls would hazard to act so indiscriminately: sharp practice very soon discovers to the breeder and his friends what a bird's progeny are worth; for should aught of imperfection be there, it will quickly become manifest. But are we to leave pedigree to chance, because in the case of Spanish fowls the progeny are not brought to the test, nor are their other virtues so keenly tried, nor a defect in parentage always to be detected? No! If we desire to be successful, we should in this instance, at all events, follow the example of those who breed Game fowls. We would certainly much prefer breeding from a bird possessed of a mere minimum show of face, but whose ancestors we knew to be first-rate birds, than from a fowl,

however splendid in appearance, and however fully developed might be the characteristics of excellence, yet concerning whose parentage little could be said, and still less known. Occasionally we have bred and reared birds whose excellencies were hereditary, but which in themselves were not so showy, nor were the traits of quality so perceptible as in their fathers: from these birds we have been successful in breeding even *prize fowls*. How is this? We have noticed for a considerable time, and with much satisfaction, that such strains, which we knew to be perfect, and whose good qualities were hereditary, but in themselves were not such showy birds as many of the same blood, have nevertheless thrown chicks possessing every degree of external excellence. For instance, we some time since bred from a stag and a two-year-old hen, of different strains: the stag was as good as gold, but not superior to his strain; the hen was also good, but much inferior in appearance to her sisters of the same hatch. When, however, we bred them together, they produced chicks which, when arrived at perfection, possessed larger faces than those produced by her sisters, which were also, for the purposes of experiment, matched with a brother of the above-mentioned stag. From this it is very evident that where nature is liable to exceptions and irregularities, *pro* and *con*, birds may be produced of inferior appearance, while other chicks from the very same hen more than compensate for their brethren's deficiency, by presenting an extraordinary face; and we have, by repeated trials, proved that the characteristics of excellence may be found in birds bred from such specimens as are not of themselves of the primest appearance, if the real and true properties, although but partially revealed, are hereditary.

If, therefore, your object be the production of fancy birds, especial care must be bestowed upon these particulars, and the best strains of birds whose descents are known should invariably be mated together.

We do not mean to say that birds with small development of face, but which have nevertheless been produced from first-class birds, should be preferred to birds of a handsome appearance, and which have descended from first-class fowls also; we would merely show that they should neither be despised nor discarded, provided the excellencies they possess are hereditry, and were in still greater degrees possessed by their ancestors.

CROSS-BREEDING.

If, on the other hand, profit only be the desired object, although we disapprove of crossing distinct classes of fowls together, yet for certain purposes artificial crosses have, by experiment, proved to be eventually beneficial; and in such cases, although for crossing with the Shanghae we prefer the Dorking to the Spanish fowl, yet a cross with the latter would undoubtedly prove useful to the former, and be productive of excellent laying fowls.

We are bound to admit, that we have never seen a cross of Shangae with Spanish that was an improvement upon the former bird, neither have we seen birds produced by a cross of Spanish with other various breeds that were equal to the true Spanish fowl itself, save in one exceptional case; but why? As we have mentioned, in speaking of the varieties of the Spanish to be met with, not alone in the countries bordering on the Mediterranean Sea, but in many of the by-streets of the metropolis, there are birds in abundance, evidently belonging to the Spanish breed,

and more or less crossed with it, but we have never seen among them birds which could be pronounced equal to the pure Spanish.

Why is it that we behold such numerous crosses of the Spanish, whilst nothing has resulted from them but greatly inferior birds? The reason is plain enough; the Spanish have ever been mated with varieties very inferior; if mated with the Dorking, the proceeds have been again crossed indiscriminately, being but seldom the property of a man of distinguished fancy, or one that from such proceeds would again make a judicious cross. The crossing of the Spanish fowl with other varieties usually falls upon those persons whose only custom, when their male kind is getting too old, is to select the largest and strongest of the young ones, regardless of breed or strain. Such neglectful and careless breeding invariably leads to utter degeneration, and the Spanish, as a cross, becomes in consequence greatly despised; for if the latter fowl be mated with inferior birds, of course the results will be unsatisfactory. If, on the contrary, they be equally matched, why should not both breeds be necessarily improved?

The fact is, we have few practical and judicious men who will trouble themselves with *spoiling* breeds,—which they consider it to be, and which, as fancy stock, it really is,—by crossing the Spanish with the Dorking fowl. Yet if a judicious course of management were adopted, and the proceeds of a cross carefully selected and again mated with different strains of either breed, we are confident the result would be highly advantageous so far as egg-producing is concerned, and the flesh would also be greatly improved.

For instance, mate a two-year old grey Dorking hen with a one-year old black Spanish stag; select the cockerels and breed with Spanish hens two years old, and the

pullets to match with a stout three-year old Dorking cock; from such proceeds select the cockerels, and breed with Dorking hens, and again from such issue select the pullets, to breed with Spanish cocks; and so on, with the occasional introduction of a good stout Spanish cock or squatty Dorking hen.

Were the proceeds of these to be bred in and in, the result would be such a breed as could not but insure the admiration of every lover of distinction. But it would occupy many years to accomplish such a consummation.

This is unquestionably the manner in which several of our varieties of fowl have obtained their origin, and when such come before us, we will not shrink from the task of stripping them of all ill-timed and misplaced distinction.

As egg-producers, a cross of any class of fowl with Spanish would be productive of benefit if judiciously accomplished; but as regards the Shanghae, we think an admixture of Dorking would be far preferable.

It may be mentioned that experiments can be as effectively and advantageously made upon a small as upon a large scale, besides that less risk will be incurred therein of having the poultry-yard filled with indifferent stock should the experiments fail. Let these experiments be carried on in one corner of the yard, for convenience sake, and engage your strictest attention, since, until these problems have been fairly and fully tried, the questions arising out of them cannot be satisfactorily solved, whilst it would be the most consummate folly to throw away opportunities for information, and lose a great boon for the want of sufficient experimentalization. But it must also be remembered, that however successful be the results of crossing, the produce are quite inadmissible as fancy birds.

For breeding high, six to seven hens are sufficient to be placed with one cock. If he be three years old, we would limit his hens to six; but if he has reached his fourth year, not more than four should be mated with him; whilst for breeding in and in, even less than the latter number should be put, if it be a desideratum that the strength and vigour of the chicks be fully sustained.

AS SITTERS AND MOTHERS.

Spanish hens seldom exhibit a disposition to undertake the task of incubation, and if it be attempted they will in the generality of cases forsake the nest long before the chicks would be hatched. Sometimes, however, they will perseveringly perform the maternal duties, but it is prodigiously against their general character. They are somewhat disproportionately long in the leg, consequently are more subject to cramp; this partly accounts for their being so averse to such sedentary occupation.

Not being possessed of a very ardent temperament, they are seldom carried away with pugnacious feelings. Those fowls the most pugnacious, are generally the best and closest sitters; for instance, Game hens make the very best of mothers, both for hatching and rearing, and also for defending their chicks. It will be found that the breast and belly of the latter whilst engaged in incubation burn through excess of internal heat, created and kept up by their irresistible desire and determination to "sit." Such is not the case with the Spanish hens, for if the desire to sit exist at all, they will not be found so warm by many degrees as the Game hen, whilst in a few days this desire will generally give way to some new fancy.

The original Spanish fowls, brought from the West

Indies, and naturalized in Spain and Holland, were excellent sitters and good mothers; but the high artificial culture to which they have been subjected, coupled with the occasions of breeding in and in, have had a great share in influencing the Spanish hen to depart from her primitive motherly habits.

Since, therefore, they will not undertake the office of incubation, we must impose it upon some other class of fowl, that will not only accept the task, but will joyfully hatch and rear the young of another species until they are able to take care of themselves. By this means the breed is still preserved, multiplied, and extended.

The period best adapted for "sitting" eggs is the latter end of March, as the chicks are but slow in getting feather, it is obviously unadvisable to "sit" them at an earlier date.

The first twelve or thirteen of a pulleret's eggs should never be selected for hatching; not that they are unprolific, but being scarcely mature and small, strong sturdy chicks are very unlikely to be produced.

THE SPANISH CHICKS.

When first hatched the colour of Spanish chick is a remarkably bright black, with white down upon the throat, breast, belly, thighs, and wing pinions. There is also a milky appearance about the head and face.

While chicks they are often quite bare, especially upon the pinions of the wings, from the period of losing their down to the growing of their feathers; this a critical time with them; warmth and shelter from cold winds, besides stimulating food given in small quantities but with frequency throughout the day, are now essentially requisite;

they, however, grow very rapidly, but the novice who has ventured a high price in the purchase of a few Spanish eggs, upon discovering the chicks when hatched to be black and white, finds fault both with himself and the breeder, if not in verbal sounds, in expressional appearances and internal misgivings, but he need be under no apprehension on that account: he will eventually discover those very parts and positions of the body which caused his fears to rise, ultimately become deep black, and of the most decided hue. At the age of ten weeks they should be well feathered as chickens, and strong; previous to that time, on account of their limited supply of feather, they require warmth and attention, but ultimately become strong and vigorous, and equal in this respect to the Shanghae broods. In the cockerel little of the real white face is perceptible until the age of four months, subsequently the pulleret exhibits indications of a similar character; before, and in some specimens even at a later period, they display a very delicate appearance about the face, with long skinny mealy heads, but anything resembling the maiden's blush is a bad sign. The development of the face in some is very protracted, but patience in this as in many other particulars should be displayed, for occasionally some of the chicks which to casual observers are far inferior to the rest of the brood, ultimately supersede them, and at length prove themselves very "cheeky birds." At five months they are usually well plumed, but the face, comb, and gills continue growing considerably after this period. The tail of the cockerel is circular, but not by any means so full and ample, nor the general plumage so beautiful, as when arrived at two years' growth, when, after moulting, the male is considered in his prime.

At the age of six months a cockerel should weigh about five pounds, and a pulleret four pounds.

DISEASES OF THE SPANISH.

There are but three to which we here allude, being those to which they are most peculiarly susceptible:—protracted moulting, diseases of the ovarium, comb, and feet. I do not by any means consider regular moulting a disease, seeing it is a system organized by nature to the due performance of her requirements, in displacing the old garb to the further adorning and well being of the fowl,—but when it approximates the form and appearance of a protracted, and thereby weakening process, danger lurks within, which, if not promptly met, results the most unfavourable will be the issue. This class will suffer much if not well housed and sheltered from the inclemency of the weather during the moulting season—being very much hastened or retarded by the circumstances under which it exists. Peculiar changes in the colour of their plumage occasionally occur at this momentous season, which are necessarily permanent for one year at least, that is until the ensuing moult, when a different aspect may be again presented or the return of the former colour: this peculiar change is more likely to occur with old than young fowls.

A friend, some years back, imported a pair of black Spanish fowls, direct from Holland, and which he considered closely related; for experiment sake, he bred them together (knowing the degeneration that would ensue); but, for the purpose of satisfying his mind as to the issue, he selected and bred them and the produce *inter se* until the sixth generation, when rottenness of feather became apparent; the produce were again matched, and from the

issue a male and female were selected and bred together, and from this pair were produced seven chicks, two of which came perfectly white, the rest, save one, more or less splashed; it is important to observe that these were very small and weakly specimens, the natural result of in and in breeding.

Black is the presence of healthy feather in the Spanish, whilst white is a proof of its entire absence; from the same cause birds in a very weak state have been known to moult from black to white, but on account of the feebleness of their constitution have suffered from an extremely protracted moult; antecedent admixtures and even fright have likewise occasioned a similar effect.

During the moulting season they should be well sheltered, and if imbecility or weakness becomes manifest, a supply of stimulating food is rendered necessary, such as barley soaked in beer, bread and beer, barley meal with a little common brown pepper, given warm (not hot). Being at this period of the year deprived of animalcule, a little butcher's offal parboiled, may with advantage be occasionally allowed, besides a few crushed grains of hempseed, and two or three blades of saffron in the water, have a comforting and stimulating effect. A little stable litter placed beneath the perches may be left a week or two, and then removed for a fresh supply. All cracks and drafts in the hen house should be filled up, in fact they cannot at this trying season be rendered too warm, but care must be taken these precautions are not left off too suddenly.

Diseased Ovarium.—We have already given an account of this disorder, its causes and effects, with remedies, whilst speaking of the productiveness of the Spanish, and with this latter subject it is so connected, seeing they are such a prolific fowl, that it was necessary to touch upon it

whilst thus treating upon one of its chief causes, for the particulars of which I refer the reader's attention; suffice it here to observe, that to obviate this disease, too high feeding must be avoided, and a liberal supply of calcareous matter, and chalk in the water supplied, as they prove more prolific with regard to egg stuff than egg shell. Care should be taken to prevent the hens from duelling with strange fowls, this is especially important as the laying season approaches; many a valuable hen has lost her life from such a supposed trivial circumstance, and external wounds are looked for, and great wonderment expressed at the catastrophy, whereas if a hen perchance to break a home-wrought egg, she may have great difficulty in purging it off; if unable, a tea spoonful of castor oil should be administered, this will greatly facilitate its progress in passing through.

Diseased Comb and Feet.—The comb in severe weather occasionally becomes frost bitten, when, if care be not taken, inflammation ensues. It is greatly irritated by its own weight and size, and particular bend. Bleeding of the comb and toes is moreover another form of the same malady, and the only remedies capable of affording relief are removal to a warm and dry apartment, and treatment as prescribed for protracted moulting.

THE DORKING FOWL.

HISTORY OF THE DORKING.

(Phasianus pentadactylus) or Five-clawed Fowl.

This fowl derives its name from Dorking, a town in Surrey, not that that town gave rise to the breed in question, for its antiquity is unquestionable, but that the dry, warm, and chalky nature of the soil of that locality, together with the superior adaptation and position of the place for the rearing and fattening of fowls, gave to the population unequalled opportunities of breeding and rearing the feathered stock to great perfection, and the continued success of the breeders rendered the class of fowls propagated there very superior as market produce, which by degrees rendered fowls from Dorking as much in request as are at present Dorking fowls.

That a breed bearing much resemblance to our Dorking, both for external appearance and internal qualities, as well as possessing the additional claw, has long been propagated in the town of Dorking is conclusive. I have before me a list of the fowls remitted to market by a farmer living there, from June to August, 1683, comprising—

17 doz. ... ... 5 claws, dead stock.
1 „ ... ... 4 „ „ „
1 „ ... ... 5 „ live stock.

From this we observe the five-clawed fowls were well known in that locality, and at that comparatively early

date appear to have been more numerously kept than the four-clawed ones, at any rate by this individual. I also discover from the original manuscript, the price for the one dozen five-clawed (alive) was nearly three times the amount of dead stock; it was therefore at that time, as until very lately has been the case, the breeders were determined, if possible, to monopolize the trade, and therefore demanded double and sometimes treble the price for live as was required for the same fowls if made ready for the spit. They have, however, at length become extensively and successfully bred in many parts of the country, and numerously kept by distinguished fanciers. In many instances receiving thereby detrimental crosses and admixtures of blood, tending to injure and reduce their intrinsic value as fowls and as flesh, though in some cases a beneficial admixture has occurred, when subsequent improvement has invariably become apparent.

They have not only been propagated in this country, but also in Ireland; and in the latter place, especially in some localities, been carefully bred, and many fine specimens have returned and found their way to our London exhibitions.

Still it is evident that the town of Dorking and its suburbs are now, as heretofore, not only more suitable, from the nature of the soil, to the rearing and breeding of this class of fowl, but every other thrives unusually well there. Previous to the date already alluded to, we can find no further evidence to sustain the idea that this fowl was more extensively bred in Dorking than in any other town; but since that period, that is from 1683 to the present time, we have ample proofs that the principal fowls of this description have been bred at Dorking or its environs, and that they have for a considerable period, and still do,

Lithographed by C. J. Cullford,

22, Southampton Street, Strand.

WHITE DORKINGS.

retain the credit of supplying the market with the finest specimens, both for appearance and the table.

From abundant sources we gather that among the Romans a fowl with the additional claw ranked next in favour to that gallant bird the Game fowl, and this latter being bred for very different purposes, could not have been regarded as a rival, only the circumstance of their love for sport even exceeding their desire for festivities, placed this latter bird A 1 in their esteem. It is not my intention to pronounce such birds the progenitors of our Dorkings, but merely to point out their relative analogous position. It is, however, conclusive, without reference to the supernumerary claw exhibited in both, that in many respects they bear strong affinity.

From the southern parts of Italy a friend has procured three specimens, that are in semblance *fac-similes* of our Dorking fowls, with the exception of size which is smaller; he assures me he has in that country frequently seen larger birds than those imported, but chose them on account of their purity of colour, which is perfectly white. They are single combed, the hens moreover possess five claws and one spur upon each foot; the male bird six claws and one spur upon the right, five claws and two spurs upon the left; other circumstances connected with the close resemblance they bear to each other, convince me they are not only of the self-same blood, but the produce of in and in breeding; this also accounts for their reduced size.

We have records even from the north of Europe, including Norway and Sweden, where five-clawed birds have been and still are found, though much inferior to our own, both in size and quality of flesh. From Hong-Kong and Shanghae, and provinces adjoining, many birds may be found possessing the fifth claw.

Owing to conclusive observation I cannot refrain from uttering an opinion in connexion with the origin of this fowl, having instituted searching investigations into the appearance and non-appearance of the supernumerary feature in the offspring, both immediate and remote, and invariably discovering its presence more fully developed in bulky short-legged or capacious bodied specimens, and its disappearance in the first cross with aught in non-possession of this feature. I have been led to consider the present Dorkings the result of full domestication when carried to a highly beneficial extent, and not true types of any primitive variety.

One thing is certain, that any one of the localities before mentioned may be selected, and asserted, as being the original and mother country, but it will be found far more difficult to prove than to assert. Upon one subject, however, I am bound to do credit to the town of Dorking, in Surrey, which can boast of being in possession of this breed longer than any other locality in Great Britain, and to have received proof, by the great and continued demand, that she has made the best use of it. I therefore consider Dorking quite entitled to receive the specific credit of rightful nomination, and trust she will ever do justice to the name.

DISPOSITION OF THE "DORKING CLASS."

Their disposition is peaceful, quiet, and inoffensive, seldom given to stray to a distance from their own dominions, or disturb the repose of a neighbouring stock; though quiet and retired in their habits, if the male be annoyed by the presence of an offensive rival, he will rush vigorously forward to defend his mates from molestation or maltreatment; he is likewise very affectionate towards his hens; the chickens

he allows to feed, without showing the resentment that manifests itself so often in other fowls. If cooped or placed in retirement, he is submissive and gentle, but appears dull and quiet, and soon becomes heavy in appearance, and not only so, but heavier still in reality—I mean he soon fattens for the table, and this is you know the grand desideratum. The Dorking is, unquestionably, one of the few that deserves and merits a place in our esteem upon the ground of intrinsic value, and not merely for personal appearance, which is by no means so prepossessing as in many specimens far inferior to him in point of utility. They are, therefore, entitled to be regarded with particular interest; first, upon the ground of their extreme national utility; and secondly, upon their well recognised, long merited, world-known reputation.

CHARACTERISTICS OF EXCELLENCE OF THE "DORKING CLASS."

The head of both cock and hen should be of a medium size, not too large for the body, neither do I approve of a long narrow head; it should be wide, with a well arched forehead.

The face must be of a healthy vermillion red.

Comb serrated, erect, and single or rose shaped; if single, it should be stout at the base, stand well up and straight, regularly toothed, rising above $1\frac{3}{4}$ inch from the base. If rose combed or double, it should be even, that is, as much upon one side of the head as the other; the colour of both single and double should be of a bright crimson. I prefer the single to the double comb, but regard the latter rather the result of domestication than a proof of foul breeding.

Wattles—of the same colour as the comb, rather long, full and pendulous.

Beak—short, thick at base, very strong, slightly curved, and of a black and white colour.

Eye—very full and clear, and the iris a bright orange or red.

Ear-lobe—white and mealy, with a fleshy tinge; no tassel, tuft, or topknot upon the head or throat; its presence indicates an unquestionable cross, an impurity of breed.

Neck—strong, short, thick set towards the base, and amply supplied with hackle feathers, but tapering towards the approach of the head. In this feature is presented a remarkable contrast with the Malay fowl, in which the neck-hackle is but little more abundant at the base than uppermost part.

Neck-hackle—varies in colour with the varieties, but has blackish pencillings, or rather stains running through the centre of the feathers, more or less in all specimens; the feathers are long, and fall over the upper parts of the back, but shorter towards the head; a few slightly cover the upper part of the breast.

Breast—should be wide, full and round, indicative of constitutional strength.

Back and shoulders—broad and muscular.

Thighs—thick, and resemble though but faintly, still resemble the Shanghaes', for being thickly and coarsely feathered, should be likewise short.

Shank—short, thick and white; the legs should be wide apart, stout, and muscular.

Toes.—There should be not only three toes in front and one behind, as in ordinary fowls, but one proceeding from the back toe, and coming between that member and the spur, this is absolutely an essential criterion of breed; occasionally there are two supernumerary hind toes upon each foot,

likewise now and then may be found a specimen possessing two spurs, one above the other. Not very ornamental certainly, to have even one supernumerary member, but it is an important and distinctive feature, and wherever absent, a cross has unquestionably been at work, although perchance at a very remote period. This feature is soon lost, and even in the issue of the first cross it is frequently absent.

Wing—full, and amply supplied with quills, also very muscular.

Tail—well sickled and full, amply feathered, presenting, if well plumed, a very beautiful and requisite appendage.

The general shape of the body is round, plump and capacious.

Carriage—bold and firm, but heavy and dull when cooped.

Gait—bold, but heavy.

The general appearance of the Dorking is far from attractive, either for its shape or plumage, the body being too low upon the legs to exhibit grace or elegance, and the head seldom carried sufficiently erect to render it majestic.

Colour—white or light yellow is generally considered the primitive variety of this class, but from the closest investigation I cannot discover any real proof of such being the fact; and, until fully established, and evidence produced sufficient to warrant not only its plausibility but accuracy, it is not merely useless, but disadvantageous, to place it upon a level with facts already verified.

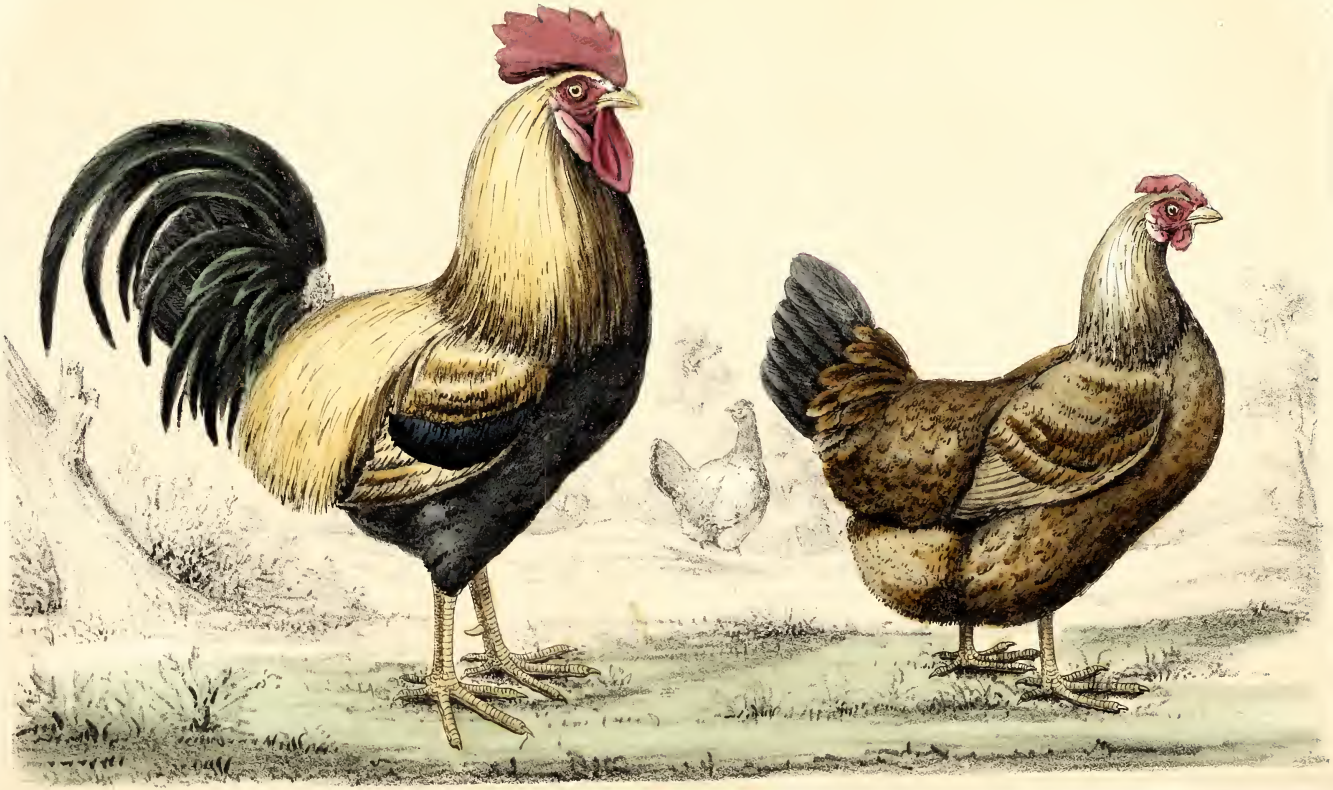
VARIETIES.

The Dorking Class is divided into three varieties—the white, coloured, and old Sussex or Kent fowls: the two former are of the self-same blood, though different in feather; the third is closely allied to the Dorking, and unquestion-

ably the result of an admixture of blood with that fowl, is recognised in various localities by their own peculiar and local distinguishing name.

White.—This bird is considered by many naturalists to possess the sole right of being regarded the progenitor of the entire class of Dorkings; but, as I have already stated, it is a much disputed point, and justly so. They are not nearly so large as the coloured varieties, the average weight of the cocks being from 6 to 7 lbs., height 17 to 19 inches from the ground to the top of comb; the hens weigh from 5 to 6 lbs., height 12 to 14 inches; neither is the flesh generally so good as in the coloured variety, being inclined to a yellowish tinge, as is the case with nearly all white feathered fowls; they possess the supplementary toes and clean white shank, are small in bone, but weakly in constitution; should be entirely free from topknot; comb both double and single, and no criterion of breed.

Coloured variety—comprises grey, mottled grey, spangled, light and dark browns, and many other indistinct and confused colours, which are known in different localities by various names, and unworthy of special attention, being, I am confident, produced from one another; for instance, from browns, come greys, speckles, and almost all colours; from greys, come browns, spangles of mixed and unsettled hues, in the same clutch and hatch. I have also frequently known them moult from brown to speckle—from grey to speckle: they cannot be bred true to colour, and no dependence can be placed in the produce being the same or even similar to the parentage with regard to colour, unless such stock are the offspring of birds possessing their colour from a hereditary source. It would take many years to establish a settled plumage. It may be done by selecting those of the same cast, and breeding together, with the occasional in-



Lithographed by C. J. Culliford,

22, Southampton Street, Strand.

GREY DORKINGS.

portation of fresh blood of the same feather; but then as a matter of course, at times birds would show themselves of the unwished for tint—these must be rejected for breeding purposes; but supposing true feather be obtained, what pretension has the bird to beauty? The beauty of the Dorking lies in another direction: it is apparent in utility, no advantage would, therefore, accrue from such breeding. What we require in the Dorking is size, weight, flesh, with powers of production, good constitution, and capabilities of maturing early—these qualities are blended in our coloured Dorkings. The average weight of a full grown cock is from 8 to 10 lbs., height from the ground to the uppermost part of the comb 19 to 22 inches; hen's weight from 6 to 8 lbs., height 14 to 17 inches; these weights, however, may be exceeded by exceptional cases, and rendered heavier by close cooping and fattening.

Grey Dorking comb—single, but sometimes double, which, together with face and wattles, are of a lively crimson; the former should stand about $1\frac{3}{4}$ inch from the skull to the top, but if double not more than half an inch in elevation. Earlobe, whitish—beak, black and white—eye, full—iris, orange or red—neck-hackle, yellowish white, with pencillings running through the centre of the feathers, saddle-hackle of the same colour, but with few or no stains—wing feathers, light brown and white—wing coverts, deep orange or yellow, and back of a deeper tint, shading off towards the extremities of saddle-hackle feathers, in some a lighter hue prevails; the breast, vent, and tail, in both cases are black, the latter occasionally grizzled; shanks and claws white or flesh colour, of the latter there should be five on each foot.

The hen of this variety more or less assumes the general hue of the male, though always much duller, the general

ground of his feather, runs likewise through her's—face and comb, fleshy red—breast, frequently brown—hackles, both neck and saddle, of a greyish cast—back and wings, more or less grey—tail, black—besides these shades, there are many others, that would take volumes to describe, and which would be as uninteresting to the general reader as utterly useless.—*(See Illustrations.)*

Mottled Grey—is very similiar to the above, but exhibiting in the hackle feathers, both neck and saddle, an inclination to speckle; the appearance of the eye in "*bird's eye maple*" may be observed running throughout, instead of blackish marks or inkstains in the hackle, white is prevalent, and occupies the same position as the black in the previously described bird. They are generally very woolly (commonly called rotten feathered), in other respects similar to the grey Dorking.

Spangled or Speckled.—This sub-variety, or rather differently coloured variety, presents innumerable diversities of feather; in some the ground is of entire brown, both light and dark, relieved by blackish tippings to the feathers, with black tail. In others, the general ground is grey, with the entire feathers tipped with white, the breast being likewise speckled and tipped with a similar colour; tail, black, edged with white—that is, one-half of the outer side of each feather white, the other black, shaded with green; the neck, saddle-hackle, and wing coverts being more or less of a bright brown yellow, tipped with white, the latter interspersed with blue, white and grey; the hens are similarly marked; many of these birds present an imposing and brilliant plumage, if regularly and evenly marked.

Browns—range from light brown to a deep chestnut, comprising many intermediate shades, all of which are more or less splashed with black, white or grey; the neck-hackle

ranges from straw tint to deep brown; if the former, black stains may be observed running throughout the centre of the feathers; the breast of the male is deep brown, tail black; besides these, there are what are termed Rubles, Cuckoo Dorkings, Virgils, Golden and silver spangles, Bride laced, Japans, Norfolk-fords, Grey-fords, Muffs, and some others, all of which are either cross breeds or mere local distinctions.

Old Sussex or Kent fowls—are closely allied to Dorkings, and bear strong affinity to them, in fact in many instances detection is impossible. The original birds, bred in Sussex and Kent, were longer in the body, and, moreover, possessed but four claws, but being, in many instances, blended with the Dorking and crossed, may be seen with four and five, in the very same clutch and hatch. I have observed in the Kent yards many possessing five claws, as in the Dorking, an admixture having occurred, but this in a general way is denied, the owners wishing them to be considered a distinct and primitive, and not a cross breed, although the entire features, actions, disposition, feather, carriage, gait, and many other characteristics are clearly evinced in *fac-simile* conformity with the Dorking; many of these birds may be found, and amongst them some quite equal to the Dorking itself, and from these may be selected birds having but four claws, which as fowls are thereby improved, seeing disease of the feet is not so likely to occur, it being generally produced from the fracture or injuries received to the supernumerary toe whilst fighting, or from some such like accident.

For weight, flesh, and early maturing they are equal to the true Dorking, and may be regarded no less valuable as marketable fowls. They possess their principal characteristics in feather and general appearance, there being all

colours, all shades, and an innumerable diversity; it is useless giving descriptive portraits of each, seeing it is difficult to procure even a dozen of the same feather. They are good sitters and mothers, and possess white and short legs, double and single combs; those less allied to the Dorking more frequently possess a double or cup-comb than a single one, but it is astonishing with what rapidity and readiness of constitution the offspring assume the new blood's visible properties.

PRELIMINARY REMARKS TO NOVICES.

For the benefit of those who, for the first time, have determined upon reserving to themselves a few fine specimens of this really valuable domestic fowl, I will endeavour to lay down a few rules for guidance, which, if acted upon in concert with what has already been advanced respecting the requisite distinguishing characteristics of excellence, will greatly regulate the quality, and be the means of procuring to the purchaser not only the genuine article, and therefore his money's worth, but likewise render him capable of sustaining and retaining the breed in great perfection. Before effecting a purchase, examine the bird, and if the fifth claw, that is the claw growing from the base and just above the ordinary hind toe, be absent, refuse such specimen, whatever the owner may assert in his defence, and select three or four hens and one cock possessing the required number; the latter bird must be of different blood to the hens, that is, he must bear no relationship to them; if, therefore, the dealer's word cannot be taken on this momentous point, it is advisable to purchase the hens at one locality and the male bird at another, and this will ensure that object. If pullets be procured the cock matched with them should be two years old; if two year old hens, then

stags, that is young cocks, are most advantageous for breeding purposes. I recommend the greys as being the most valuable of all Dorkings, and prefer them as near alike in feather as possible. They must possess perfectly white legs and claws, this is indispensable—full and round breasts, not narrow or flat sided—should be wide across the back, and full in the girth; care should be taken to observe whether they are diseased, this may be ascertained by examination, and a slight pressure of the nostrils; from whence, if ought of a liquid matter be discharged that has anything of an unpleasant odour, immediately replace the bird into his pen and have nothing further to do with him, or any that may have been in the same compartment, at any price, for this is the roup, and a most infectious disorder. Likewise examine to see that the birds are otherwise healthy, and possess red healthy-coloured visages and combs, and are active and lively. I prefer a single comb to a double one, but no Dorking possessing a fair share of other excellencies would I dismiss upon that account, considering it, together with the cup-comb, rather the fruit of domestication than a proof of cross breeding.

POULTRY HOUSE AND YARD.

It depends very much upon three things what kind of poultry house should be erected. Firstly, whether the outlay is the great consideration? Secondly, whether there be a numerous flock? Thirdly, what space is to be appropriated for their continual and daily exercise? Whatever be the style, from the corner of a cow shed to a noble ornamental and spacious pheasantry, whatever be the number of fowls kept, or whatever the space allotted them, the following rules are requisite to be observed, and are

equally applicable under whatever circumstances they may be domiciled:—

The house should be erected in one corner of the yard or garden, having if possible a S.W. aspect, but if well sheltered by lofty trees or a rising hill S.E. is preferable, as admitting the morning sun, but upon no account should a northerly aspect be selected. The soil should be dry and well drained, and of a gravelly or chalky nature; if of a stiff heavy or clayey character, the surface water is sure to accumulate to the inevitable destruction of every kind of stock. In the latter case, it is of the utmost import a good fall be obtained to render it dry and capable of rapidly discharging all surface streams. The foundation of the roosting-house should be raised six or seven inches above the level of the surrounding ground. It is important it be lofty—that is, at least six feet high from the interior; the size must entirely depend upon the number kept, whether field or meadow, back garden or nought besides, be their lawful run; if the latter, then it becomes imperative that it should be considerably more spacious.

For a dozen fowls a house should be provided six feet square and as many high: at least twenty feet square as a run should be allowed, opening from their own door, for their continual recreation and exercise, which may be enclosed by fencing; laths or open-work being much better than close boarding, as admitting the air through more freely; the top should be open. Be it remembered, I am no advocate for such strict domestication—far from it: if more room can be given so much the better, but I mention what can be done, by way of encouraging those who have but limited space for poultry. I assert that in the space already alluded to, if cleanliness be enforced, a regular supply of varied food be provided, in connexion with a

few handfuls of fresh herbage from time to time as part compensation for lack of liberty, a limited supply of fowls may be made to thrive well and successfully.

The sides of the roosting-house may be formed of feather-edge boards, but having a window capable of admitting both light and air when required. It is important that the dwelling be light and cheerful: perches should be fixed from two to three feet from the ground, and no higher; although Dorking fowls have full compass of wing, they are heavy birds and awkward; for this reason perches should not be too high, as much injury results from their precipitate descent.

The first perch may be one foot and a half from the ground; the second two feet and a quarter, and one from the first; the third three feet high, and one foot from the second; the last should be at least one foot from the wall; for obvious reasons they should never be placed under one another. Two or three feet above the highest perch should be a vacuum in two sides of the house capable of admitting a fresh and continued supply of air, for the purpose of rapidly carrying off all foul secretions, such proving very obnoxious to poultry. The vacancies thus created, together with every other crevice should be closed during the winter, for at that trying period it is impossible to keep them too warm. The interior should be well protected from the inclemency of the weather, and if tiled, a layer of asphalte should be placed underneath to carry off all droppings of wet that will otherwise find entrance. Cleanliness in this department is very essential, therefore the bottom should not be laid with bricks, which being porous, absorb moisture, but glazed tiles that may easily be cleansed are far better for the purpose. A range of nests for the convenience of the laying hens must be provided as near the bottom

as possible, and a nest egg formed of a piece of wood similarly shaped and coloured is best suited to the purpose; if of chalk, hens will occasionally peck at it, especially if not supplied with a sufficiency of lime and mortar, inducing them thereby to peck their own produce, which, when once broken they consume, and when once tasted a bad habit is acquired. If the nest egg be of marble it is frequently the means of cracking the natural one, for when observed closely, it will be found, before its exclusion, the hen rises in the nest, and it drops; now supposing it to fall against the marble egg, which is frequently the case, the latter substance being solid and heavy, resists the pressure of the egg and remains unmoved, and the shell receives a flaw irreparable; but if the decoy be of wood, when the natural one falls against it, it will rebound at the slightest touch, and no damage will occur. Stale eggs are also bad for the purpose of depositing in the nest, as they are very likely to get broken, the shell becoming extremely brittle, where the action of heat and cold is so transient, for every time an egg is laid, they are rendered hot by the animal heat of the hen's body. Some may say for what purpose is the nest egg provided? will not hens lay therein without such a decoy? This decoy induces a hen to take up her position in the same quarter with it, instead of depositing her produce upon the ground, or any out of the way place; most hens will lay in the nest without any further inducement than that which clean hay or straw affords, but some will not; and supposing one out of twenty refuses, why surely for the sake of avoiding so trifling an amount of trouble as occasioned by the supply, no one would even lose one egg. I have reaped much advantage from their application, and can therefore testify as to their utility. The nest should be of

sufficient size to admit one fowl comfortably, without injuring her tail in turning round, but not too large, otherwise, two instead of one will force an entrance, to the inconvenience of both. The interior of the house, as well as nests, should be thoroughly lime-whited out twice during the summer, for the purpose of destroying vermin which are injurious to all poultry; the application of the brush moreover renders the apartment sweet and wholesome. Near the house a large pan of lime or old mortar should be in constant readiness, also a heap of fine gravel or ashes to roll and cleanse their feathers in, and rid themselves of animalcule, which, if not constantly removed, much annoys them. If not privileged to enjoy a full run in the adjoining yard or garden, a supply of green meat or herbage should be regularly provided.

GENERAL MANAGEMENT.

Before procuring stock, a house should be provided for its reception, as very injurious results proceed consequent upon being hampered up for a day or two until a place be erected; all necessary requisites should likewise be previously procured, such as water pans, a mortar or lime pan, nests with wooden eggs, likewise a portion of food should not be omitted from the list of necessaries. After purchasing stock, and domiciling them, if it be intended they shall enjoy a run, it is advisable to detain and feed them in the roosting apartment for a day or two, during which time they will become acquainted with its interior; but if allowed out the first day of their arrival, they are liable to wander, being strangers. When confined, and dependant for their maintenance upon hand supplies, they require, if it be wished to keep them in good condition or ready for the fattening pens, regularly feeding three times a day, say

seven o'clock in the morning, twelve o'clock, and again at five in the afternoon. During winter, or for laying hens, twice is sufficient, by allowing more at each meal; if at large, where food may be had for work or scratching, provided there be not too much competition, twice feeding is sufficient, at eight o'clock in the morning and three in the afternoon; in either case the supply should be rationed according to numbers, appetites, &c., some breeds, and even strains of the same class, requiring more than others, which can only be ascertained by practical experience. By giving as much as they will consume quickly, and desisting immediately they begin to peck slowly, which is easily perceived, the required quantity is soon arrived at, and if the stock remains about the same, the same quantity upon an average given regularly will not be far out—supposing the precarious supply be about the same. One thing is important, that they be not fed until all have assembled, at any rate not until well called, or some may arrive in time to be too late for the feast, and go short; they should moreover be invariably fed at the same place, so that they may know whence to proceed in answer to the call, when, as the time approaches for their meal, they will be seen flocking thither. Water should be placed at stated places, where both the feeder and the fowl may readily obtain access; the pans should be cleansed out each day, and a constant fresh and clean supply afforded. In warm weather a few sprigs of green rue should occasionally be placed therein; in autumn, as the moulting season advances, two or three blades of saffron will be found very beneficial as being soothing, comforting, and thereby greatly promoting its due performance. If confined or unable to procure those small particles of calcareous matter instinct urges them in quest of, they should be well supplied with gravel,

chalk, or old mortar; green meat, such as grass, cabbage, lettuce, and in fact almost any vegetable in a crude or boiled state will be eagerly devoured. Change of food is very necessary; for instance, supposing their regular diet to consist of corn-market sweepings, or barley, it should be changed once a fortnight for three or four successive days, during which interval they should be fed upon soft food, as oatmeal, barleymeal, and bran, or coarse middlings, stale bread sopped, &c., &c., by the adoption of these means they will continue to relish and enjoy their food, and may be domiciled in perfect health and thriving condition, and disease kept far away. A greater number of fowls suffer from disease induced by ill feeding and confinement in unhealthy roosting-houses than all other causes combined; in fact the coercion of these two requisites is the main importance to be observed in the successful rearing and breeding of profitable poultry.

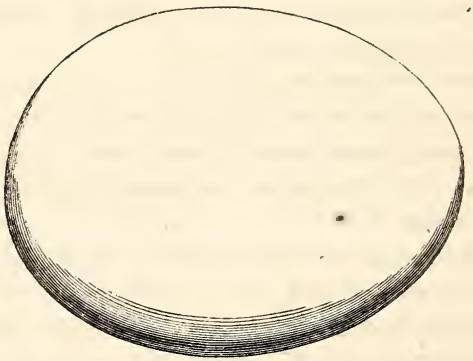
The new laid eggs should be regularly removed each afternoon, but the decoy eggs left to entice the hens to re-enter their own favourite nests early the ensuing morning. The interior of the house should be kept perfectly clean, sweet, and inoffensive. If as many as twelve be kept in one compartment it should be cleaned out twice a week, which may be accomplished in a very few minutes if regularly performed; if less than that number, or during the winter months, once will be found ample if thoroughly done.

DORKINGS AS LAYERS.

The Dorking fowl is not peculiarly noted for being superior as a laying hen; her powers of production are great, but her province, and that in which she particularly excels, is in the production of flesh. Still she is an abun-

dant layer, but on account of the great tendency to incubate, which she manifests two or three and sometimes four times during one season, much time is lost, or rather at such times many eggs not laid.

A full grown hen's egg weighs from two ounces and a quarter to two ounces and three quarters, is of a clear white colour, and somewhat blunt in shape. Their eggs are not by any means large in proportion to the size of the bird; there are however exceptional cases in which Dorking hens have produced eggs weighing three ounces and above, but these are rare, and do not in any way interfere with the average; the mean proportion of any given number will be found seldom exceeding two ounces and a half, but sometimes below it. They are however very fine in flavour.



FAC-SIMILE OF THE "DORKING" EGG.

MANAGEMENT OF BREEDING STOCK.

It is impossible to bestow too much attention in the selection of specimens for breeding purposes, seeing they are destined the progenitors of an entire race, the founders of a strain, and with them mainly rests the future chance

of success; they should, therefore, be the best of the breed, and the most perfect of the brood that can be procured; for this reason, if the object be the production and rearing of showy specimens, the knowledge that they possess the attributes, characteristics, and weight of first-class birds should be obtained before purchasing, and that these excellencies and visible properties be hereditary.

For marketable stock, that breed of birds arriving early at a state of perfection should be the choice, rather than those which continue growing until twelve or thirteen months, and upon whose bones, up to that period, little of the marketable article flesh prevails; and even then, although they may arrive at a very extraordinary weight, prove much the worse for keeping.

It may be difficult to distinguish those birds which mature early from such as prefer longevity, especially while young; inquiry and experience alone furnishing the means. I consider, from cocks weighing eight to nine pounds, and hens between seven and eight, may be selected the best of specimens, and should myself prefer them to heavier birds, unless the latter were also capable of breeding chicks of equally rapid maturing.

An early pullet, say hatched in March or April, matched with a two-year old cock, will produce from her second clutch of eggs the best stock birds she is likely to breed at any after period.

But a two-year old hen matched with a three-year cock, produces chickens capable of arriving at maturity much sooner than those produced from stock of any other age, and thereby are fattened more rapidly; this should be practised generally by our poultry breeders, and to their advantage would the result redound.

It is of the utmost importance that every second year

fresh blood be introduced into the stock, and the readiest method of accomplishing this, is by dismissing the old sire and placing a young one of the best possible breed and character in his stead; the other method is by removing the the hens or pullets and substituting a few of a different strain; the former, however, is the most practical and convenient. If fresh blood be not introduced, degeneracy and rapid loss of size and flesh, and destruction of constitution, will be the inevitable result.

Although I mentioned the breeding together of mature hens of two-years with a three-year cock, and recommended it for the production of chicks of early maturing—still be it borne in mind, for other purposes of farm requirements, this plan is not adopted, but merely for that alluded to. For the hardiest and most productive stock birds, pullets should be matched with two-year old cocks, or stags with two-year old hens: in either case the sexes must be of different blood, and no consanguinity should exist between them; moreover, stags should never be bred with pullets. Five or six hens to one Dorking cock is quite as many as he can advantageously render vitally productive, he not being so actively nor constitutionally disposed, nor are his generative powers in such equal force, as many of our other domestic fowls; for the same reason he should not be retained after his third year, nor the hens after the fourth.

For cross breeding, which in a general way I confute, but where advantageous results are likely to be produced in the face of equal requirements, utility should be our standard. For marketable purposes I recommend a robust two-year old short-shanked Shanghae cock, to be matched with three or four equally short-legged, square, early Dorking pullets; these may be placed in one corner of the farm, and bred by themselves. From the produce of this admix-

ture, select the pullets to match with Dorking two-year old cocks, and the stags with Dorking two-year hens, from such issue again select the pullets and stags, and match with Dorkings as before, and from the produce of this last, select the pullets and place with them a Shanghae cock, and a stout cockerel to breed with three or four real Dorking two-year old hens, similar, though of different blood, to the first mentioned. It will be observed by this means fresh Shanghae blood is brought into the strain once every three years, likewise pure Dorking; by the adoption of this method the quality is rendered regular, and the hardiness distinguishing the Shanghae in part transmitted to the offspring, with equal or rather increased tendency to early maturing, great weight, and superior production as layers. I am satisfied if good Shanghaes be selected, the flesh will not lose in quality and flavour, if the chicks are disposed of when at the same weight as before; that is, if Dorkings are killed at the age of four months, and weigh five pounds, then those produced by a cross of Shanghae blood should be killed when at the same weight, which will be before that age. By allowing them to remain until four months old, when they exceed the Dorking by at least one pound, and still expect them to be as tender and juicy as that bird, is monstrous; the only fair method is, to kill them when they weigh sufficient to satisfy the requirements of the market, and not allow them to grow to the size of turkeys, when, as a matter of course, they cannot be considered "chickens," and not being such, cannot have chickens' flesh.

But if the first Shanghae that comes to hand be the bird placed with the farm stock, regret is almost sure ultimately to escape the lips of the owner that he ever had a "Cochin" in his yard, instead of blaming himself for the neglectful

purchase. Does the farmer act so indiscriminately with his sheep and animals of larger growth? certainly not: neither if he desires even for the smallest amount of success with his poultry stock, must he act in this manner. Some Shanghaes are coarse in flesh, others very fine in flavour, therefore he must be careful in the selection. The best mode is to purchase two young brother cocks, kill, dress, and serve up one, if he be indifferent, similarly dispose of the other and try again; if, however, he be fine and well flavoured (and many there be, as I have often proved), his brother will not be amiss for breeding purposes; this method, of course, applies more particularly to such persons who rear great quantities, and who cannot bestow too much pains in the selection of stock birds, seeing they are the producers, and with them entirely rests the quality of all that are remitted to the market.

DORKINGS AS SITTERS AND MOTHERS.

They are, unquestionably, next to the *Game fowl* as incubators and mothers; but if, when too weighty, they be allowed to engage in this process they press heavily upon the eggs, for this reason Bantams' or Pheasants' eggs should not be placed under them when in such condition. I am aware the sitting hen gradually reduces in weight, still not sufficiently to render the eggs of a much smaller class in any way proportionate to her large frame, or capable of supporting her clumsy motions; moreover, the damage usually occurs the first or second day, and, therefore, before diminution to any extent has been effected; she is much more suited to hatch and bring up her own young, which she generally accomplishes very successfully; being naturally willing, will, in many instances, undertake the office of foster mother without evincing any disinclination;

which, by-the-by, if she exhibits, it is much better no longer to coerce her, or adopt any compulsory measures to attain that object, or disastrous consequences will befall the little youngsters. I have known instances where broods of Bantams have been given them for protection, but however quickly they may have taken to them, a dead one from time to time has been found, appearing as though killed by trampling, but this is freqently caused by body pressure, especially during the night. They are, moreover, very awkward with their pedal limbs and trample their progeny fearfully, especially if cooped; even when at liberty, will scratch and kick them sprawling in all directions unwittingly.

Still the Dorking hen, from her comfortable maternal size, deep broad chest, short legs, full wing, and great ardour, is admirably adapted to fill all the offices attached to incubator, nurse, and parent: she may in some instances be capable of covering sixteen or seventeen eggs, and successfully hatching them, but still I consider that number to exceed the boundaries of prudence. If more be supplied than she is able readily and comfortably to cover, she becomes uneasy and fidgetty, and that extra claw she possesses may accidentally displace a shell or two in the continued attempt to sit comfortably, and thereby reduce the number to the proper average, with the loss of the superfluous ones. This is but the most trivial disaster consequent upon overrating her incubating powers; it far more usually occurs the two or three superfluous eggs are the means of ruining the success of the whole hatch, seeing all that are supplied above the number she is capable of covering must remain cold or nearly so, and as their position in the nest is daily changed, that is the outside eggs approach nearer the centre each day, and those in the centre more near the exterior; it results in each receiving a chill

for one or more days during the twenty-one, and thereby rendering unproductive the whole. But even supposing she hatch them, that number is too many for her care and protection. I am aware she may bring them up, though far more likely to trample a few first: even should she be so far successful as to avoid such an unfortunate occurrence, those tiny morsels—those small insects she disturbs from their resting places, and which prove so very beneficial to the chickens as food, when divided between so many amount to a very small quantum per head. As they advance, although their feathers grow with them, they still require her protecting and maternal wings: but if there are less seats than members, less room than occupants, some must be excluded. If a hen be given, or rather returned, eleven to thirteen eggs, and she hatch and bring up eight or nine chicks, it is quite a sufficient number, and may be considered a good brood, but she cannot officiate with a more numerous progeny with any convenience to herself, or advantage to them, excepting where situated in extremely favourable circumstances.

The first twelve or thirteen eggs of a pullet should not be selected for the process of incubation as they are small, and not likely to result in strong sturdy chicks; but her second clutch may with prudence be carefully put away, taking equal precaution to avoid shaking or otherwise injuring or exposing them to the damp. They should be embedded in sweet bran or oats, and gently turned each day, so that they do not remain in the same position; care should likewise be taken that those only rendered productive by impregnation be selected, otherwise much disappointment will ensue; therefore, where a healthy and vigorous bird has full intercourse with his hens, the eggs may be depended upon; but in the run of some yards that have

come before my observation, where from forty to fifty hens accompanied two male birds, thereby rendering the latter truly polygamous, their produce proved equally good for marketable purposes, but valueless for incubation, being either unprolific, or productive of miserable and weakly offspring. Not only should the eggs be rendered prolific by the impregnation of a healthy and vigorous bird, but the fresh ones only should be selected; I have frequently proved by experiment that as the egg is more or less fresh, so is the chick produced more or less robust. This is particularly visible at the first stages of its existence, after which period other causes and circumstances connected with the mode of feeding render it difficult to say to what extent it may ultimately affect it; but the supposition appears rational, seeing it so much reduces their size and appearance when first excluded from the shell; it is probable likewise, that if disease or irregularity in feeding take place, such an one as may be produced from a stale egg will be the first to suffer from its effects. A series of experiments upon this point would prove very interesting, and if conducted with care and attention, novel facts would doubtless be elicited.

The gender of the egg cannot be ascertained by any visible or external appearance; length or breadth have little to do with determining the fact, the cause is hidden and obscure; the sex is determined upon long before the shell has enclosed it, and it is in one of the latter processes it receives its formation. This subject requires a considerable further amount of elucidation before it will become generally received, especially as many cling closely to old theories, and closer still to proverbial theories, for this reason I will dwell upon it more fully in an after part in connexion with an appropriate subject.

HATCHING AND REARING CHICKS.

No pullet of any class of fowls should be trusted as incubator, no dependence can be placed upon her, she may or not act with perfect propriety; it is, therefore, best to engage the services of a steady hen, when eleven to thirteen eggs may with prudence be placed under her, according to her dimensions. She should be set apart from the rest of the stock, for the intrusion of strangers in and out the nest much annoys and interrupts her progress, or may cause her to leave the eggs, thereby rendering them valueless.

The nest should be placed as near the ground as possible, and sheltered from the inclemency of the weather. Food and water should always be kept in readiness at a particular corner, so that when she vacates her seat for the purposes of supplying nature's requirements, she may find supplies. During the twenty-one days, the time taken for the purpose of perfecting the process of incubation, she should remain undisturbed; but, upon the twenty-first morning, a little soft food, composed of hard boiled eggs cut fine with sopped bread well strained, but not by any means reduced to paste, should be placed in one corner of the room or shed, so that the hen may find something suitable for her progeny. There is nothing striking about their appearance when first hatched, the only peculiar feature being the extra claw, which is visible the first day of exclusion from the shell. Warmth and shelter is all they require for the first twenty-four hours, and this the mother hen amply provides them. From the first time they are recipients of artificial supplies, regularity must be observed; a small shallow saucer of water should be placed within reach of both hen and chickens, and frequently replenished. Their supplies of sustenance must be administered in small quantities,

but given with frequency and regularity throughout the day. When first excluded from the shell they form no exception to the general rule of infantine impotency, and through extreme weakness and inability are incapable of sustaining their heads in any direct attitude, are moreover covered with a moisture that causes their "down" to resemble hair, and adheres closely to the skin; their appearance is, however, somewhat strikingly different after having snuggled under the parent bird, and snoozed away a few hours of repose beneath her protecting wings.

Care should be taken to avoid needlessly handling them, seeing equally injurious consequences are likely to result from misapplied attention to imagined requisites as are occasioned by actual neglect. The removal of that small horny substance from the extremity of the beak, by many practised to the present day, is perfectly useless, and in many cases injurious; useless, on the ground of the same falling without applied means, from natural causes; and injurious, from a frequency of severe pressure occurring whilst engaged in the act. Likewise the ancient custom, but modernised by practise (I allude to the act of peppercorn or beer-sop forcing), is very absurd; no chick requires such ill usage, and excepting in very solitary cases, no nestling needs such stimulants so soon after its exclusion from captivity. Warmth certainly forms a natural and wholesome feast for the first twenty hours, but not that warmth arising from "*force balls*," but the animal heat from the body pressure of the hen. Supposing a brood of chicks to be irregular in their exclusion, arising either from the eggs having been placed under the hen, for the purposes of incubation, at irregular periods, or to the fact of some being considerably staler than others, it is requisite for the safety of the entire brood to remove them as soon as

hatched, otherwise, when for the purposes of supplying nature's requirements, the hen moves off to feed, a little youngster may follow her, and should even the nest be elevated, will still venture after the parent bird and make his descent; but to return he cannot, he is necessarily either left to die, or the entire brood to perish. Removal, therefore, in such a case is requisite, but should be done with great care; a small basket is very handy for this purpose, and after having been wrapt in flannel and placed therein, a position before the fire until the remainder of his brethren are in a sufficiently advanced state to receive him, is all that is necessary or desirable (at the same time no opportunity must be afforded for allowing his enemy, the cat, to obtain possession of his person).

In most cases I much disapprove of meddling with chicks, considering it far wiser, and much more in conformity with the regulations of nature, to allow the hen the lawful privilege of bringing off her brood as she considers best, nevertheless a prudent glance from time to time, to see all is right, is not amiss; the nest should be as near the ground as possible, to allow them to take flight without descent.

Another practice of common occurrence, which proves both irritating and annoying to the hens, is the frequent changing and removal of their chicks for others not their own, whose appearances do not always engage their fancies. The hen is usually sufficiently acquainted with the characteristics of her progeny to judge and recognise her own from those of others, especially as their visible properties become developed, and she observes their size and progress; where there are, however, many others of the same age and colour as one or two of her offspring, she is generally deceived. Were a hen privileged to lay and bring up her

own, there is very little doubt she would become still more acute, and if matched with a bird of the same class and feather, her chicks would be more of one colour, and no other would she allow in her broods to pass unnoticed, or without an effort at destruction. A few years back a friend possessed a black game hen (Irish black) whose incubating powers were unequalled in the annals of his poultry journal; her instinct too was keen and too acute to allow a chick of any other tint to escape her notice, and her sentence of destruction was invariably carried into execution upon every unfortunate specimen excluded even in her own nest, whose appearance did not resemble hers in cast and color. Upon one occasion a few blood-wing pile eggs (game) of choice quality and strain, were incautiously deposited in her nest to make up the number of thirteen; she at once officiated as incubator with her accustomed good humour, and remained a close and constant sitter at her post until the twenty-first day elapsed, when she again allowed her cruelty to exceed her moderation, and of the eight chickens which by the appearance of the shells were known to have existed, not one remained alive; and, stranger still to say, two in her anger were devoured (with the exception of the head and legs.) It needs scarcely be mentioned this vixen hen was not again permitted to indulge her passions in the slaughter of her species, but was placed at the disposal of the cook without delay.

If a full and goodly brood be desired at any one time, the best method of successfully accomplishing this is to engage the services of two mature hens the same day; if one proves unfortunate, or some portion of the eggs unproductive, the produce of the two may be united, and the hen, thus robbed of her youngsters, again allowed a

second charge of eggs (which, by-the-bye, should be rather less in number than her previous sitting.) The success resulting from this method is most assuredly greater, and the means employed more practical, than endeavouring to make up the deficiency of a brood by forcing upon a hen chicks whose size denotes a week or two of older growth, whose appearance likewise arouses the hen's attention, and their wild cries betray her presence, is far from desirable; whereas the removal of the newly-hatched chicks to the desired spot, if effected after dark, leaves neither traces of annoyance to the privileged hen, which cannot have too many chicks to please her, nor to the robbed one, as a sitting of eggs, if given on exchange, tranquillizes her mind and satisfies her fully. If but a day or two have elapsed since their departure from the nest, and during this time they have been confined to their mother's tender care, her color, size, and general appearance, her tone of voice and actions, are so well known, that although from the multiplicity of others of the same age and color she be unable to distinguish hers, they are kept distinct by the instinctive knowledge the little youngsters themselves possess. Sometimes the solicitous mother, in her anxiety to defend her offspring from molestation, or the maltreatment of an enemy, or even from one of her own species, will rush vigorously forward, little heeding the mischief resulting from her own deeds in the trampling and scattering of those so dear to her.

Upon one occasion I had the misfortune to become the loser of the largest portion of a much prized brood, under rather peculiar, but interesting circumstances—peculiar, because irregular—interesting, because novel and pregnant with incident. A game hen is the heroine of the disaster, having full charge of a brood of nine chicks, of con-

siderable value, in my own estimation; four of the nine were white Malays, and the remainder Shanghaes. It occurred upon a fine summer's morning, at half-past 6, and the sun having considerable power, they were allowed to indulge in a scratch and a stroll at liberty in the back garden of a house not far from London, where they were left to follow the dictates of their own instinctive desires for half-an hour; around the entire garden was a lofty wall; security from trespassing was therefore obtained. Upon my return I was somewhat disagreeably surprised to discover they were not only out of sight and hearing, but the wall had not been sufficient to restrain their wanderings. At any rate, after an hour's search under every bush and shrub, no vestige was to be seen; at length, upon entering the greenhouse, I espied one poor little shivering creature standing behind and guarded by a row of geranium plants, his appearance indicating, in connection with the involuntary trembling playing upon the entire frame, that he was still the subject of fear, and had been near the clutches of some malicious foe, for upon my approach he ran towards me, his countenance too plainly indicating to admit of doubt that he sought his feeder's protecting hand. He was placed in security, and the garden round and round again explored, but without avail, until at length I listened, and methought I heard the distant clucking of the bereaved, but in that sound was blended a counter echo, bespeaking pride, with nought of dread, but boasted triumph. I soon reached the summit of the wall, trespass or no trespass; not many seconds had elapsed before I found myself upon the ground; a second and a third division o'er I leaped, and there too plainly saw the sad spectacle. The hen, 'tis true, was there with one Shanghae, the smallest of the brood—this little

marvel had been the means and innocent cause of the mishap. The circumstance is plain and clear—at early morn, when cats are all abroad, the brood was permitted, under protection of the hen, to stroll around; that treacherous creature (the enemy of the poultry keeper) no sooner spied the chance, than pounced upon the Shanghae chick most distant from the mother, and bore it off in triumph; but quick as lightning the bold determined parent pursued; her eye, the chicken's safeguard, perceived the danger of the scene, one wall was passed, a second, and a third, when wings caught legs, and the blood that urges forward the spirit of her lord in the battle strife, drove her to desperation, and a bloody scuffle was commenced; the cat was not inclined to give up all her gains without a struggle, but game blood flew, and spurred, and struck with force and energy, and then at length the savage coward dropped the prize, and flew far quicker than she at first approached. But where was the Shanghae chick during the encounter; torn to pieces in the affray? No; strange though it appears, he had escaped, but not without a scar; but bones and skull and neck were all entire, and these form staple fixtures and requirements in the tribe of fowl. But the remainder of the brood, where were they? Why, all this time unprotected, disabled and alone, save with the cats (those vile wretches had plotted the scheme for the annihilation of the entire family). The mother hen having vanquished the enemy, was so much reduced as to be unable to return to her crying ones, and even had she regained her strength in time, the little rescued one would have detained her. None but the little one which found refuge in the green-house remained behind to tell the sad but moral tale. The same cat I trapped next morning, when I discovered unmis-

takeable indications of my hen's most noble conduct, and upon the latter were sufficient evidences to satisfy me the former had played her part; and considering it my duty to spare miss puss any further annoyance or disgrace, I placed her in such security as to justify me in warranting the assertion as correct, that she was never after injured or maltreated by a hen.

Fearing lest I am guilty of a somewhat lengthened digression, I must immediately return to the "chicks," without apology, as such would but cause an extra delay, especially if arguing the point on the propriety of explanation were adopted. The first twenty hours after exclusion the chicks require no nourishment; that is, supposing they be hatched on the twenty-first morning of incubation, nature having supplied them with a sufficiency by means of the absorbing of certain portions and proportions of the material egg; but when the chick, from that inability arising from the extreme substantial texture of his prison walls, emerges one day later, be it remembered he may have been in being and received animal existence at as early a period as any of the first hatched, and has moreover evacuated and emptied his internal parts before exclusion, as may be observed by reference to the shell, which the former may have effected after their escape; in such a case he requires nourishment three or four hours after emerging from captivity.

As a rule, chicks do not require any attention until the twenty-second morning from the first day of depositing the eggs beneath the hen, and this, if followed, will result in great success, say ten times out of eleven. For the first few days the best of all food is hard boiled eggs, cut up fine, mixed with stale bread crumbs, this forms the nearest resemblance to that but a short time since received into the

internal parts for the development of the body. I never knew it once to disagree, but have invariably adopted this method, and the results have ever proved mutually advantageous. Allow one egg to each chick in the brood, beside bread crumbs, to last four days—that is one-quarter of an egg per head per day, both yolk and white; the latter, although almost tasteless, is eagerly devoured by them, and frequently preferred; upon the fifth morning allow a handful of split groats, which are very excellent as food, a little stiff bread and milk, the latter must be perfectly sweet, this equally applies to all articles of food, eatable or drinkable; continue the split groats for seven or eight days, according to their strength and progress in picking up; after this period, whole groats form a most desirable food, also broken or small wheat, screenings from the corn mill, bruised oats, and barley meal mixed up in either milk or water to such consistence as to be almost unbinding, that is, it should not be sloppy, or resemble paste, or be at all adhesive, a little bran may be placed with it to advantage, and by them will be preferred—one handful of bran to two of barley meal are suitable proportions; until two or three weeks old they require feeding four or five times a day, seeing their little crops are incapable of holding any substance very much larger than from a full-sized pea to a boy's marble, at the same time digestion is very rapid; first meal, 6 o'clock, a.m., or as soon as light; next, at 9, a.m.; in the afternoon at 1; and the last between 5 and 6 in the evening, allowing a supply for intermediate pickings; whatever hours be selected they should be closely observed, and not allowed to pass without the required meal being supplied; also, for the purposes of amusement (by-the-bye, the secret, if any there be, in the successful rearing of Poultry, is carefully supplying means of affording amusement, this is

of great importance) a truss of hay or straw placed in one corner of the apartment, in which a handful of groats from time to time has been deposited, will prove of great attraction to the youngsters, and afford them much healthy recreation; a supply of lettuce, cabbage, or green meat, should not be wanting in the bill of fare, but placed at their disposal; likewise from time to time a little sweet grass cut up fine is desirable, and their eagerness to appropriate the same to their special use proves too plainly their own opinion respecting its merits.

If prevented by confinement from procuring those small insects, worms, and other particles of matter so very beneficial, and alike nourishing to the parent and the chicks, a pallid visage, a droop of the feathers, and other indications of a departure of energy is soon displayed, for of all food, nothing can be found productive of the same amount of lively effect as the combination of substances of their own choice when abroad; but still, when such is the case, a little raw beef cut up very fine, may with advantage be given; the hurried and energetic manner in which they explore every corner for a few minutes, even after the feast has been consumed, establishes evidence sufficient to prove it is satisfactorily received. Be it remembered, however, it should not be administered as food, but given medicinally, care must be taken to avoid extremes; being administered for a special purpose and not as a common requisite, its discontinuance, when not required, is equally important; for instance, when the weather is sufficiently suitable to enable them to explore in freedom a garden or a yard, without danger of molestation, or being otherwise injuriously affected by cold winds, the opportunity should not be lost, and having found supplies, the animal food previously allowed is no longer requisite, a craving or longing for it is

productive of much evil, causing a fowl to become restless and irritable, and no longer satisfied with grain or vegetable diet, the new laid eggs are pecked for trial, and as but few fowls disapprove the flavor, they are then destroyed, and a bad habit is acquired, (for the cure of which, in an after number, preventive means will be prescribed,) arising from a desire for animal food once supplied, and from which, whilst young and from past usage a relish has been engendered.

As the chicks progress, less frequent feeds will suffice, and by degrees, as strength and feather are developed, they may receive their supplies at the same hours as the old stock birds; change of food is at all times requisite, scalded barley, wheat, market sweepings, with what has been already named, given alternately, with an occasional supply of soft food at regular periods, will suffice as articles of food to keep them in a healthy condition. Whole grain should not be given to young chicks unless previously scalded, and when at an advanced period, only in moderation; any kitchen refuse will be devoured, and prove equally beneficial, if sweet and fresh.

When hatched whilst the weather is severe—which, by-the-bye, should be as much as possible avoided, especially with the Dorkings, unless a seat in the family circle is not objected to—a little bruised hemp seed with stale sopped bread will prove very stimulating and wholesome, but being heating in its effects, moderation in this case must likewise be observed, or the skin will be materially affected, and become dry and hard, and the feathers drop off in patches.

Although over-feeding is frequently the cause of disease and ill success, still it is equally important that in guarding against it the opposite extreme is avoided, and that the

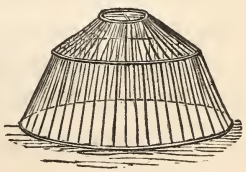
birds are not illiberally fed. If allowed to suffer want whilst young, they will never pick up, or reach that perfection otherwise attainable, however abundant may be the supply afterwards afforded them.

In the fattening pen the signs of neglect or attention to early requirements are visibly displayed by their comparative readiness to fatten, and the quality of the flesh, and prove to the owner the bad policy of keeping young birds upon a scanty supply.

COOPS FOR HEN AND CHICKENS, &c.

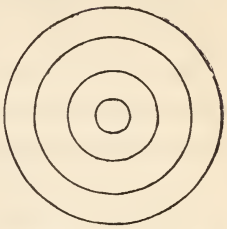
If the weather be fine, after the second day of exclusion from the shell, the hen and progeny may be placed under a wicker coop, upon a dry spot, where the warmth of the sun's influence may be enjoyed for an hour or two, the benefits resulting from so delightful an opportunity of indulging their instinctive desires are incalculable; a greater amount of advantage arises from one hour's sport in the open air, under the sun's influence, than is produced by a whole week's wrapping up and cuddling before the kitchen fire, seeing the display of muscular exercise necessarily resulting in the former case is sufficient to circulate the blood freely throughout the remainder of the day, or when removed into the shade, its influence is still enjoyed; whereas in the latter case, the warmth being produced by artificial aid alone, without a corresponding amount of voluntary exercise, no after benefits result, and upon its removal, as free circulation no longer exists, no warmth is experienced.

This coop may readily be obtained in town or country, and being very light in weight, is thereby suitable and convenient as a shifting enclosure.

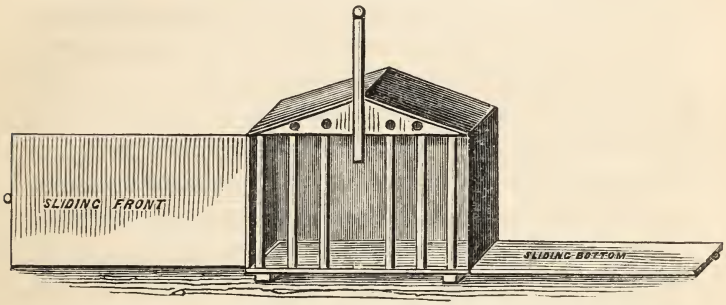


The first time the chicks are privileged to bask in the sun, care should be taken to avoid detaining them beyond the boundary of prudence; two or three hours, at the very most, should only be allowed; but supposing the sun's influence be felt no longer than the first hour, their removal is then desirable. Damp ground or grass should never be occupied by the tenants of the coop. Being open, and exposed to wind and weather, the evening should find it stationed in the corner of a dry, warm, well-sheltered, and equally ventilated apartment, where, in bad weather, it must also remain throughout the day. Several coops may be placed in one room or out-house, taking care to ensure peace and repose by being a few feet apart, and retained in such position by means of some weighty substances, otherwise, whilst the chicks are sporting at one part of the apartment, maternal affection, so intense, so ardent, cannot refrain from indulging the desire of associating with them, and to carry out her intentions, the mother hen places her head and strength between the wicker bars, and with very little effort the task is completed. Equal desires actuate her companion mothers, and the same object is effected. Coops are at length side by side, and strife and bloodshed exist between the parent birds, and death to the little youngsters, by trampling, ensues to those unable to escape the battle field in sufficient time. The chicks are alarmed, and frequently under such circumstances may be seen stationed in one corner, and crying with one accord, and in unanimous voice, that the parents may desist. All trouble and annoyance of this character may be effectually guarded against, by the coops being placed against the wall, and kept in that position by the presence of a brick in front and one on both sides.

Damp is very injurious to the Dorking chick, and must be as much as possible avoided. The waterpan should be shallow, and may be obtained at almost any china shop. The same result may be effected by obtaining three or four flat bottom saucers of different sizes, and placing them one in the other.



There is another coop, which on account of the character of



its construction and utility is denominated the weather coop, and rightly so, proving very effective in guarding against its inclemency. During the summer it is sufficient guard against wind and showers, but in winter should be located in a similar retreat to the former open structure ; the roofing must be waterproof, this is essential ; the back and two sides of close boarding (draught, so very prejudicial to fowls, especially to chicks of tender age, is therefore avoided), the front alone is open, with wooden bars placed at regular intervals, sufficiently apart to allow the continual egress and ingress of the feathered youngsters, without the presence of the parent bird, until some six or seven weeks old ; the middle bar, if on the sliding principle, and capable of being removed at will, dispenses with the necessity of a door, through which, if need be, the hen is allowed to follow

the strollings of her brood. A sliding bottom, easy of removal for cleansing purposes, is equally or more desirable still, and operates in a two-fold beneficial manner; when removed, the mother finds herself upon the actual ground, and as soon takes advantage of the favourable circumstances presented by scratching and indulging in a roll, for which no opportunity exists whilst the bottom is of board. By shifting each morning, a few minutes' work with a scrubbing brush will remove all impurities, and after remaining the rest of the day in the sun, may be again brought into requisition. To carry this out, two sliding bottoms are required.

The coop should be raised three-quarters of an inch above the level of the ground, for the purpose of guarding against damp, this may be readily accomplished by means of a support placed at each corner, of the required thickness. It should not, however, be raised too much, or the rapid progress of the chicks will be retarded in their attempts to return to their parent. Many of these particulars will, doubtless, readily suggest themselves to our readers, especially to such as have taken an interest in this field of amusement, still it becomes requisite from time to time to be reminded by friendly hints even of subjects with which we are well acquainted; moreover, whilst perusing a voluminous treatise upon the natural objects presented daily to the view of an observer and lover of the beauties of creation, how much additional interest results to the reader from the discovery that portraits of his own often felt, though unexpressed, ideas are accurately drawn, described and placed before him; likewise with what readiness of conception are other portions of the same work grasped, and the interest produced increased; for these and other reasons a certain amount of minutiæ is requisite in establishing the intrinsic value of a production.

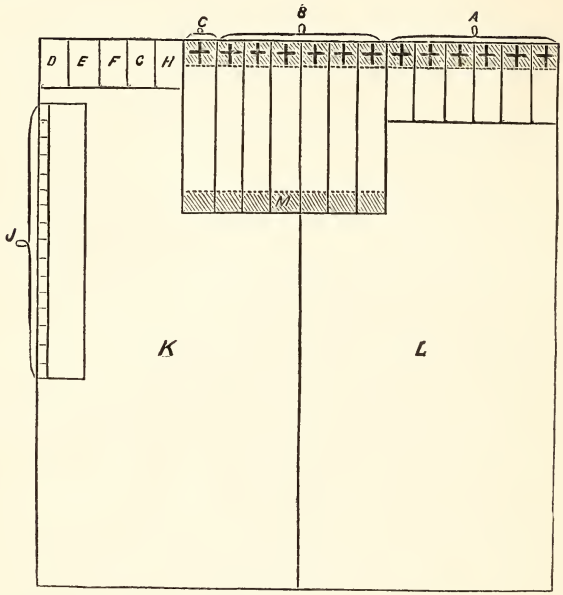
The already mentioned sliding cover should in the evening of the day be drawn over the bars or front portion of the coop, to prevent the chicks from wandering, when damp and dew covers the surface of the ground, and saturates the turf and herbage; likewise to avoid the misfortune of becoming the prey of their foes, so numerously abroad at early morn.

Ventilation, at all times so needful, is no less so in this instance; a few round holes therefore must be cut in front, towards the top, to ensure this object. In bad weather these coops should be removed into an out-house, barn or stable, for the purpose of providing a comfortable dry run for the chicks, so very essential to their well doing, but not by any means every time a shower falls, as their waterproof covering is sufficient to ensure temporary resistance, but in the event of long and continued wet, when the weather is so inclement as to entirely confine them to the interior of their not by any means spacious dormitory, the advantages of removal present themselves; but whenever an opportunity exists for allowing out-door exercise, it should not be neglected, as nothing is so beneficial as the muscular exercise and voluntary activity so frequently displayed when enjoying the full effect of the sun's influence.

COMPARTMENTS FOR HEN AND CHICKS.

Where many are reared, and prime breeding a consideration, it is requisite to have a range of pens constructed, and partitioned walks for chicks of different growth, where, according to size, they may receive allowances; for in the case of a host of chicks of different ages being fed in one body, no peculiar or select feeding can be adopted, and all are either served alike, to the injury of the weakest, or a useless expenditure occasioned by a large consumption

of that comparatively expensive food young chicks alone require.



A. Represents six compartments for sitting hens, where the chicks may remain until the third week has expired from the first day of their exclusion from the shell, apart from the annoyance of strangers or maltreatment of the more powerful of their own species, Five square feet should be entirely enclosed, leaving room for the egress and ingress of the hen and chicks; the roofing, however, extends five feet beyond, forming an open shed to the enclosed apartment, and being ten feet under cover. If stormy winds arise, or showers descend, a comfortable and sheltered spot is found, without being confined in their evening dormitory, which, however, in case of cold weather terminating the day, affords a retreat. The partitions constituting the divisions of the compartments consist of wire, laths or trellis work, but so much depends upon taste, inclination, and the length of purse, that it is at once useless detailing any precise or definite method of displaying style, the present object of this undertaking being only to expound the rudiments and

actual requirements, perils to be avoided, and advantages resulting from proper, rational, and natural management. If the partitions be open work, a foot or two of close boarding towards the bottom is necessary, both to prevent the chicks from trespasing, and becoming the victims of an enraged and strange mother, tender towards her own, but confining her affections to them, and maltreating the offspring of others, and for the purpose of preventing the two hens from engaging in a pugilistic encounter they are so very liable to whilst thus engaged in rearing and fondly protecting their own; seeing at this season of year, from the above cause, their dispositions are materially affected, and that irritable, though noble spirit, is predominant.

B. Represents six larger divisions, each capable of accommodating two full broods, the difference between these and the former consists in the night apartment being divided into two separate compartments, but both opening and having an entrance to the same plot of ground; at the extremity of the walks a range of open sheds is constructed, ten feet wide.

C. The infirmary for invalids, or any troubled with a malady requiring particular attention (if the fowls and chicks be properly managed the inmates will be but few).

The enclosed apartments of A. B. and C. must be well ventilated, and the floors raised a few inches above the level of the surrounding ground, over which there should be light moveable wooden floors, capable of being shifted at a moment's notice for the purposes of cleanliness.

The five feet open shed adjoining should be laid with unbinding gravel, and the walk before it of well-drained turf—sweet grass possessing untold virtues.

D. Refuse depôt, placed as near the exterior as possible, for the convenience of removing rubbish or manure as collected.

E. Represents the tool and utensil department.

F. Food preparing department.

G. Food and grain depôt.

H. Egg house—this compartment may be fitted up according to the fancy and other requirements of the manager, as counting house, &c.

I. A long shed containing fattening pens.

K. and L. Represent a field, divided with the intention of allowing the inmates of the compartments represented by B., the opportunity of enjoying a full run every third day.

These arrangements may appear very extensive and extravagant to some, but it must be borne in mind equally extensive are the products and advantages derived. Where but a few broods are reared, almost any outhouse or waterproof and well ventilated shed will suffice to answer the purposes of shelter and protection from the inclemency of the weather, but where several dozen head of poultry are continually being transmitted to the market, larger requirements necessarily arise. Many broods should not be confined in one compartment, or some will receive much injury from the violence of others, and even occasionally by the mother hen herself, as in her hurried and precipitate attempts to protect her young, she tramples them under her feet when running towards the object of her revenge, or to the disliked and unwelcome visitor. Likewise the oldest and strongest chicks much ill-treat their younger brethren; dividing, according to circumstances, is therefore requisite. Divisions are alike advantageous, for when the mother hen forsakes her progeny, five or six broods may be placed together in the same space as was previously occupied by two; the separation of cockerels from pullerets is necessary for the production of first-class specimens, but the time is regulated by circumstances, and by the particular class kept; some fowls arrive at maturity much quicker than others, and therefore require being separated at an earlier period, the time may be observed by the frequent advances of the male towards the female. Also, where pullerets are intended to be reserved for select breeding purposes, they require to remain apart from the males.

Those of our distinguished breeders, who by their superior judgment have attained to any standing as fanciers of the day, are well aware of the advantages resulting from this method. Cockerels should not have the stimulating

appearances resulting from the continued presence of a multiplicity of pullerets, or the unlimited opportunities of indulging their powers of production, seeing they receive by domestication alone so great an amount of stimulus.

If many birds are reared in these divisions, it is very advantageous, every third year, to carefully take up the enclosed turf and remove a few inches of the surface soil for fresh, when it may be laid as before. This is not absolutely necessary to their existence, but I can testify as to its beneficial and wonderful effects, and to the comfort and vigour it imparts to the inmates. Doubtless some will say—"dear me, what inextricable difficulties, what needless but everlasting directions about keeping fowls; why, we were accustomed in our country town to throw down the corn and place water before them, allowing them to eat the former and drink the latter as best suited them, and with regard to cooping the chicks, dividing or separating them, or taking up turf, we never troubled our heads about it, but allowed them to run about when and where they chose, and upon the same ground for twenty years." And may I ask what was the result of this scientific mode of procedure? How many the produce upon a given space? What the quality of flesh? And lastly, at what price per head were they disposed of to the public? As a matter of course the required answers are not forthcoming, arising, perhaps, from the modesty of the illustrious breeder already adverted to; it is, however, not less requisite they be responded to.

We will therefore impose upon ourselves the task, and endeavour with impartiality to accomplish it. It is well known, by the accounts furnished us, together with the individual amounts forwarded to market, that under the old system alluded to, not more than one-third could have been

reared and bred upon the same given quantity of land. Not to speak of the advantages resulting from the present mode, inasmuch as there being more fowls reared, more are kept, and therefore eggs are far more plentiful, and a wholesome and nutritious food thus readily obtained, at a lower rate, as may be known from the fact, that—

"'The Poultry Mania' in this country has caused a decrease in the importation of foreign eggs to the extent of more than two millions and an half in one month, by increasing the quantity and improving the quality of the fowls reared at home."—*North British Daily Mail.*

Now for the quality, as existed under the old system; it was certainly so far good, seeing in many instances the breed forming the subject of these pages (the Dorking) now so highly esteemed for the extreme delicacy of its flesh, was then in vogue, though not by any means in such perfection; the average size, taking one hundred, and dividing the aggregate weight by that number, will bring each single specimen reared at the present day some three or four ounces ahead of those produced some years back. With respect to the price; that the influence of the old system upon our present prices is not yet extinct, is certain, seeing in many instances improved ideas are still neglected; but though the influence is manifest, so visibly distinct are the advantages arising from modern improvements, though in their infancy—so great and successful the result—that the prices, although high to what they will eventually prove, are still low as compared with the former; and such would doubtless have been more obvious still, had not further additions to stock been necessary to compensate for past neglect. So taking a cursory glance, the present appearance of affairs is encouraging, as must be the case, to all lovers of progressive improvement, to ascertain a result so favour-

able; perfection, however, must be our standard, and though unattainable, success will still await us.

AILMENTS, WITH RESTORATIVES.

The Dorking chicks, when hatched early in the season, require great care, warmth, and protection, especially from the age of three weeks, until their down and fluff give place to feather. At this period they not only require that amount of care usually bestowed upon other chicks, but particular attention is needed for the prevention of the most apparently trivial circumstance proving detrimental. Damp, above all things, must be sedulously avoided; every sunbeam taken advantage of for the purpose of indulging their inclinations with this most delightful opportunity of exercising their limbs unrestrained. One hour's recreation under the influence of the sun is far more beneficial than any amount of artificial heat; but care should be taken they be not overdone, or allowed to remain longer abroad, at one given time, than is suited to their tender age.

With respect to the period best adapted for the rearing of Dorkings, I certainly consider that a greater number of chicks are successfully reared from broods hatched early in May (if seasonable weather prevail), than at any previous or after period, and on account of the favourableness of the weather, that particular care absolutely necessary to the successful rearing of the broods hatched at an earlier period, is not so imperative (be it remembered I am alluding to the Dorking chick only.) Damp affects them more than cold, and should be more particularly avoided; the shorter the legs of a fowl, the more this may be observed. (They are not by any means so hardy as the Shanghae or Spanish.) As soon as a chick has the ap-

pearance of being ruffled in his feathers, droops the wings, raises the back, draws his head in close connection with his shoulders, looses his appetite, or in chicken-like fashion, piques for the body pressure of the hen, his immediate removal is necessary.

He may also be at once recognized by his run, for when unwell, he is carried forward by the mere action of the legs without any bodily or energetic motion; whereas, if healthy and robust, the visible characteristics of energetic display may be observed in the youngest chick, together with voluntary motions of the neck and body. When first observed ailing he should be removed, and no time lost in examining the cause, as the removal of the origin and seat of the disorder will, in all probability, restore his life, if the disease be taken in its first stages; but if not, his removal will be the means of preventing his companions from imbibing the same malady or infectious disease, so probably resulting from his presence. If there exists a general debility amongst a brood, or looseness of feather, a liberal allowance of stale bread soaked in chamber-lye is the best restorative, this may be continued for six or seven days successively at the regular breakfast feeding time; and once or twice during the same period, chopped onions with bread crumbs may be administered as the evening meal. The hen, generally so kind and attentive to her feathered progeny, is wanting in discretion when any malady overtakes them, in which case death alone terminates their career; if left to her care without applied and medicinal remedies being resorted to, a peck or a trample are the usual methods employed by her in furtherance of her instinctive and intentional relief, which but seldom act as restoratives. The fact is, most of the disorders originate in mismanaged domestication, and are not primitive com-

plaints, therefore, the instinct of the parent bird proceeds no further than to the restoration of such as are in themselves natural and not acquired.

Many reasons exist sufficient to account for the considerable difference existing in the appearance and actual progress in the development of the feathery armour of the winged tribe; and even of the same class and brood, chicks irregularly supplied with nature's requirements, and but partially and negligently sheltered from the inclemency of the weather, will not only be less thriving, and a deficiency of size and weight be perceptible, but visible evidences ever exist in their feathery coats when an opportunity of comparison presents itself by the presence of another, whose general indications of health, strength, and rapid progress too plainly and surely publish to admit of doubt the feeder's superior attention and care; likewise the produce of pullets and stags, when bred together, feather but slowly as compared with such as are the offspring of mature birds.—(*See page* 106, *part* 3.)

The cockerel can seldom be distinguished from the pulleret by his plumage until the eleventh or twelfth day after his exclusion from the prison walls, when indications are presented to an experienced eye sufficient to denote the existing and differential sex; in some specimens such characteristics are not so fully visible until a later period. In a general way, the flight feathers are more fully developed in the cockerel than in the pulleret; whilst in the latter, that requisite appendage, the tail, becomes the soonest manifest. In the Dorking class, the black-breasted reds more readily, and at an earlier period than any others, show indications of their sex; whilst the greys, but more especially the speckles, are considerably behind-hand, and far more modest in this respect.

The entire class, however, exhibits a precocity of constitutition, and arrives early at maturity; at the age of six months a cockerel should weigh about 7-lbs., and a pulleret of the same age 6-lbs. They do not, however, reach full plumage until two years' growth. A male bird hatched at any given time is a cockerel or chicken until the ensuing Christmas-day, when he is denominated a stag, even supposing he be hatched but the day previous (this is, however, seldom the case); upon the arrival of the second Christmas he becomes a cock. The female is a pulleret (chicken) until the first Christmas, when she becomes a pullet, upon reaching the second she must be considered a hen.

I am aware different local ideas exist with respect to the above terms and modes of distinction, but they appear to me to answer all required purposes, and for this very reason I unhesitatingly adopt them. I must once more impress upon my readers the necessity of change of diet being attended to, and should be even more rigidly enforced where fowls are kept in confinement. I have known instances of chickens being reduced from the weight of four to three pounds in a few days, and were actually starving, whilst at the same time full supplies of grain were before them, which however they refused, but upon soft food being substituted (barley meal and bran) they devoured it eagerly, and being supplied with the same for a short time, recovered their regular standard. It is therefore necessary to regard the appetites of fowls as an important indication of internal condition.

FLESH AND FATTENING.

(Dorking, as Dead Stock.)

Fattening is one of the subjects which will occupy a succeeding number of this work, and therefore but a few

remarks are necessary in passing. The flesh of this fowl is highly esteemed for the table, and the high reputation it has so long enjoyed it no less merits, being white, succulent, juicy, and very delicate in flavour, and stands unrivalled by any other breed. Hence its value as a marketable fowl, and its peculiar adaptation to localities where there exists a great and continued demand.

This is the fowl generally caponised in England, but in France the art is far more extensively practised.

A thriving forward brood should be ready for the fattening pens at the age of twelve or thirteen weeks, whilst later chicks, brought out not very long before cold winds prevail, and therefore enjoy but a limited supply of the beneficial influences of the sun, are seldom in a fit state until an additional three or four weeks have elapsed. When placed in the pens, fourteen or fifteen days are required for peckers, that is, such as are allowed to eat without forcing, to become fit subjects for the market; whereas nine or ten days cramming will ensure the same result; when heavy weights or prime specimens are desired, a few days longer penning will suffice, but when once really fat, not only may they be handed over to the cook, but it becomes absolutely imperative, as they will not remain so, but dwindle away to irrecoverable loss.

For fattening successfully, there are four things to be borne in mind, and which are of the utmost importance—suitable cooping, regular feeding, proper food, and lastly, though of primary importance, cleanliness.

Coops are made in various forms and sizes, some large enough to place a dozen in, but no room left, when once located there, for the purposes of muscular exertion; others are made capable of holding one fowl only, with a sufficiency of room for the inmate to turn round. In these private

boxes they are detained from one to three weeks, and regularly fed three times a day upon oat or barley meal, and other fattening substances. If heavy weights are desired, they are crammed with pellets of food not less than twice a day, the middle meal however they are allowed to swallow as they please, and at intervals, according to their own discretion; but the morning or evening supply is not administered unless the craw is empty, and in a fit state to receive it. Clean water and sometimes milk is kept before them; during their stay in the coop particular cleanliness is observed by means of the bottom being formed of flat bars running longways, and each bar about two inches apart, which allows all excrement to pass through, and the coop being raised about twelve inches from the ground, is rendered thereby sweet and wholesome.

CONSTITUTION.

The vigour of the chickens much depends upon the constitution of the birds from which they spring, and this forms the main reason why such numerous and conflicting statements are current respecting more especially this class of fowl; some authors have considered them tender and anything but hardy; whilst others, of unquestionable authority, assert they are strong, robust, and of vigorous constitution.

My own experience has proved that from one Dorking cock and hen I have bred almost invariably hardy chicks, that is, they took more or less after the parent stock; whilst from others equally Dorking, though of different blood, for several successive seasons nothing was produced but weakly and ill thriving broods, although hatched

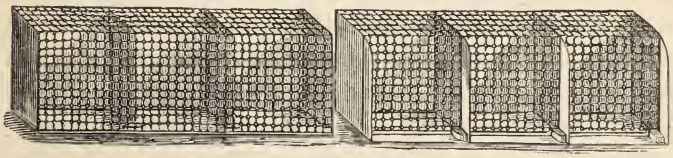
within a few days of the former, and subject to the same treatment.

These are not the only instances. I have reports from friends whom I stocked with birds, in various localities, and from the generality, their good qualities are spoken highly of, and no mention being made as to the general state of health, I have a right to consider they are thriving.

There are, however, many that are really good and valuable in themselves, but still appear more liable and subject to disease than the generality of others, and when such is the case, the produce are more or less constitutionally liable, and therefore require great attention and careful sheltering from every detrimental influence, to ensure successful rearing, especially from the third to the sixth or seventh week; in fact, whilst their down and fluff is being changed for that of feathers, is the critical period, when a blade or two of saffron in their water pan is beneficial, being stimulating and comforting; good feeding is also requisite. Their excrement should be observed, and if relaxed, a little common chalk should be placed in their water, and a change of food given; if in perfect health their excrement is of a stiff matter, and having at one end the appearance of white-coloured mortar attached; by watching this it may be observed whether the food supplied is suitable to their tender appetites, and in conformity with their internal organization; a small quantity of green meat should be supplied from time to time; although it may appear strange, it is still a fact, that many birds are attacked by diarrhœa from being kept entirely upon hard food without any allowance of green; for instance, a fowl will sometimes drink extravagantly, which is caused by internal fever, this excess of liquid produces more or less relaxation of the bowels; now, to rectify this, supply

green meat, such as grass, lettuce, or cabbage, with their food, which will be eagerly devoured, and will cool the internal heat raging within, by the medicinal properties which nearly all vegetables possess, and such being reduced, will cause the fowl no longer to crave for that liquid which previously produced temporary relief, but by his own instinctive reduction of liquid, the internal parts will necessarily receive less moisture, and the bowels be brought to a healthy state; this is not precisely the case with all animals, but I am fully satisfied such is the fact with reference to this bird. I dwell upon this complaint as being one which the Dorking is liable to, and which, if not promptly met, proves very weakening and reducing in its results. I consider the Dorking, as are nearly all white-legged fowls, more liable to the roup than are the others, they therefore require out-door exercise. How disastrous are the consequences if care be not taken when cooped up many days together, or closed within the narrow pens of a London or Provincial Exhibition; they should not therefore be too long confined, but allowed to again obtain fresh strength and vigour before their reappearance. At one of these places but a few weeks since, we beheld fowls, especially the Dorkings, suffering from this most infectious disorder; but worst of all, the water was so placed that the disease could traverse the whole line of pens; the roup is frequently spread by fowls drinking from the same pan in which diseased birds have cleansed their beaks whilst drinking: for the sake of illustration I will here point out the evil as it existed, as well as the mode in which it may be rectified. The pens were divided by partitions between which were three or four birds; in the front of each, between the two pens, were placed water pans, so that each pen had on either side half a pan, and the other half communicated with birds on

either side, which had likewise not only this half pan but a corresponding half on the opposite side, the remainder communicating with the next pen, and so on. For the convenience of my readers I present them with an illustration—



AS IT WAS. AS HERE PROPOSED.

Now supposing a bird in D to have the roup, as several had in the exhibition alluded to, he is able to drink from the pan on either side, and which communicates to E and C: the fowls in these divisions partake of the impregnated water, and being already rendered very susceptible to disease through close confinement, readily take it, they likewise drink the water on either side, and again, their next door neighbours catch and inherit this infectious distemper, which, in their turn, produce, through the agency of the water, an equal effect upon the nearest within reach, and so the distemper spreads, and the whole row become roupy and diseased.

Now, if an entire water pan were placed in every division, instead of each having two separate halves, they would have equally as much water, and any pen containing disease would thereby be kept apart and distinct, and the distemper being confined would do no mischief, save to its inmates; the next thing is, there should be a projecting board of a few inches in width between each division in front, by this means the fowls would be unable to place

their heads through sufficiently to do injury, fight, or worry each other, as was the case upon several occasions that came under my own observation.

I mention this, seeing the Dorking will not bear that close confinement which some fowls are capable of, without showing evident proofs of their constitutional aversion to it in the form of apparent disease, nevertheless, if every requisite be attended to, they may be rendered far more capable of bearing up against it than when such precautions are neglected.

They are said to degenerate rapidly when removed to any other locality than that which gave them birth, or when removed far from Dorking itself, to lose their distinguishing characteristics of value. But why? Is it because of the difference in the temperature? or the more exposed situation of the spot? This may have some little to do with it, and no doubt has, but not everything—much less in my opinion than is generally supposed; it is but a part of the cause, which arises mainly from mismanagement when at a distance, and not because at a distance. For if far from Dorking, it is difficult to procure specimens of different blood of the Dorking breed to keep up the stock; and being somewhat difficult, it is postponed, to the injury of the breed, as well as the reputation of the entire class. Now the Dorking requires keeping up more than almost any other class of fowl, and the reason is, because we expect of it more than any other; now supposing this be neglected, as is generally the case when the bird is sent to the north or elsewhere. What is the result? Why, rapid degeneracy. Are we then to consider this is caused by the situation being more exposed, or the temperature varying? Certainly not; the cause is through negligence in not procuring fresh blood; neither are we to consider the locality the means of

producing the evil, seeing it principally arises from a different cause. I trust therefore, when frequent importations of fresh blood into the Dorking are generally regarded as absolutely necessary, *and acted upon as proof of conviction*, this fowl may no longer be considered as any other than a hardy species, and become far more capable of enduring change of temperature than is the case at present.

DISEASES.

The principle diseases and maladies to which this fowl is more especially liable, are roup, diarrhoea, and diseased feet. The roup in the Dorking fowl is principally caused, or rather developed, after confinement in ill-ventilated, dirty roosting-houses, exposure to wet or cold winds during the moulting season, or whilst very young, and continued confinement in exhibition pens; it is recognised by a visible discharge from one or both nostrils, at first limpid, but ultimately fetid.

From whatever cause it arises, the sufferer or sufferers must be immediately removed from their companions, and taken to a dry, warm, and well-ventilated apartment, the nostrils and face throughly cleansed with warm salt soapsuds morning and evening, and fed upon soft food, bread and milk, oatmeal and milk, bread soaked in old ale, &c., alternately.

There are many recipes for this disorder, all of which are of little or no value unless corresponding care be taken to keep the birds dry and warm, with plenty of clean water, not only while the cure is being effected, but afterwards also, or they will most assuredly suffer a relapse; roup pills for the first three or four nights, composed of the following ingredients, should be administered.

2	tea-spoons full	scraped horse radish
1	"	grated ginger
½	"	mustard
½	"	flour of sulphur
3	"	oatmeal

with as much fresh butter as will form it into a stiff mash: this quantity may be divided into three pills, and one given for three successive nights, at the same time providing them with water, in which as much rue has been previously infused as produces a strong bitter taste; all other means of supplying themselves must necessarily be cut off. If after four or five days the bird be not improved, it is far better to kill him, as if he has the disease so severely as to be unable to receive any benefit from the mode I have prescribed, it will be almost impossible to effect a permanent cure; a bird also may appear to have recovered, and yet, when introduced to his mates, it is too often found, although he appears well, his companions, soon after his return, sicken of the same complaint, and this infectious disease ranges the poultry yard; also, at the ensuing moulting season, he is again very liable to be affected with it more or less, and if so, will instill it into the hens and other fowls before its presence be even perceived. If I had at any time a bird in my own yard which had suffered from this disease, I would never allow him to return to his hens (although cured of the malady) without placing him for two or three weeks with a few common fowls; if they, at the expiration of that time, took no harm from him, then I would venture him with his more valuable hens, but upon no account before; but if the bird were not a valuable one, would immediately dispatch him, considering it by far the wisest, most economical, and safest method of proceeding. I must here make one remark—

nine cases of roup out of ten, as well as of all diseases to which fowls are subject, proceed from actual negligence in the shape of omitting the supply of proper food, confinement in ill-ventilated or dirty fowl-house, or lack of clean water.

Diarrhœa—Is principally caused from want of exercise, long continued and unvaried or improper food, or foul water. *Remedy*—exercise and dry feeding; if barley has been the staple provision, then soft food, as a change is requisite; barley-meal and bran, or coarse middlings, and a supply of chalk in the water. A meal or two of parboiled rice is also very beneficial, and may be given at all times with advantage. If the complaint continues severe, a small piece of alum placed in the water pan will retard its progress, supposing the inducing cause be removed, but not without.

Diseased Feet and Toes—Principally caused by the presence of a supernumerary claw, or rather the injuries received by that member in some accident or skirmish, when it frequently becomes broken or mutilated; it should be as soon as possible washed with lukewarm salt water, well dried, and the injured part bound up; if the supernumerary claw be nearly separated in the affray, it is advisable to entirely remove it, or it will ever be in the way; this may be done with a sharp knife or pair of clipping scissors, and the whole foot bound up with linen to prevent any particles of dirt or foreign matter coming in contact with the injured part, which would impede its healing; it is, however, astonishing with what rapidity any injury inflicted upon the pedal limbs of birds in general becomes healed.

Being weighty they are liable to corns upon the soles of the feet, principally caused by pressure and consequences

arising from their rapid descent from a lofty perch upon some hard substance; likewise, confinement to a gravel walk invariably results in birds (especially the *males*) becoming ultimately "bumble-footed." No permanent cure can be effected when once corns have taken root—nevertheless, temporary relief may be afforded by placing the bird in a bag, allowing his feet alone to remain out, and having soaked them for an hour or two in warm water, a considerable portion may be removed by the application of a sharp penknife, when he should be placed to a grass walk.

I feel an imperative necessity, called forth by the serious and all important nature of the subject, to again maintain, with strict adherence to the rules already substantiated, that the Dorkings be tenanted in dry, clean, and well ventilated apartments during the night, with the further necessity of appropriating to their use equally comfortable corners to take refuge in during the day, when storms or the inclemency of the weather overtake them.

PROSPECTIVE RESULTS.

The improvements necessarily resulting from close investigation into the laws, which govern any branch of national economy, are no less apparent to an observant eye in this than any other section of the natural world, or such as may receive a more direct or immediate advantage. Ere long, I trust, to perceive that indifference, issuing from the imagined trivial importance of the subject, give place to an equal amount of untiring energy so much displayed by our countrymen whilst engaged in other pursuits, and so striking a characteristic of the race. The inevitable success attending a line of action at once so doubly beneficial, and no less praiseworthy, will be productive of equal advantages to the producer and the general public, instead

of small—extensive will be the returns; in the place of disappointment—distinguished success; consequences so favourable will not lose the wanted effect upon our requirements, but large supplies extend both to our metropolitan and provincial markets, and such being the case, prices, once so exorbitant, will be reduced to that degree of moderation as to bar but few in the more frequent and extensive use of an article of food so wholesome and luxurious. To the attainment of this object is my pen directed in its course, to decipher the method of onward progress my task. Poultry consumers, therefore, with producers, are alike at once my friends—to them I offer and extend the boon. "Tit-for-tat" is all I ask; let honourable means engage the thoughts of honourable men, and the result will prove mutually advantageous.

THE POLISH FOWL.

HISTORY OF THE POLISH FOWL.

That we are again minus the aid of ancient records respecting the ancestry of this class of domestic poultry is conclusive, seeing nothing but vague and indefinite theories exist respecting the origin of the *entire family*, and that such encouragement is not forthcoming to aid our researches is equally palpable. The only course, therefore, opening to the view of the researcher of family distinction is the careful selection of such brief notices as have been furnished from the remotest period to the present day, and the close observation and comparison of the outlines of characteristics and the peculiar habitual tendencies of the respective families; such will prove a surer guide than tracing words or names, or perusing travellers' reports, save where a traveller has proved a naturalist too, when double credit, reliance, and attention to his observations on the natural world are truly well bestowed; names but, indeed, mislead and often tend to misconception and obscurity, unless appropriately given. The name Poland is apt to introduce the idea into the mind that the country known as such was the locality from whence they sprang, such was however not the case; the word Poland, as applied to this striking fowl, is derived from *poll* (Dutch term meaning top) the peculiar feature of notoriety being the elevated cap of the skull which extends to all varieties of the Polish family, and from its base rises the globular cluster of feathers known as crest or topknot; here, then, we prove the name alludes to form and not locality, to shape of skull and not

to birthplace; but a further difficulty awaits us if Poland be not the country, where shall we cast our eyes? Various countries have been assigned by travellers, each one disposing of the preference to his own peculiar choice without providing proofs or groundwork for argument. St. Jago, St. Domingo, Peru, Mexico, and many parts of South America, besides a host of other localities in Asia have in their turns received the credit appertaining to the mother country, but without avail. The fact is poultry have been less deserving in the esteem of nations the privilege of engaging the pen of the historian than is the case at present, ever worthily received, ever had in respect, as proved by dedication, still their biographies not found within the circuit of literary pursuits, their history neglected though their persons amply provided for, such is too surely the position occupied by this compartment of poultry detail.

Guatemala has been set down by some as the required locality, seeing birds bearing considerable similitude were found by travellers at a remote period; also various parts of the globe far distant have been considered by others the most probable, as birds bearing much the appearance of orignality, and belonging to a primitive order, were said to have been domesticated for an unknown period.

Some naturalists, with probability on their side, regard the Paduan or Patavinian fowl, described by Aldrovanus, as entitled to be regarded the progenitor of this family; a fowl bearing in many points a resemblance, if we may judge by the rude portraits, together with the equally indefinite and vague description furnished us; possessed of the principal feature, the elevated skull, together with the crest and muff, a possible connexion may certainly exist;—differences, indeed, we perceive, as size, colour of plumage,

bill and feet, but years and many circumstances are sufficient to render these differences passable—their size and weight considerably exceeds those known as Polish in the present day, but the well known results of breeding in and in are fully sufficient to account for the present existing reduction. But from whence came the Paduan? Timmerick has described the *Gallus Gigantus*, or Javan cock which Cuvier and Latham assert, the progenitor of the Paduan or Patavinian.

Buffon supposes the Paduan to have originally come from Asia, and mentions the Persian cock, also the gigantic cock of Rhodes and Pegu as the probable progenitors.

The most careful examination, the most solicitous inquiries have failed to elicit further facts connected with the origin of this as of some other species of fowl, neither are researches likely to prove fertile, seeing we have two distinct antagonistical causes which are incontendable;—1st, the absence of stable records bearing upon the subject;—2nd, strict domestication and the presence of many admixtures with the breed, bearing more or less resemblance to it, and thereby rendering characteristics "acquired;" such admixtures were the result of past not present experience, sustaining the characteristics of the breed, attention to form and colour were but slightly recognised as important in the domestication of poultry in by-gone days, hence the difficulty of tracing or extending researches bearing upon this point, which, in our opinion, will ever remain at issue.

Polish fowls have long been imported from the Netherlands into this country; the mercantile disposition of the Dutch led them to trade actively in this as with other commodities; but from Poland we have received but few supplies, neither can we trace in the latter country any

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SILVER-SPANGLED POLANDS.

reasonable cause which can be assigned for sustaining the supposition that from thence they originally came. From whence the Dutch first received them we have no authenticated accounts, but suggested probabilities only, which in this as in other matters are numerous; we, however, prefer abstaining from enumerating, as tending rather to confound than define, to confuse what has been already advanced, rather than establish.

CHARACTERISTICS OF THE ENTIRE POLISH CLASS.

(Fowls bearing topknots alone included in this class.)

Topknot—this the most striking characteristic of the class, cannot be too fully developed; in the cock the feathers are long as in the saddle-hackle, and part in the centre, falling in a circular form round the head; in the hen they are far more beautiful and curve inward from the base, of a globular form, and sufficiently full to render her incapable of seeing any object save in a direct line.

Skull—does not follow in a gradual curved line with the beak as in other birds, but at the approach of the head an abrupt ascending line is perceptible, forming a protuberance and a very elevated and rounded skull cap, from which springs the topknot, this peculiar form of the skull is observable in the youngest chick.

Comb.—In some specimens two small fleshy spikes resembling horns are apparent, in others no such features are observable; different opinions exist as to the genuine feature; by many the spiked-comb cock is considered of impure origin, and the latter alone descended from the ancient Pole*. In my opinion the fleshy horns are more

* A very noble bird, larger than any extant varieties of this class, without the slightest appearance of a spike or comb, but merely a red skin or membrane growing perfectly flat over the base of the bill.

the result of domestication than a proof of foul breeding; be it, however, understood, not that domestication entailing cross-breeding so frequently combined, but merely that term as applied to confinement with a full supply of the necessaries of life instead of precarious, also warm housing and shelter from the inclemency of the weather tends to encourage animal exuberance, which must sooner or later betray itself in some exterior form. I do not, however, mean to pass over an actual comb as such, but merely the small spiral horns. Specimens possessing anything approaching a double or single raised comb should be immediately expelled from the fancier's stock as being of unquestionable impurity.

Beak—Elevated, wide towards the base and short, and of a leaden colour.

Nostrils—Elevated, of considerable width and somewhat raised towards their exteriors.

Eye—Full and bright, in the white specimens the iris is of a fawn or pale straw; in the spangled, a bright hazel; and in the black, a still deeper shade. This valuable member we are not privileged to behold until a minute inspection of the bird in hand be obtained, as the topknot entirely hides it from view, at the same time making full compensation for the loss by its own extreme beauty.

Beard.—This appendage is by some considered as a sign of impurity, whilst others, equally eminent, regard its full development as important as the crown; the public are, moreover, divided in their preference as to the superiority of the bearded over the beardless in point of beauty. My own experience convinces me the truest specimens, and birds with the most fully developed and perfect crowns, are usually bred from bearded specimens; I consider them originals, although not so long domiciled in England as the unbearded. In the latter the neck is more slender, with a

minimum show of neck-hackle compared with the former, in which is usually exhibited a mass of golden feathers, suspended from a well balanced head and neck, so very prepossessing and no less effective. The skull forms more of a protuberance in the bearded, and, therefore, the top-knot necessarily more fully developed.

The beard is a collection of feathers immediately below the eyes, having the appearance of a triangular-formed muff, gradually diminishing in bulk towards the approach of the neck, that is, it usually becomes further developed round the cheek.

Neck—Should be well arched and elevated.

Breast—Wide and very protuberant, especially in the white-crested blacks.

Body—Round, plump, and compact, tapering behind, and with but little offal.

Wing—Full and ample.

Tail—Rather erect and moderately full, with well defined sickle feathers in the male.

Shank—Must be clean in all the varieties and rather short, varying from a deep blue black, to a light slate hue; toes slightly webbed.

Carriage—Lofty and aspiring; when the male is offended or otherwise excited his agitation is perceptible to the eye, both in the throat and the convulsive movement of the entire frame.

Crow—Not by any means melodious, but rather harsh and abrupt.

Disposition—Of haughty demeanour and high metal, though not offensive, still very courageous, and will instantly repel intrusion or insult.

VARIETIES.

The differently coloured plumage, &c., of this family render it necessary, for the sake of distinguishing the same, to classify into varieties or sub-classes such as permanently differ from others in these respects, there are—

1. White-crested White (bearded).
2. Black do. do. ——
3. White-spangled Yellow (bearded).
4. Black and White-speckled (bearded and unbearded).
5. Gray or Grizzled (bearded).
6. Cuckoo (bearded).
7. White-crested Blues or Dun (unbearded).
   Blue-crested do. do. (do.)
8. White-crested Blacks and Albinos (unbearded).
9. Black do. do. (bearded).
10. Golden-spangled (bearded and unbearded).
    White-crested Golden-spangled (do.)
11. Silver-spangled (bearded and unbearded).
    White-crested Silver-spangled (do.)

Besides these there are several mongrel races possessing a small tuft or crest behind the comb, and falsely recognised by the Polish name or crested-fowls.

The term "everlasting layers," as applied to this fowl, being equally applied to several varieties, is apt rather to confound than elucidate, and, therefore, we are compelled to cast adrift such title, considering no class of fowls should have more than one appellative, no variety but one distinguishing name; and, furthermore, that several classes should not be recognised by any other than their own respective designation.

To avoid reiteration no mention is again made of such characteristics as have been previously enumerated—as be-

longing to the Polish class—save where a difference exists, therefore, where silent, it may be inferred such are applicable.

White-crested White (bearded).—Are very beautiful birds, and stand unrivalled for the subdued delicacy of their plumage although strong contrasts for which other varieties are distinguished and prized are not prevalent, still equally gratifying are the effects produced from their extreme and peculiar delicacy of feather. Both cock and hen should be of a settled white throughout, including topknot and beard, in which no trace whatever of black should be perceptible. The hackles of the male are sometimes of a very pale yellow tint, as well as the larger wing coverts. The body round and plump, with well plumed tail standing rather erect; neck-hackles short but close and full; shank and toes of a pale blue, and the beak of a similar hue. In some, in the place of the comb, the two fleshy spikes already alluded to are observable, in others no such features are present. From partial resemblance to the white specimens, "Albinos" occasionally produced from the white-crested blacks, they have been by some recognised as belonging to that variety; such, however, is not the case, seeing they generate their kind in form, colour, and constitution, whilst the produce of Albinos return to the original colour black.

Black-crested White.—It will be observed this variety has not been omitted in "the list," although regarded by some as extinct, of which, however, no proofs exist. To provide a proof of absence is usually more difficult than that of presence, still this variety but a few years since existed in several localities, although, I must confess, in very limited numbers. I do not, however, feel justified in allowing so beautiful a variety so soon to escape the boundaries of classification and to become unnoticed and unknown. This bird was evidently described by Aldrovandi, and must

ever have been regarded with admiration by all lovers of this interesting *family of nature.*

The body should be of snowy, subdued whiteness, as in the former variety, with the crest of a jetty black, producing great relief, and rendering the contrast peculiarly striking. The bill and claws afford further relief, and present the varied shades of blue and light slate.

They are of full size, being rather larger than the generality of other Polands, with round capacious bodies, protuberant breasts, and with but little offal.

White-spangled Yellow (bearded)—Are of extreme beauty and peculiar excellence when purely and regularly marked. The general ground of the body, of both male and female, is a light yellow, or creamy tint, with each feather of the breast spangled with white. The neck and saddle-hackle feathers of a light yellow, and the wings' coverts of the male of a deep golden hue, in the female of a light yellow with laced wing coverts. The topknot and beard should be of snowy whiteness, and the feathers of the former tipped with creamy hue; in some they are of a bright cream spangled with white. The tail of a light yellow ground, similarly spangled. These birds progress in beauty, increase in size and quality of feather, until the third or fourth moult.

Black and White-speckled (bearded and unbearded)—Are of peculiar appearance, varying in colour from a mixed-gray to a silver-spangled cast, with white crests spotted more or less with black; many exhibit but an unsettled and irregular appearance, and indicate too plainly their origin. Birds bearded and unbearded, but differing in no other respect in colour, size, or general appearance, are generated from the same parents, showing recent admixture and unsettled hereditary characteristics. We have,

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WHITE CRESTED BLACK POLANDS.

however, met with exceptional cases, where specimens of this sub-class have presented a regular and uniform appearance; such, however, are indeed exceptional.

Gray or Grizzled (bearded).—Many specimens of this variety present a similar plumage to the last-mentioned sub-class, but are usually more inclined to grizzle in feather, from the distinguishing peculiarities of which they obtained nomination; this, however, renders them of an unsettled colour. Some are neat in appearance, but rarely present clear hues or definite markings. Most of them look far better upon close examination than when at a distance, there being tints which require minute inspection before their merits can be appreciated.

Cuckoo (bearded).—These birds, more or less, resemble the two last sub-classes in plumage, but are of a far more delicate tint; some specimens exhibit a fine and rather prepossessing exterior, and indicate a blending of subdued colours, as produced by artistic nicety of calculation; the hens are very neat in appearance, with light greyish crests.

White-crested Blue Dun (unbearded).—The cock of this variety frequently presents a ground of dull streaky blue-black, with hackles of a corresponding hue, but usually darker, with white ear-lobes, rather long wattles, and dark-blue legs; they are seldom seen of a very uniform or settled hue, when such is attained, they merit a considerable share of admiration. The hens, when well feathered, are very neat; the blue dun tint, in some instances, appearing of a silvery cast, and reflecting both light and shade with clearness. The white crest forms a most beautiful relief to the eye, and renders them favourites with all privileged to behold; they are, however, but seldom to be met with perfect in England, but principally on the continent, where varieties abound.

One remark is here unavoidable. We have, for many successive years, received supplies of fancy fowls from abroad, comprising diversified varieties, especially from localities situated near the torrid zone, where still exist innumerable sub-classes, which in this country are unseen and unknown, save by report; some have produced still less effect, and remain hidden in obscurity.

That heat is sufficient of itself to generate colour is evident, and that many of our imagined distinct varieties are but the effect of that powerful stimulant is equally evident. In cold or temperate regions colour lies comparatively dormant, but where subjected to the influences of heat, tints and hues are developed, diversity originated into multiplicity and never-ending variety, each of which generate increased variety; but, when transported to cold temperatures, retain and breed their own colour with far greater precision and permanence. The botanist, with all his study of nature and her laws, can accomplish comparatively but little without the aid of art; he knows too well the generating and stimulating qualities of heat, to overlook such an acquisition in the production of his variegated and innumerable tints. Nature bespeaking in these similes, her laws and requirements are observed, and, as a reward, her otherwise hidden treasures are developed.

In the same locality exists an entire unbearded dun variety, but with a similarly coloured crest, presenting thereby nothing peculiarly attracting for its contrast or delicacy of feather: the lover of subdued tints may, however, gratify his fancy by selecting such as are uniform in feather and of a settled shade.

White-crested Black (unbearded).—This variety is too well known to require minute description for the sake of rendering the specimens recognisable; still where such parts and points

are considered consequential, mention is equally requisite. They have been long recognised as an ornamental fowl, and no less valuable in an economical point of view, in our poultry establishments; indeed their beauty is apparent at a glance, and requires not that educated or refined eye as is requisite for the appreciation of some.

To be rendered eligible as exhibition birds, the entire plumage of the male must be of uniform black, enlivened with metallic green shadings. The crest feathers of pure white, save the frontal or short feathers at the base of the bill, which are invariably black (unless stained by art); the comb should be very diminutive, and, if examined, will be found to present two small fleshy spikes standing erect; wattles of coral redness and rather full; beak blackish; ear-lobe white; shanks and toes blackish; soles of feet varying in tint from a fleshy or spotted hue to nearly white. Their general form is compact and close, possessing rather short legs, but a dignified, noble, and haughty carriage. Neck should be finely arched; breast full and very prominent; tail full and carried rather erect, is well arched, and must be of an uniform black, shining with metallic lustre, and not inclined to grizzle or appear gray, but of a decided black to the roots.

The hen should be of a similar feather throughout, and not inclined to speckle, of compact and close form, with small bone. The crest in the hen is far more beautiful than in the male, being globular and white, but possessed, in like manner with her lord, of black short crest feathers at the base of the bill, but more diminutive, also white ear-lobes, and small rounded wattles.

A full grown cock should weigh about 5½ lbs.

„ hen „ 4 „

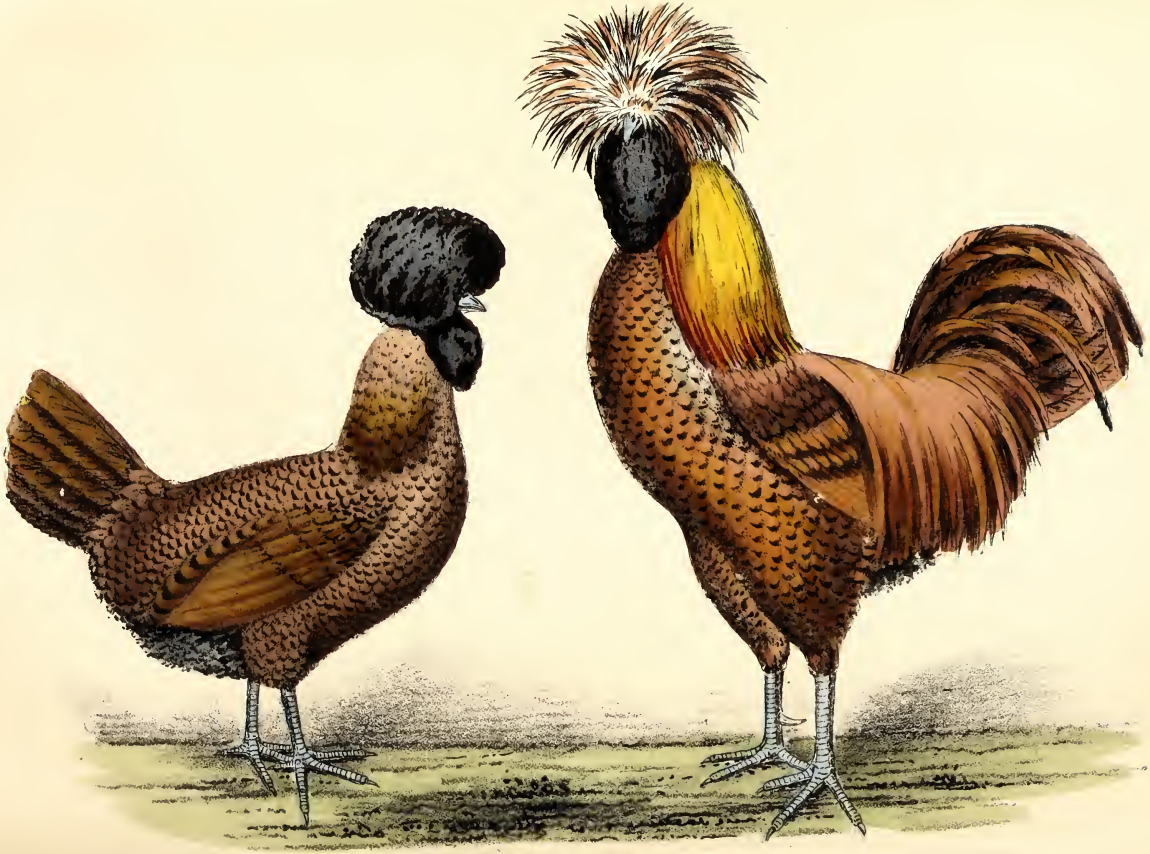
This variety is frequently confounded (as are some

others) with the Dutch breed, and termed "everlasting layers," on account of their great aversion to incubate. From the white-crested blacks are occasionally generated "Albinos," of a uniform white feather (unbearded), with light eyes, which are usually but weakly in constitution, and, if bred from the issue, more or less resemble the black in colour, but their immediate parents (the white) in form and constitution. (See White-crested White variety.)

Black-crested Black (bearded)—Are very scarce, and resemble in plumage the white-crested black, save in the crest feathers, which are of a decided black; they, moreover, possess a black beard, with legs and toes of the same colour, presenting an entire black suit throughout, are well made, and of an easy but dignified deportment.

Golden-spangled (bearded and unbearded)—Are very beautiful and extremely rich in plumage. In the cock the general ground of the body is a bright yellow-ochre, spangled with black, reflecting greenish shades; the wing coverts are more minutely laced or spangled, and the lower parts of the wing of a similar bright colour. The crest feathers should be of an uniform chesnut red, with as little white as possible, but if of a pure and unmixed white still more preferred. Beard full and black. Neck-hackle very full, which, together with the saddle-hackle, should be of a bright golden ochre tint. Ear-lobe white. Tail full, and of a rich deep ochre spangled with black, the streamers being of a darker tint. Legs, claws, and beak of a light blue or slate colour, but perfectly clean. Feathers round vent and thighs black, though the latter is sometimes spangled.

The hen is of a similar feather, but less brilliant, still we expect her to exhibit spangles more definite and decided in their character; the neck-hackle, breast, and



Lithographed by C. J. Cullford,

22, Southampton Street, Strand.

GOLDEN-SPANGLED POLANDS.

back, should be well and evenly spangled, and not patched. Wing coverts well and evenly laced. The crest in the hen is of a dark tint, spotted with black, but frequently nearly black, but should be even and globular.

A description of this bird, however accurate, is but the description of one specimen; and, seeing every one differs more or less in some minute particulars, it would be useless to dwell upon every perceptible existing difference, and as equally ineffectual.

A full grown cock should weigh $5\frac{1}{2}$ to 6 lbs.

„ hen „ $4\frac{1}{4}$ to $4\frac{3}{4}$ „

Silver-spangled. — The ground of the feathers of the former being substituted for a silvery white, this most beautiful variety is at once pictured to the imagination; the silvery white tint relieves the eye considerably more than the bright ochre in the previously described bird, and is, moreover, more delicate; whilst the crest is usually more fully developed than in the golden-spangled; but this latter is remarkably rich in plumage without being gaudy. Tastes, therefore, will ever differ, and right it should be so, for the pure generation of each kind. Both must be as regularly and clearly marked as possible, but the spangles in the silver variety being the more conspicuous, it becomes doubly imperative. A splashed or mottled plumage proves fatal to their claims as fancy stock, and, moreover, renders them valueless as exhibition birds. Some are much more laced than others, but, to whatever extent, unless clearness with precision be united, they will never stand the test to which they are subjected from the scrutiny of our fastidious judges.

There are many birds whose appearances more or less sanction their classification as sub-varieties of the Polish family. Innumerable are the crosses, and the produce

thus generated, having been again irregularly matched, have produced piebalds and speckles of all shades and colours.

In almost every farm yard, where heterogeneous breeds abound, may be observed birds with a crest from the size of a diminutive Polish down to that which claims the count of six or seven feathers. To enumerate and furnish descriptive portraits of each would be a work we would hail were advantageous results pending; such, however, is not the case, but equally valueless would prove the fruit and the attempt.

THE POLISH BEARD.

The material form and external appearance of this peculiar feature has already received our attention under the head of "characteristics of the entire Polish class;" but the indications and intrinsic merits or demerits of this appendage has been reserved for present discussion.

A fowl possessed of a beard without a crest may prove offensive to the refined eye, but when combined, the necessity of the former is at once perceptible, when absent, too great abruptness in one particular part, too strong a contrast between the elegant shaped neck and the extended crest, without a corresponding peculiarity, renders its style incomplete, and the specimen but partially peculiar; if peculiarity of form or feather in any bird constitutes choice qualities or beauty, that peculiarity, whatever it be, must necessarily be fully developed. A little peculiarity forms nought but ugliness, seeing it violates the existing laws of symmetry; whereas extended and fully developed peculiarity, rarity and value, and becomes governed by other regulations, and bound not by hitherto recognised restrictions. As in the Shanghae, if his form be midway between the most

Lithographed by C. J. Cullford.

BLACK-CRESTED WHITE POLANDS.

elegant fowl and his own, he is at once considered valueless, and far from beautiful. If his peculiarities be but partially developed in a moderate sized tail, an even back, but a very few feathers down the leg, only a slight contraction underneath the crop, a middling wing, he is considered ugliness itself; because these peculiarities, which distinguish him, until far more extended, are not sufficiently peculiar or striking to constitute extreme contrasts with other fowls, and, having no pretension to elegance, the bird is at once doomed to be discarded as an outcast from the establishment of the fancier. Let these properties be but fully extended and developed, and the bird becomes at once valuable and recognised as beautiful, being judged by different rules from those which render elegance beautiful, and refinement valuable.

I firmly believe the bearded variety of Polish is the primitive order, partly from the observation that, if of pure blood, the beard is invariably transmitted to the offspring; moreover, one bearded male bird placed in a yard will, in one season, make wonderful alterations in the appearance of the stock of chicks, and would in three years render the whole of the offspring so generated more or less bearded. If such feature were acquired by cross-breeding or domestication, this class would not possess more than usual power to transmit this characteristic, but being obtained from a hereditary source, it becomes of necessity developed more or less in all the offspring. The two figures (Aldrovandi's), one is beardless, the other bearded, nothing, therefore, can be gathered from that source, save the fact of the partially original character of each.

But from whence arise the beardless? That many are the result of an admixture with the Hamburgh is certain,

seeing in the offspring of some are transmitted from time to time veritable proofs and indications of the true characteristics of that bird, there being evidently an indication to the production of a double comb in one or other of the after produce; when such is the case, a proof is obtained undeniable: sometimes, however, indications bearing less external difference from the originals may be seen in beardless specimens, such as action, walk, habits, watchfulness, &c., and may be easily recognised by the searcher of nature, and establish proofs of impure descent; but because many are the result of an admixture, is not sufficient of itself to justify the idea that all specimens, minus the appendage, are thus produced. I have seen many beardless specimens in which no such peculiarities existed, no such habits distinguishable, and in the produce, for many successive years, no trace of these characteristics, but bearings in exact similitude with the parent birds: this forms evidence sufficient to prove that, if they be a cross, the admixture must have taken place at a very remote period, that is to say—the bird with the beard must have been matched with beardless specimens, and again the issue of such with others, until the beard was eradicated—care having been taken to select such as possessed the crest, and were as near the original colour as possible, but with the least show of beard, and the issue bred together until a race became established and recognised as a distinct class. Many of our varieties have been thus produced, but years and by-gone days conceal particulars, but Nature reveals sufficient evidence to prove, even in the absence of records, that such are facts. Some naturalists appear eager to draw fine lines about slight differences: a beardless bird having a tuft of feathers is recognised as of different origin, and not only so, but distinct from those

possessing the tuft with the presence of a muff or beard, although of similar cast and colour, habits, and disposition. But why? Is it because there exists no perceptible groundwork in such specimens for the production and development of characteristics which distinguish others? Is it because of the great external differences and the absence of resemblance, or from the fact that the issue for many successive years retain such distinguishing qualities? The last reason is certainly the best; but, be it remembered, although we may consider and recognise various breeds by certain names, and call them primitive varieties and separate classes, for the sake of distinguishing such as have been produced by select breeding and at length become permanent, from such as have been more or less changed by domestication or climatic influences, still we should but mean by the term "primitive"—primitive compared with the present generation, or with others of a heterogeneous descent and not as originally primitive.

Compare the bushman with our European friends—the little dwarf with our lifeguardsmen: in the former, differences exist not only in size but colour, not only colour but tone of voice and language, habits, disposition, constitution, and, in fact, to the hair of the head; when we regard the internal condition, greater differences become apparent. There is as much difference between a Briton and a bushman as exists between a Game fowl and a Silky fowl—a Malay and a Negro fowl. The two first, if united, will be productive of issue, and such issue again productive equally with the latter pair. What saith these facts? The family is one—the first man Adam, the bushman, and the Briton, are one in blood, however revolting may be the idea to the refined or enlightened. The

Game fowl when united to the Silky fowl, or the Malay with the Negro fowl, produce issue perfect in themselves, and capable of further producing their own species; but when the pheasant is mated with the domestic or wild fowl the result is very different. But why? Because Nature's laws and requirements are thereby violated; she has classed her productions, and man, by such act, is endeavouring to blend them: all his efforts must fail—just and merciful the God of Nature that such the issue. What then is the result of such mating? The female so matched produces prolific eggs it is true, but the offspring generate not their kind—there the matter stops.

The she ass and the horse are by men, by constraint and fraud, matched, and the mule is thereby generated, but the latter proves unproductive. The goldfinch and the canary are mated, but in the produce exists no further powers of generation. What saith these facts? So long as the family constituted as such are mated, whatever differences exist, caused by time, age, climatic influences, or diet, the produce shall be productive. But were such to be the case when the devices of ignorant, vicious, and depraved men lead them to violate or abuse their natural constitutional requirements, what would be the result? Why monsters would cover the earth: that reason distinguishing man and the instinct imparted to the animal blended.

Accountable creature man! rendered unaccountable by means of instinctive admixture; but the inevitable issue is horrible to gaze upon. Nature and her beauties would be thereby irrecoverably defiled.

We, therefore, feel bound to maintain, with due respect to different opinions advanced by many distinguished naturalists, and men of undoubted authority and comprehension

that we perceive no ground for retaining the supposition that each of our varieties of domestic fowl (*Galli*) claim a distinct and separate origin upon the ground of their characteristical difference, or from the permanent character of their produce, but consider that the former merely provides proofs of great and extensive changes having taken place, as before described; and the latter, that the breeding in and in for many years is capable of rendering stock productive of specimens with more or less regularity in tint and colour, and of establishing many permanent coloured races; and, further, that all such, whatever size or colour, habits or disposition, as when mated with ordinary domestic fowls, are capable of generating prolific offspring, belong to one family, but further :—

Which and how many were the primitive varieties of this family is unknown; but what I here wish to maintain is, that many of the present varieties, recognised by some as distinct, have been produced by art, and have no claim to originality. At the same time we have no right to suppose the buff Shanghae had the same origin as the silver-spangled Bantam, merely because such is possible; or we might imagine the Newfoundland dog and the black and tan spaniel, have a right to claim the same descent. That Creator, who rendered many fowls of the air to differ but little from each other, and many of the countless insects each other so resembling that man can detect but little existing difference without the aid of magnifying power, which have, nevertheless, instinct sufficient to render their generation select—may not that same Creator have originally called into being many pairs of birds of this "order" differing in different respects, or may be closely resembling? Certainly. The redbreast and the nightingale, save in the tinted breast, are near

allied, still they ever retain their own respective society and blend not their blood. When such is done by man, then we are compelled to interfere, and cast adrift a wrongful nomination, and readjust a name indicative of facts. For this reason we maintain the buff, the black and white, or partridge-brown Shanghaes, are, if purely bred, of one common descent, and the silver or golden-spangled, the black-breasted, or the purely black Bantam, are derived from one source, although indirectly. That the white-crested black Polish, or the golden or silver-spangled Polish, bearded or unbearded, spring from one origin, or obtain their characteristics from one common source, although admixtures have altered such from primitive characteristics. That the black or brown-breasted red Game cock, the Dun, the Pile, or the Duckwing, although so different in feather, had but one common descent, and derive their peculiarities from that source, although man's art has altered colour to his mind by breeding in and in, or crossed with other birds and strain, and, having produced the desired tint or form, continued breeding from such specimens as developed most his fancy, until at length that peculiarity became permanent and ever exhibited itself in the offspring—and the more carefully selected the longer effected, the less "crying back," and the more and more permanent it became, until at length no vestige or trace of olden tint or form becomes observable.

By breeding specimens of one branch of the family which had been the subject of many changes, with others equally though differently changed by years and other climatic influences, the produce so generated again exhibited a blending of the two peculiarities, and the produce being bred in and in, classes distinct in appearance have been formed.

For one example (though not on equal footing, still sufficiently evidencial to prove the possibility of forming an apparent new variety by admixture), some seventeen years since a friend, by name and nature, possessed a white-crested black Polish cock, which he matched with a brown-red Malay hen, the produce so generated were of the most peculiar appearence—one of the male birds took after his mother in respect to size and form, but resembled the father, though imperfectly in colour, and possessed, moreover, a few feathers in the crown. This bird he bred with a white-crested black Polish hen, and several of the produce, especially the pullerets resemble the Malay in form, but possessed a fair share of the Polish characteristics, when mated with a brown-red Malay cock, proved highly interesting, several of the male specimens stood twenty-three inches high, but were very nearly black, and possessed, especially in one specimen, a considerable topknot. For five successive years they and the produce were bred with Malays, and the result was the production of several fine specimens, two of which, cock and hen, were perfectly black, without any indications of a crest, or even the elevated skull, but resembled the Malay in shape, size, and carriage; these were bred in and in for several successive years, until a permanent colour was established, though now and then a slight crest appeared in diminutive form; but peculiar to say, although the colour of the specimen was invariably inclined to black, the crest came brown (this being the original colour of the plumage of the original Malays); if these birds had been further bred together and judiciously sustained, the breed might have been preserved, and by the selection of the purely back specimens, this so produced variety might have still existed to deceive the world.

POLISH BREEDING STOCK.

The laying of the foundation stone is always regarded as an important feature in the erection of the mansion or the cathedral; equally important to the fancier is the selection of pure and perfect specimens, and such as fully develop every requisite characteristic for the foundation of success in his less assuming and more moderate desires. That the male bird be of different strain to the hens is of great import, equally so the after occasional importation of fresh and vigorous blood into his stock of the same class, but of different strain for the production of first-rate hardy offspring (which is necessary every other year). Although the Polish family have suffered much from the evil effects of breeding in and in, still, be it remembered, even that is far better than the admixture of a distinct family which renders the produce valueless as fancy birds, although the parents may have been prize birds of their own respective class.

Therefore, although the importation of fresh blood is imperative, no less important is it that the blood so imported be of first-rate quality, and equal, at any rate, to the old sort, or the admixture had better be postponed until such can be procured, although slightly over the bounds of prudence.

In the stock selected should be developed every characteristic regarded as desirable as to colour and general appearance, neither should the form of the bird go unexamined, seeing deformed specimens are not rare in this family, and where such is the case it is frequently transmitted to the offspring, and becomes hereditary. To detect a curvature in the spine a glance will frequently suffice, as the back is raised in a curved line from the hips of the tail, and being most elevated midway is easily observable, sometimes causing the tail to be unevenly carried. It is

either produced from a hereditary source or the immediate effects of in and in breeding. Sometimes one hip bone protrudes more than the other; if there be a doubt as to the presence of this defect such may be readily dismissed by placing the hand flat upón the back, taking care to hold the bird evenly, when it at once becomes tangible.

Not only is it important to observe (as in other breeds) that brother and sister should not be matched together, but seeing the crest feathers are not fully developed until the third or fourth moult; neither pullets nor stags should be bred from, but only cocks and hens, that is only such as have reached the second Christmas from their exclusion from the shell.

From old birds are usually produced chicks possessed of most fully developed crests, and chicks which feather quickly and soonest arrive at maturity; whilst from three year old hens, when mated with stags, are generated the most robust stock birds.

Sometimes they throw or cry back, and from the golden-spangled are produced silver-spangled specimens; likewise the male of each variety, when matched with the hen of the opposite colour, that is if the golden-spangled cock be mated with the silver-spangled hen, he engenders as pure and perfectly marked silver produce as those produced from the silver-spangled cock and hen, or the silver-spangled cock and golden spangled hen in like manner produce clearly marked offspring, indicating plainly their relationship as splits from the same block, and evincing their original identity.

In the generality of cases when birds of a different feather are matched the produce run mealy, mottled, piebald, or speckled, according to the feather of the parent birds, and receive their characteristics indifferently from the two as well as from antecedent admixtures.

A prominent and peculiar characteristic is not easily lost, it may be and necessarily will be much diminished by cross-breeding, but it will be found when mated with birds of a different class possessing wonderful influence over the progeny. The bearded Poland attaining his characteristics from a hereditary source, invariably breeds bearded offspring. All birds more readily acquire than loose a feature, especially where such is a prominent character for this reason, as before stated, match a bearded Poland with a beardless fowl, and every specimen thus produced will possess this characteristic of the Polish class in a greater or less degree.

For cross-breeding the Polish proves no less valuable, the produce running small in bone, but round and plump in flesh. A summary of importances may thus in a very few words be expressed.

1st. In selecting stock procure one cock and two or three hens possessing the necessary characteristics as before described, with every requisite feature fully developed.

2nd. Take care the former be of different strain to the hens, though of the same feather.

3rd. Whichever be the variety selected every care must be taken to avoid an admixture with another bird of a different feather, even though of the same class.

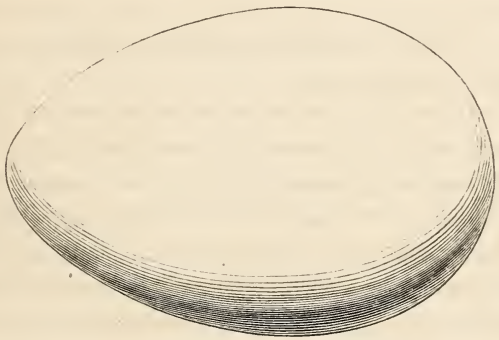
4th. Import fresh but equally good blood into the breed as often as it can be procured.

5th. Never breed from relations, and more especially avoid consanguinity necessarily resulting from brother and sister being matched, such mating invariably proves degenerating in its effects.

6th. Neither breed from stags nor pullets, but from full grown and mature cocks and hens. (This applies to the Polish class alone.)

POLISH AS LAYERS.

Polands are classed by some amongst "everlasting layers," being remarkably productive, usually commencing in the spring, though a little later than the generality of others, but continuing on and off until the autumn, or moulting season. There are amongst them, as in every class, some whose powers of production are indifferent; but such are quite exceptions to the rule. The eggs of the entire class are of moderate size, but the multiplicity more than compensates for deficiency in weight; the shells are perfectly white, and of an oblong shape, being more obtuse at one end than the other.



FAC-SIMILE OF THE "POLISH" EGG.

The average weight of the white-crested black's egg is about two ounces, though, when arrived at maturity, they frequently produce them slightly heavier; this variety is considered the most prolific of the class, although the eggs of the golden or silver-spangled usually exceed that weight by a quarter of an ounce. Some hens lay eggs much less obtuse than others, but the usual tendency is to an oblong shape; they likewise vary in production (see Part I. Sup-

plement, page 39); the four hens there mentioned proved very productive, and deposited in the second year collectively nine hundred and thirty-five eggs, which amount to two hundred and thirty-three each hen; this was a large average, and exceeded the comparative average of our yard of Polish, which were, however, of a different strain. One hundred and sixty to two hundred may be considered a fair average, but it would be useless laying down in more definite terms a settled average for the entire class, seeing not only do the varieties greatly differ from one another, but birds of the same variety vary equally as much in this respect; the last mentioned average may, however, be considered a fair one.

POLISH AS SITTERS AND MOTHERS.

When it becomes known that the Polish, in opposition to the instinct which urges most other hens to incubate after production does not influence them, there is immediate ground for the abandonment of that surprise which, upon hearing of the large and numerous supplies of eggs by them produced, first took possession of the mind. Their time not being occupied by maternal duties they have the more leisure to produce, and it occasionally occurs that a fowl of this class will take advantage of the opportunity and lay one hundred eggs with little or no intermission. As there is but little difficulty in procuring the assistance of another fowl to undertake the task of incubation, it seldom forms any material ground for dissatisfaction on the part of the fancier, who much prefers beholding his stock in decent attire and good trim than emerging in cramped and disordered feather from the confined and narrow space within the nest: and the farmer much less, who has more frequently cause for complaint on account

of his hen's obstinacy, and the determination with which they baffle his attempts to quell their feverish desires. No, in his estimation, this characteristic is to be regarded as decidedly desirable, so long as he has sufficient differently disposed hens to undertake the office of incubator. The tendency to incubate forms a very exceptional case with the bearded Poland; but the beardless, although seldom, are nevertheless more inclined than the former, but, in nearly all cases, not until very late in the season; indeed, although they may behave themselves well, and carry forward the process with steadiness, it is quite a speculation, and I would never advise valuable eggs to be placed under them when other hens can be procured—seeing in most cases they will act steadily for a day or two and then the idea of a sedentry occupation will give way for some more desirable occupation, and the nest necessarily becomes vacated.

The Spanish, the Hamburgh, and the Polish, are similarly indisposed, though in different degrees. Whether we esteem this peculiarity as desirable, or opposed to our interests, it becomes the naturalist and historian to regard it with decided feelings of dissatisfaction; the former will behold it as nature incomplete and rendered imperfect by the works of man's hands, by the breeding in and in, and the strict domestication to which she has been subjected; whilst the latter, with equal feelings of remorse at the reduced condition of the once perfect organization now evincing no desire to propagate her own species, becomes cognizant of the position he would himself occupy (as a historian) were a'l nature thus so deficient and devoid of nature's stimulant to generate their kind. (Further suggestions on this momentous subject included in after part.)

HATCHING AND REARING POLISH CHICKS.

Since, then, we are unable with safety to procure the assistance of the Polish hen to officiate as mother, it becomes requisite to engage the services of some hen of a different class to perform the duties devolving upon incubator; amongst which Game and Dorking hens stand pre-eminent. The eggs of the Polish should not be set prior to the commencement of April (unless the season be advanced), which time is more suitable than an earlier period, as cold and wet much retards their growth, and renders close confinement necessary, which at a later period may be frequently dispensed with. Upon the arrival of the twentieth day, after depositing the eggs beneath the hen, the chicks may be found emerging from captivity; and upon the twenty-first being completed, all should have made their exit. Their characteristics are recognisable as soon as they are excluded from the shell—the beard and the crest form striking contrasts to other chicks. The rounded and elevated skull, where developed most, bespeaks a well shaped and extended crest; a large circuit of beard, full hackle feathers; according to these two characteristics, so the two important after features become developed. A chick with but a slightly elevated skull has but little groundwork for the erection of a beauteous plume; the bird with but a small amount of beard, but little chance of ever possessing full and beauteous hackle-feathers. I say little, because there are exceptions, though but few.

When first hatched the white-crested black chicks are of a jetty black colour, with white or greyish markings on the breast, the crest should be white and the wings are frequently of the same colour; but the first moult should substantiate black feathers, grizzle or any other tint being *ruinous* to their pretensions as fancy birds.

The produce of the black and the white Polish are of the same colour as their respective parents, both in body and crest, although somewhat of a different shade.

White-spangled yellow—these chicks vary from a light brown to a creamy hue, with stripes of a deeper shade down the head to the lower part of the neck.

Black and white-crested chicks are usually very irregular, with a mixed tint prevailing through their down in patches, but sometimes of a pale cream.

Golden-spangled vary much in shade and tint. They range from a dull yellow to a deep dingy brown, and are marked as in the black and brown-red Game chicks, with two or three parallel bars running down the back, but usually of a darker shade; legs light blue or lead colour.

Silver-spangled are similar to the above, possessing likewise the stripes down the back, but the groundwork is a creamy white or grey, with darker tints upon the back, greyish crest, and black eyes.

Polish chicks feather quickly, but being small in bone appear less robust than most other varieties. Care, therefore, is requisite to guard against damp, which is far more injurious than dry, cold weather. For the first six or seven weeks they require great care, attention, and good feeding, especially whilst their down is being substituted for feathers.—(See Feeding and Rearing Chicks, Part III., page 111, and Part IV.)

When once thoroughly feathered they may be considered out of all danger, and as hardy as the generality of other chicks. They grow moderately, but frequent change of food is requisite to prevent them "standing still" in this respect. It is extremely difficult to distinguish between the pulleret and the cockerel until somewhat in an advanced stage, seeing they do not possess even the rudiments of a

comb; neither are their countenances otherwise indicative. The golden-spangled may be distinguished before the other varieties, by the red feathers in the cockerel becoming the soonest apparent; not long after the silvers exhibit their differential sex. Surmises may be formed by the comparative size and muscular development of the cockerel, as well as from the fact that the male bird's tail feathers are usually carried downwards, and grow much slower than the pullerets which are frequently carried erect; there may be, perhaps, no evil attending the mere surmise, but I feel confident but little good results, and but little can be ascertained until the feathers actually appear.

POLISH AS FLESH AND DEAD STOCK.

The flesh of this fowl stands high as a table delicacy, being round, plump, white, tender, and very fine in flavour. At the same it must be borne in mind they do not reach such heavy weights as the Dorkings usually attain—also commence laying later in the season than ordinary fowls; and considering the difficulty with which they are reared, and the injurious consequences invariably resulting from damp or dirt, they are not calculated to form suitable staple stock in an ordinary farm yard; but, where a grass run is afforded them, few are their rivals in beauty or intrinsic value and utility.

CONSTITUTION.

As before stated, damp and cold are particularly prejudicial to the well doing of the Polish family, especially the former, which will make great ravages amongst the chicks if not timely prevented; for this reason, therefore, every care must be taken to erect the fowl house in a warm and secluded situation upon a gravelly and not a clayey soil,

and to guard against all draughts or currents of cold air. The peculiar changes in the appearance of the coats of this class must necessarily be observable to every Polish fancier; it is true they progress in beauty until the third or fourth moult—the crest feathers are not fully developed, neither their plumage so brilliant before as after that period—in this they differ from all other fowls, which usually arrive at maturity of feather and full development by the completion of the second year.

DISEASES.

Although the Polish chicks are recognised as being less robust than the generality of their compeers, it appears equally certain when arrived at maturity, and not peculiarly exposed to evils, their diseases and maladies are but few. Cold and damp are at all times injurious, and if not guarded against will engender roup.

A feature of less importance, but proving disfigurative, is the partial temporary loss of the ornamental crest. In that department I observed in a hen, a short time since, the appearance of prevalent irritation which, by her peculiar motions and evident signs of uneasiness, became too apparent to escape observation; a day or two later, upon drinking from the pan, she placed her head almost entirely beneath the water, which rendered her crest completely wet throughout; a short time after I again observed her and discovered several of the feathers had been removed from her crown, and such as remained were much flattened; having watched for a few moments it became no longer doubtful that her associate hens were the instruments of extracting them one by one, and upon taking her in hand discovered her skull to be in a dirty plight, partly produced by the presence of their beaks from time to time, but evi-

dently having existed in a bad condition some time previous to their attacks. The fact was, her companions had been pecking the dirt instinctively for the purpose of effecting its removal, as may frequently be observed in hens friendly towards each other, and strongly contrasting with pugilistic encounters resorted to by others; but the former having extracted a few feathers and rendered the spot bare, it became somewhat irritated, which further encouraged their continued operations although to her discomfort, and not only so, a bad habit was partially acquired.

As soon as it becomes apparent that a bird's crest is thus being reduced, it requires examination for the purpose of eradicating the inducing cause and applying remedial measures—if found dirty, it should be immediately cleansed and rendered quite dry before the patient be readmitted to her companions, otherwise a head which, when well plumed, is very ornamental and the glory of the bird, proves a picture of extreme ugliness when deprived of its coverings, by the exposition of an elevated skull.

THE MALAY FOWL.

HISTORY OF THE MALAY.

In this age of progressive refinement and practical inquiry, the bare outlines of a theory, the mere skeleton of a fabric, are found insufficient to satisfy the demands of the "people." Whether the human mind soars to objects without the extent of material vision, or displays a heartfelt love for nature's more subdued harmony below, the same spirit of determination to obtain the germ of truth in detailed facts prevails. That nature's intricacies as solved in these pages will prove insufficient for the exigencies of a future age, we feel bound to admit, but rather with sensations of satisfaction than otherwise, seeing the love of progressive improvement being implanted within the human soul, the same desires actuate extension of hope for future advances.

Had the subject of poultry economy in past ages furnished us with the briefest notices indicative of climatic originalities, or furnished data from whence we could gather the then existing varieties, with the localities in which such were domiciled or otherwise prevalent, a boundless field of materials for enterprise and research would at once present itself to our eager gaze, from which with unwearied satisfaction the unsolved problem might be extracted from its perilous situation of remaining ever sealed. Since, then, we are unable to extend our researches satisfactorily, we must content ourselves in gratitude to past neglect with furnishing data

from whence future researchers may be enabled to unravel their intricacies.

The subject of this chapter purporting the history of the Malay is less obscure than may be imagined. In the present day there exists several wild varieties of fowl in Asia, bearing much resemblance to the Malays known in the present day,

In Java two wild sorts exist, known respectively by the names Ayam-alas and Ayam-ourus. The tail of the former is much forked, from which circumstance it may be immediately distinguished from the latter, which is almost entirely devoid of that appendage. Although naturally wild and extremely shy in their habits, specimens of each kind are occasionally taken whilst young and reared and bred with the Javan domestic fowls, which renders the stock of the latter vigorous and of constitutional hardiness, this feature becomes more particularly manifest in the issue of the produce thus generated than in the immediate offspring. The natural result of the admixture is exhibited in the diversified Javan stock.

Many existing specimens bear considerable resemblance to the *Gallus Sonneratii* found by Sonnerat in the jungles of India in a wild state. The tropics abound with an almost endless variety of variegated plumaged and varishaped fowls, and to those latitudes we are indebted for the possession of so noble and hardy a bird as the Malay. From the Peninsula of Malay, situated on the southern point of the continent of India, where this fowl still abounds, have been imported magnificent specimens of the Malay kind.

To Mr. J. Nolan, of Dublin, a man of great experience and sound judgment, we are indebted for the extensive propagation of this very noble family. He was one of the

earliest Malay breeders, having obtained his stock from the London Docks, to which place they had arrived direct from Malay. They were of a reddish yellow plumage, and progenitors of an illustrious family, from which have been generated some of the finest specimens in the country.* That they were the aborigines of the Peninsula of Malay is unquestionable, and that the existing specimens claim descent from them is equally conclusive. That the Kulm or gigantic cock is but another name for the same extensive class; that this species of fowl, divided, sub-divided, distinguished and nominated, as after described under the head of varieties, according to developed peculiarities, embraces extensive differences of feather, comb, form, size, &c., is acknowledged;—but is thus especially nominated as purporting the recognition of external differences, and not with a view to the rendering such of different classifications.

CHARACTERISTICS OF THE ENTIRE MALAY CLASS.

Head, small and neat, but should be long and serpent-shaped, sloping towards beak, and perfectly free from topknot.

* From this time until the arrival of the Shanghae into this country the Malays were the largest fowl known, and very high in esteem as fancy and useful fowls; but since the introduction of the latter they have wofully fallen off in public estimation. We trust, however, they will again lift up their heads and become the admired of distinguished fanciers, possessing qualities which justly entitle them to such consideration. Their extreme nobility of size and general appearance, their aristocratic air, majestic deportment, extreme hardiness of constitution, and great intrinsic value for cross-breeding purposes, will, we trust, be considered sufficient to entitle them to that amount of careful and judicious tending which will render them acknowledged (as they still are in the opinion of some) the most noble among fowls.

Face, highly coloured but skinny, and bearing a very hard aspect (see eye); the crimson, fleshy hue extends to the throat as in no other class, resembling thereby the face of the trimmed Game cock. The hen's face is of a pale crimson.

Comb.—There are two varieties of comb, one presents a low crimson, irregular compressed knob or wart lying on one side of the head; in the hen it is almost flat on the skull, and in both birds it occupies but a small portion of the head as compared with the comb of other fowls. The other is a double one of the same colour, rather larger, but single at its base, consequently falling over on one side; in the hen it is very diminutive, resembling a small straight row of minimum buds, increasing towards the back of head, but not rising more than the sixteenth part of an inch above it.

Wattles are merely rudimental in both sexes, but of crimson hue.

Ear-lobes, small and red, a peculiarity possessed by highly bred Shanghaes, but by few other classes.

Beak should be of a decided deep yellow, very strong and slightly hooked, but in dark specimens occasionally tinged with black.

Eye.—In both sexes fierce, cruel, and piercing, but grave and deeply socketted in the head. The pupil is of a brownish black; the iris of a deep orange hue, but in the white or light brown varieties it varies from light grey or pearl to fawn.

Throat, bare and crimson.

Neck, long and muscular.

Neck-hackle, hard, close, and spare, not ample at the base as in other breeds, but short and close in both sexes.

Breast is not by any means broad, but inclined to narrow-

ness in comparison with height and weight of the bird, and occasionally exhibiting upon the surface or feathers a tendency to part in a perpendicular incurvity.

Back and shoulders.—Back describes a sharp oblique line from the neck to the insertion of the tail, rendering the bird diametrically adverse to the Shanghae, to which in this respect it forms the greatest contrast possible.

Thighs, well boned and long, the greater the distance apart the better, as indicative of further width of breast, soundness of constitution, and good breeding. The Malay cock stands higher upon his pedal limbs that any other breed of domestic fowl.

Shank is long, and should be of a decided brown yellow or bright yellow, perfectly clean and bare, but coarsely scaled. Being well boned they possess great power, and surpass in this respect the most valiant chanticleer of the genus "fowl."

Claws, long and yellow, four on each foot, should be well spread, nails white and pale yellow; in dark birds tinged with black. Length from the extremities of middle and back claws, inclusive of nails, in the full grown cock, five and three-quarters to six and a-quarter inches. In the hen four to five inches.

Wing, very powerful and of fair average size, more expansive and longer than in the Shanghae; but being heavy-bodied they are unable to fly rapidly, save in a downward inclination; the wings are clearly defined towards their exteriors, principally owing to the firmness and shortness of feather prevailing throughout the body. In this is presented a striking contrast with the contracted and deeply imbedded wings of the Shanghae.

Tail is carried low, arising from the rapid descent of the back, and humble position occupied by the base of the

former, which is a greater distance below the head than in any other fowl, otherwise the tail should be moderately erect, but not stiffly so. Is rather spare in comparison with the size of the bird, but much in character with the general figure. The sickle feathers of the male are moderate, but describe a portion of a small circle compared with that defined by the white-crested black Polish, and many other varieties. The hen's tail is composed of five straight feathers in each side.

Carriage.—The male is very erect, with neck and back sloping in a sharp line downwards to the insertion of the tail, exhibiting a bold and defiant air, with every appearance of energy and muscular strength to resist the attacks of the most powerful enemy that may come in his path. He should be of majestic and commanding deportment as indicative of high breeding. The hen is likewise very lofty and portly in her carriage, and well establishes by her dignified demeanour her aristocratic relation.

Gait, lofty, stately, and heroic, but at times rather stiffly so.

Size, &c.—They cannot be considered robust, although of great weight, seeing the offal, which is considerable, is "weighed in," they are, therefore, tall and heavy-limbed birds, but not robust.

The average height of a full grown cock when standing at ease is	28	ins.
Exceptional specimens have been known to reach	33	„
The average height of a full grown hen when standing at ease	23	„
„ weight „ cock after moulting ...	10½	lbs.
Exceptional specimens have been known to reach...	13	„
The average weight of a full grown hen after moulting	8½	„
Exceptional specimens have been known to reach	10½	„

The mean heights and weights above may be considered fair standard averages of excellence.

A cock is full grown and filled out when arrived at two and a-half years, and the completion of the second moult usually finds him in his most beautiful garb.

General feather.—The plumage of high bred Malays, especially the black-reds, is remarkably rich and splendid, and well bears comparison with any of the Game class, should be close and short, smooth but hard, and of wiery or silky character, bearing no proximity to woolliness. To Mr. Ballance, of Taunton, a most devoted breeder, we are indebted for the following corroboration of our opinion upon the special importance of the Malay exhibiting a fine and prepossessing exterior in the shape of plumage:—To give it in his own words—"unless the plumage is brilliant, and the bird in full health, his appearance is disadvantageous in a symmetrical point of view, being long in the neck and legs, but comparatively short in the body."

Crow, very loud, deep-toned, and somewhat prolonged. I, however, a few months since, possessed a white bird which invariably crew a deep-toned, rapid, defiant note, and was prepared for the next before the Shanghae, which, upon one occasion, commenced instantaneously with him, had drawled out his last strained note on tip-toes.

Disposition of both male and female is pugnacious as denoted by their fierce, cruel eye; the cock proves an irritable father to his chicks, whilst the mother is extremely tender, watchful, and devoted towards her progeny, but exhibits the fiercest rage and spite towards any unfortunate youngster which may have broken from the confines of another's care. No chick can be palmed off upon her without the greatest risk of being discovered, even after the lapse of a few hours has intervened. Stock birds agree tolerably well.

Constitution very hardy, and capable of bearing great changes of temperature, and resisting, to a considerable

extent, the evil effects of damp and cold, so very injurious to all poultry. The climate of the southern counties of England is, however, more suited to their constitution than the more northern. They bear confinement well, but a good run is always advantageous.

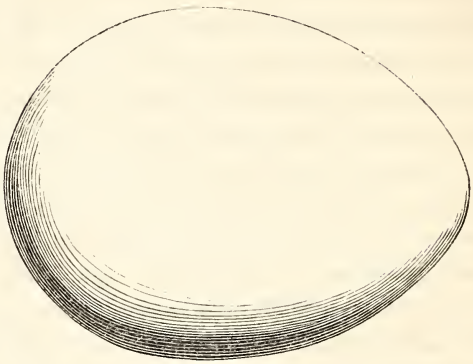
Feeders, very hearty, and as might be generally inferred, they readily fatten for the table.

Flesh.—This is a point of the utmost import, but strange to say, it still remains a much disputed one, and to which we have, therefore, applied ourselves with earnest endeavours to arrive at truth. Corroborative testimony is the only possible method of ascertaining average facts, and for this purpose we have been rewarded in our solicitous inquiries by the testimony of the most experienced breeders. Mr. Ballance, of whose experience we have already had occasion to allude, states the following, which we give in his own words:—"Give me roast Malay *well fed* and properly dressed, and you may have the Turkey." It is evident from this statement, made by a most devoted and successful Malay propagator, that he considers the bird worthy the precedence even of the Turkey; moreover, that the quality is drawn out rather by the process of roasting than boiling, and that the animal, previous to the occupation of that envious position, requires proper feeding and dressing. It is obvious, therefore, from this statement, that the quality is dependant upon circumstances—that is, there is no doubt of the existence of quality, but, as in all such matters it requires judgment to render a full development discernible. To our appeal G. C. Atkins, Esq., of Edgbaston, whose experience as an amateur is too well known to require further comment—states, "the average quality of the Malay's flesh is anything but first-rate either for colour or flavour, there are, however, some

few strains which excel in this particular." From this we perceive that excellence is rather exceptional—inferior quality the rule. W. W. Hayne, Esq., has also kindly assisted us in our inquiries; his judgment must be ever regarded as a boon to the seeker after truth. He states "the quality and flesh of the Malay fowl is good and of white colour, but the skin yellow." Here again we perceive the fowl requires not only proper feeding and dressing, but a surgical operation to be performed on the breast, when through the deceitful, external envelope, the skin, may be obtained a glimpse of the bird's intrinsic value and superior quality. From these sources and others which lie before us, kindly forwarded by friends devoted to the extension of truth, who desire not publicity, we have gathered the harvest of our hopes on this point. We, therefore, feel bound to admit that whilst for the most part Malays are not equal to the Dorking, Spanish, or Game fowl for the quality of their flesh, there are very many which only require superior tending to render them of fair average quality—and at the same time some few very excellent breeds which stand unrivalled.

Layers.—Malays are free layers, but their eggs are rather small compared with their size and consumption of food—are inferior to the Shanghae as egg producers—the average weight of eggs is about two and one-third ounces each, are usually well shaped, and vary in tint from a buff to a light chocolate hue, very rich in flavour, and usually well and firmly shelled. (The varieties differ in their powers of production, but the above may be considered a fair average.) Although their eggs vary much in shape and tint, I have ever found each respective hen, when once arrived at maturity, regular with the former, but the latter being dependant in part upon quality and character of

calcarious matter supplied, the depth of hue and peculiar nature of granulation vary.



FAC-SIMILE OF THE MALAY'S EGG.

Sitters.—As incubators they are unsurpassed save by the Game and Dorking hens, although long in the leg they are particularly careful, as though aware of their occasional awkward bearings; they require a very large nest to "sit comfortably," which should be provided, or damage may ensue. They are particularly ardent and desirous of engaging in their sedentary occupation, and may easily be prevailed upon to carry out the wishes of the fancier, by making themselves at home in a spot of his selection, are remarkably tender mothers, and do not forsake their progeny at so early a period as the Shanghae.

There are some few amongst them which never incubate, but this arises from a totally different cause from that which similarly affects the Spanish, Polish, and Hamburgh fowls, viz., their passionate love of repletion, in which indulgence the craw occasionally becomes slightly twisted, as indicated by a striped appearance of plumage in the vicinity of the deformation.

VARIETIES.

We here propose casting adrift all misnamed distinctions, and rendering each nomination bearer of the title Malay, but peculiarly defined according to description of specimen; at the same time to regard with dissatisfaction all attempts to encompass the class with a multitudinous display of differences, which must ever occur from local or climatic influences and peculiar breeding, which represent no differences in blood, and are as unimportant as the peculiarities presented by the comparison of two pebbles from the sea beach, and denote no further import. But where select breeding has produced a variety, and that variety remains permanent, and generates its kind in form, colour, and general appearence, with regularity for many successive years, we are at once bound to respect such as acquired peculiarity, and register it as such by an appropriate nomination; also all permanent varieties will be here described, however limited their respective numbers, but cross-breeds or such as may have been foully generated or heterogeneously produced no mention will be made, seeing innumerable the differences thus presented, and such records save for experimentalization, for which sufficient will be characterized, are as confusing and distasteful to the general reader as valueless in themselves.

Why some should endeavour by plausible persuasion to render the works of God less majestic, and the beauties of his creation the result of chance, we cannot understand? Their endeavours to prove our many classes of domestic fowl *(Galli)* the descendants of so limited a number of primitive originals, and the issue of inter-breeding or chance crosses, and to blind the world as to their respective, peculiar, and distinguished merits, must ever prove unsuccessful

with the close student of nature, and the laws which govern multiplication.

Do we not perceive pervading this spirit, the spirit of the Deist? Is not the spirit of human agency preferred to the Divinity in thus ascribing existing visibles to visible men?

We do not here purpose enlarging upon the culpability of such rebellious principles, neither to propound remedial measures for the diffusion of truth, such requiring considerable space, which, in the present "part," we are unable to confer, our intention being to dwell upon it in an ensuing part, when principles will be advanced in support of the assumption that the Malay or Kulm fowl is of peculiar origin, different though not distinct from the Shanghae. There are—

1. White Malays.
2. Grey do.
3. Pied do., including
   Piles and Piebald Malays.
4. Yellow Malay } The nomination of "Duckwing" is erroneous, they
   Duckwing do. } being but a peculiar yellow, and devoid of the required resemblance to that type.
5. Chocolate do., hitherto called "Dunders."
6. Brown-red, do.
7. Black-red, do.
8. Blues or Dun Malay, and
   Red Dun do.
9. Black do.
10. Spangled Pheasant Malay, hitherto called "Pheasant Malay."

CROSS BREED.

Malay-dorks, hitherto termed "Chittagongs."

The principal difference in the varieties consists in the colour of their plumage, therefore, the previously described characteristics are respectively applicable.

Lithographed by C. J. Cullford,

WHITE MALAYS.

22, Southampton Street, Strand.

White Malay.—Both male and female should be purely white throughout, betraying a silkiness and transparency of feather of peculiar excellence, the neck and saddle-hackles affording a relief to the eye by their depth of gloss, whilst the breast and thighs are of a dead white, with beak and legs yellow. The iris grey or pearl, with crimson face, and small compressed comb and wattles of the same colour, which render them complete with beauty and delicacy. In some specimens the neck, saddle-hackle, and wing coverts of the male present a slight yellow tinge. The hen is of uniform white, with beak and legs yellow, and crimson face. In form, size, and every other particular they correspond with the coloured varieties, as described under characteristics—(see plate). The white birds there represented are in the possession of Mr. Biggs, of Liverpool, were purchased by him from a Norfolk stock, and are the finest birds I ever remember seeing, in size exceeding the average. The male weighed (whilst before our artist) eleven pounds five ounces.

Grey Malay.—This sub-class is the produce of the admixture of black and white, but of which there are two different though not distinct strains, the one presents the ground of the entire body of the male of a blackish hue, with each feather tipped more or less with white, including the breast and tail—but no brown or any other tint of a brighter hue should prevail. The hen is similarly marked, and rather prepossessing in her exterior when well and definitely spangled. The ground of the male of the other sub-class consists of an entire blending of black and white, rendering every feather of both sexes of a fine mixture of the two, as though ground and mixed in equal proportions. They are extremely neat, but require judgment in breeding, or the chicks " cry back " to one or other of their progenitors. (See Breeding Stock.)

Pied Malay.—This variety includes several sub-varieties as "blood-wing" Piles, yellow Piles, and patch Piles or piebalds. The former are of extreme beauty, and constitute a very desirable contrast with the dark varieties, but are very scarce. They are the produce of the white Malay hen when matched with the black or brown-red Malay cock. The male should have those parts of the body white which in the black-red cock are black, with neck and saddle-hackle of a bright red or orange, and each feather white down the centre; the back is of a deeper tint, and in the handsomest bird approaches dragon's blood. Breast occasionally white with the centre of each feather finely marked brown, sometimes of a light chestnut throughout, or regularly spotted, or having the uppermost part brown, with a few feathers at each side regularly coloured with a similar tint, and the rest white; thighs and vent white, tinged with brown; tail should be white if the breast is of that colour, but if of a darker hue, brown and white usually prevail, and occasionally stripes of black. I have generally found the produce run much clearer and more settled in their feather when the father is the coloured bird and the mother the white. Yellow Piles are much less coloured and present a yellow tinge instead of the deep blood, and are far less beautiful. There is but little difference between these birds and those mentioned in the white variety, which possess slight yellow markings, saving that they are more deeply tinged. Piebalds are not usually favourites, being irregularly marked, and their offspring very uncertain in the character of their plumage, moreover, not being a permanent variety, are not worthy the attention of the amateur.

Yellows or buffs and duckwinged Malays.—The term "duckwing" is evidently a misnomer, at any rate as applied to those specimens which have come before the public. If there exist real duckwinged Malays I should

indeed feel great pleasure in becoming acquainted with such; but until they be produced to transmit their plumage to the offspring from a hereditary source, I must conclude that such as are usually recognised as "duckwings" are the only specimens approaching that variety, which are, however, but yellows, and not analogous to the wing, "duckwing," for which, regardless of body plumage, they should receive nomination. There may exists hybreds between the duckwing, Game fowl, and the Malay, but no variety is thus founded by any one such admixture, but merely cross birds. If the colour can be perpetuated in the progeny by occasional instillations of the desired feather into the breed, until it becomes even partially permanent, it will also become necessary to consider it a variety of the Malay, that is if its characteristics prove in comformity with that bird, seeing many other recognised varieties have been thus produced.

Yellow or buff Malays.—The ground of the feathers of the male of this variety ranges from a deep orange to a golden chestnut. The hen's plumage comprises various shades of straw and cream. The breast, body, and thighs, of the male are of deep orange, the neck and saddle-hackle of pale golden tint, back of a deeper hue, wing coverts golden chestnut, quill feathers of the wing frequently white or grey, tail black and brown, the former colour prevailing, vent light brown. The hen is frequently of an uniform deep straw or cream with bright golden neck-hackle, wing coverts of a rather warmer tint, with brown and black tail. No specimens should be considered eligible for first prizes where mealiness in the feather exists, where white or speckle prevails, which, however, they are rather liable to present. They are very rare, and but seldom seen possessing a good clear coat owing to their generation. When in good feather

they are extremely neat, and form a desirable and ornamental variety. The cause of their occasionally presenting "foul marks" is the result of their parentage, not always immediate, but slightly remote, seeing they claim descent from the admixture of the white cock and the brown hen. As there is ever a great disposition to blend when the male is of the stronger hue, the presence of the white hen tones the colour down, and the offspring are more settled in the character of their feather than when the hen is of the darker colour, in which case speckles, piebalds, &c., are more frequently produced. It requires many years to produce such a consummation and amalgamation of tints as to generate with steadiness a regular coloured strain, for this reason the present breed, if well sustained, is likely to improve, but when once the offspring appear "crying back" to one or other of their progenitors, to which they will ever incline, a fresh stock of the requisite feather must be infused. (See Breeding Stock.)

Chocolate Malays—(hitherto called "dunders," which is perfectly inapplicable) are so peculiarly uniform in their plumage that we are compelled to describe them separately, at the same time acknowledging their identity of blood with the "browns." There are but few to be met with, but resulting rather from being imperfectly recognised and receiving no particular attention from the breeder than from any constitutional tendency to propagate unsettled hues; the fancier not being sufficiently aware of their excellence usually matches them indiscriminately with his other family of browns. Were they paired with the chocolate, a very beautiful progeny would doubtless result. The cock's breast and belly is of uniform chocolate, neck and saddle-hackle deep golden chestnut, thighs dull chestnut, and tail brown and black. The hen is of a very

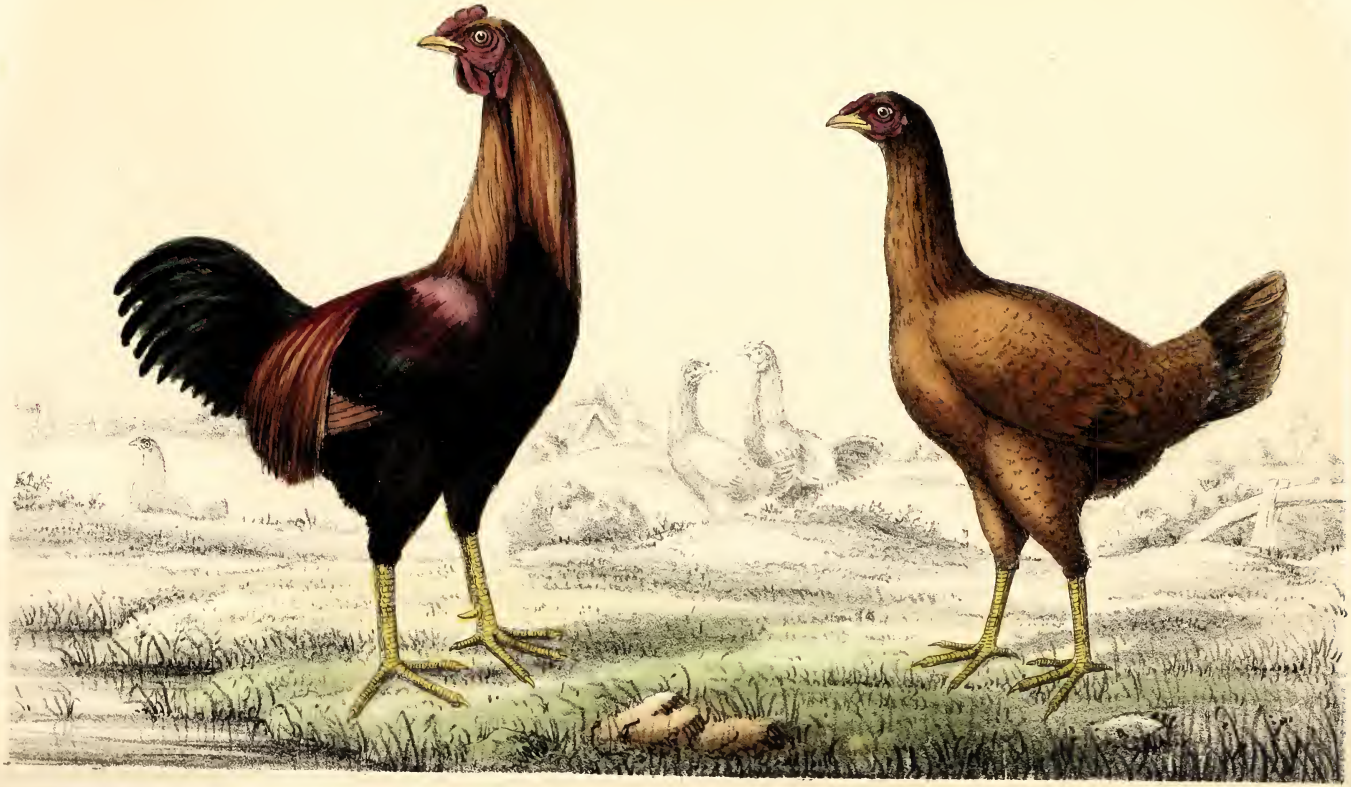
settled chocolate-tinted shade, including neck-hackle, wing coverts and breast, with dark brown tail, presenting a picture of uniformity and subdued beauty.

Brown-red Malay.—In this variety there are many exceedingly handsome plumaged birds. The male presents a breast of deep rich chocolate-brown inclining to black, with neck, back, and saddle-hackle feathers varying, according to their position, from deep orange to dark marone red; wing coverts crimson marone barred with metallic blue, thighs and vent feathers black and partridge brown, tail black tinged with brown shining with purple rather than green metallic lustre. The hen is of a reddish brown; rather lighter on the under parts than the back, wing coverts reddish umber, neck-hackle deep red with black ink stains, tail nearly black, legs and beak in both sexes of a decided yellow, iris of a bright orange.

There are also *light Brown-reds,* which are usually less brilliant in plumage than the above, arising partly from deficiency of relief afforded by monotony of shadows, and partly from the actual dulness of their plumes as compared to the former. The breast of the cock varies from a light umber brown to a dingy chestnut with blackish spots, neck and saddle-hackles golden brown with deep ink stains, thighs and vent black and light partridge brown, and black tail. The hen resembles the general ground of the male, but more subdued, is of a dull yellowish brown. In some the breast of the male is of a pale brown painted with black spots, neck and saddle-hackle dull red deeply ink stained, rump brown, tail brown-red glistening with metallic lustre; hen of this sub-variety is of a deep yellow brown, with dark neck-hackle, and tail, breast, and body of a lighter hue; the outer web of the quill feathers of the wing frequently white or grey.

Black-red Malay are of extreme handsome plumage, exceeded in this respect by few Game birds of the same feather. The breast of the male should be of jetty black, but in some specimens a few brown feathers are distributed throughout; the neck and saddle-hackles are of bright golden red, the latter long and drooping over the rump and base of tail; wing coverts of a deep crimson barred with metallic blue, outer web of quill feathers brown; back of rich dragon's blood; body, thighs, and vent black, interspersed with partridge brown; tail black resplendent with metallic lustre. The entire plumage close and firm—the wing coverts particularly close and wiry; the outer web of the quill feathers of the wing sometimes white; the tail is occasionally thus marked, but we would much prefer no such discolorations. The hens are likewise well feathered and close, and resemble in some instances the black-red Game hens in feather, ranging from a dark straw to a brown-red or deep reddish brown—the former possessing bright hackles, and bodies of a deep straw—back of a deeper tint, and black tail. In the latter strain the neck-hackle is of deep brown or red, with dark ink stains running through the centre of the feathers; wing coverts strongly marked with reddish brown—breast light chestnut—tail black tinged with brown. In all cases, both sexes should possess clean, deep coloured yellow legs and beak, with crimson face, and no appearance of mouldy ear-lobes.

Blue or dun Malays are the result of admixture between the black and white varieties, and moreover extremely scarce. The male is of a slaty or leaden hue, with neck-hackle and wing coverts of a darker tint; back and tail leaden black, but occasionally spotted with white or tinged with grey. The hen is more uniform and settled in her tint and frequently presents a clear silvery blue coat, but in



Lithographed by C. J. Culliford,

BLACK-RED MALAYS.

22, Southampton Street, Strand.

some specimens the index of origin is exhibited in the garb of irregular combination. I have frequently known these birds moult off from a settled blue to a spotted grey or grizzle, to which irregularity birds of advanced years, or such as are of enfeebled constitution, are more especially subject.

Red Dun are but the after admixture of the black or brown-red Malay with the above described bird. In the male the neck, saddle-hackle, back and wing coverts, present the varied shades of orange-red. The hens are seldom of such a fine cast as the dun Malays; dull orange occasionally prevailing with the feather.

Black Malays are a very fine variety and contrast strongly with the coloured—should be of uniform jetty black, with neck, saddle-hackle, and wing coverts, of brightest black, and possessing the usual characteristics of the other sub-classes—with crimson face and serpent's shape head, deep set savage eye, cruel, pugnacious, but grave in its expression, and the entire bird being, in both sexes, clad in deepest black, present the very strange combination of effect—"ferocious mourning"—as exhibited in no other class of domestic fowl. Even the Game fowl, the most pugnacious bird, has a very different expression pervading his countenance—being proud, valiant, active, vigilant, energetic, determinate, and piercing, but not by any means cruel, savage, or ferocious. The blacks are, however, not usually more irritably disposed than the other varieties of Malay—but being thus solemnly clad in sorrowful attire, and exhibiting a blending of contrasting effects a word appeared necessary. The outer web of the quills of wings and tail is sometimes grey or grizzled, specimens without such discolorations should be preferred when procurable.

Pheasant-spangled Malay.—It behoves us to remove

from the threshold of every mind an error against science and philosophy which, in connection with the present sub-variety of the Malay, has for ages grasped the public mind and carried captive the unguarded imagination of the "people"—I allude to the popular idea which prevails to the effect that the cock Pheasant, when mated with the ordinary domestic, hen is capable of transmitting to the offspring further powers of generation among themselves; such, however, has been fully proved by an innumerable series of experiments, conducted without bias and with the greatest care, to be positively fallacious, and the theory must long since have exploded with every close student of natuaal coincidences. We allow that the domestic hen impregnated by the male Pheasant may produce prolific eggs (though they are frequently unprolific); but the difference between the progeny of this cross and the pure domestic is, whilst the latter are capable of generating issue among themselves, with further powers of reproducing, the former are sterile. All thus produced are termed "hybreds," and the generative organs are incomplete in both sexes, necessarily resulting from the violation of laws which govern production. The male carries with him the air of indifference to everything by which he is surrounded—those very powers which are the seat of energy in every capacity, and as much the fountain of spirit in matters remote from their actual engagement as in such as may be in proximity, appear to lie dormant, are completely incapacitated and actuate not the animal.

We, some time since, undertook a series of experiments with the view of testing the popular opinion respecting the extent to which "hybreds" thus produced are capable of reproducing when matched with either of their progenitors, and of solving this momentous problem of natural history

which has long since been regarded by the naturalist as of the deepest and utmost importance. The following pairings we decipher for the gratification of public interest, and as a key to the contractions therein, we preface our list with their representatives:—

P.C. stands for Pheasant cock.
P.H. „ „ hen.
D.C. „ domestic cock.
D.H. „ „ hen.

FIRST SERIES.

1. P.C. and domestic (black-red Game) hen.
2. Hybreds—hens thus produced with pure domestic cock, mother's blood.
3. Do. do. do. different blood (Dorking breed).
4. Do. do. P.C. same blood as original P.C.
5. Do. do. do. different blood (silver Pheasant).
6. Do. do. hybred cocks (brothers).
7. Do. do. do. fresh blood but obtained in same manner.
8. Do. do. do. produced from P.H. and D.C.
9. Do. do. D.H. mother's blood.
10. Do. do. do. fresh blood (Polish gold-spangled).
11. Do. do. P.H. father's blood.
12. Do. do. do. fresh blood (silver Pheasant).
13. Do. do. hybreds, hens produced from D.C. and P.H.

SECOND SERIES.

14. D.C. and P.H.
15. Hybred hens thus produced with pure P.C. mother's blood.
16. Do. do. P.C. fresh blood (silver Pheasant).
17. Do. do. D.C. father's blood.

18. Hybred hens thus produced with pure D.C. fresh blood (Dorking).

19. Do. do. hybred cocks (brothers).

20. Do. do. do. fresh blood, but obtained in same manner.

21. Hybred cocks thus produced with pure D.H. father's blood.

22. Do. do. D.H. fresh blood.

23. Do. do. P.H. mother's blood.

24. Do. do. do. fresh blood (silver Pheasant).

It may not be out of place to remark that the Pheasants made use of in these experiments were of the common and silver varieties. The domestic fowls were British Game, coloured Dorking, and gold-spangled Polands.

It may be interesting to the researcher and student of natural history to become acquainted with the result of our respective experiments. The following figures refer to the particular trial and character of the match as previously described under the same :—

1. Was a Pheasant cock and black-red Game hen which had been brought up together as chicks by one domestic hen, from them in one season we obtained eleven hybreds, nine males, and two females.

2. No issue but a few non-productive eggs.

3. No issue do. do.

4. One female inter-hybred.

5. One male and one female—both these birds died—the male when four months old, the female a few weeks afterwards.

6. No issue.

7. No issue.

8. No issue.

9. One male inter-hybred—plenty of non-productive

eggs; but this bird died when five months old, as though of general decay and rapid decline.

10. No issue but plenty of non-productive eggs.

11. Three males and one female inter-hybreds—moderate supply of non-productive eggs.

12. Three male inter-hybreds; these birds, which were piebalds, were incautiously allowed the run of a garden at early morn, and were never seen or heard of afterwards.

13. No issue.

14. Four male inter-hybreds—moderate supply of non-productive eggs.

15. No issue.

16. One female inter-hybred.

17. No issue.

18. One female inter-hybred.

19. No issue.

20. No issue.

21. Two male and one female inter-hybreds.

22. Two male inter-hybreds.

23. Four male inter-hybreds; one male bird was nearly blind, although in his eyes could be observed nothing calculated to obstruct vision.

24. Six male inter-hybreds—and two females were hatched, but one of the latter and three of the former were very unthriving, and appeared neither to increase in size or strength and, when two months' old, gradually drooped and died.

THIRD SERIES.

Inter-hybred Pairings.

25. Male inter-hybred, produce of 24, with domestic hen.

26. Do. do. do. 21, " Pheasant hen.

27. Do. do. do. 11, " female hybred 1.

28. Male inter-hybred, produce of 14, with female inter-hybred 18.
29. Do. hybred, do. 1, " " " 21.
30. Female inter-hybred, do. 4, " domestic cock.
31. Do. do. do. 11, " Pheasant cock.

The result of the third series of experiments proved very satisfactory although unsuccessful; the only issue was from number twenty-six, from which one male chick was reared. Number thirty-one also produced one chick, but did not survive the sixth day. From number thirty we had three eggs, which we endeavoured to hatch, but they did not reach perfection, and upon close inspection proved to be in a pure state and not foul, although subject to the incubatory temperature for twenty-one days, proving at the same time their non-impregnation and unprolific character. It is a peculiar circumstance that the unprolific eggs produced by the Dorking hens were not only smaller than they had previously laid, but much lighter, even after fairly allowing for the difference in size; having reduced a number to one given surface, we found each square inch of the prolific eggs was eleven and-a-half per cent. heavier than the unprolific. To render the experiments conclusive some of the Pheasants selected were gold, some silver, some wild, of both sexes, brought up from chicks with broods of domestic fowls; some were fed upon stimulating substances for the purpose of increasing the power of their generative organs, whilst others upon ordinary diet; some had a considerable run in a thickly studded garden, others confined to a more secluded spot, and from chickenhood never allowed to see a friendly feather save their intended companion's. The chick which proved a male, the only reared issue of our third series, we mated with a pure Pheasant hen one of a brood, with which he had been

purposely brought up, but upon the arrival of the seventh month took a severe cold, to which he had ever been more or less peculiarly liable—and although every possible attention was paid, the most judicious remedial means resorted to, no cure could be effected, and after a lapse of some few weeks he drooped and died. Upon dissecting him it was found the brain was charged with blood, but our surgical operation was unsatisfactory to myself in as much as our professional friend, who had frequently much assisted us in our surgical inquiries, could discern in the appearance of the generative organs nothing indicative of the bird's incapacity to vigorous impregnation—although a Pheasant and a domestic cock were respectively dissected by him for the purpose of just comparison. The hen placed with him was also dissected, and throughout the ovarium no trace could be discerned of masculine impregnation although microscopic aid was applied, having allowed her no other comrade prior to their secluded confinement. She was discovered to be in a very healthy state, but requiring sexual intercourse. Upon the surface of the ova should have been deposited the germ of the future chick, but no trace of such was observable. The ovarium consisted of seventy-three rudimental eggs or ova all in healthy state of progress.

If these experiments appear insufficient or inconclusive I would recommend the adoption of a second experimentalization, at the worst no evil save a loss of time and means would accrue, but in all probability an advantage, that is a confirmation and corroboration of these remarks, or may be a correction. We have endeavoured to show to our friendly farmers who possess poultry establishments in proximity to Pheasant abounding woods, and who inform us they possess a breed of Pheasant fowls, produced from an

admixture of the Pheasant with the domestic blood. That all such specimens are either no Pheasant at all, but simply a spangled species or hybreds between the domestic fowl and the cock Pheasant, from which they can rear no progeny, but who receive their continuous supplies of prolific hybred eggs from pure domestic hens, and fresh cock Pheasants—this accounts for their "half Pheasant chicks" not becoming yearly more and more Pheasant like, which would be inevitable, until at length they would more resemble that species than the fowl were it the case their power of generation were complete.

There are spangled birds which have been bred and reared with ordinary success in the poultry yard, which exhibit to a casual observer the feather and plumage of the Pheasant. It is to this class that the farmer principally owes his peculiar Pheasant plumaged chicks of complete generative organs. The presence of the Pheasant among the hens in the poultry yard is very rare, the latter are usually too wary to be entrapped without making a hasty retreat, whilst the former generally disincline to such a consummation of boldness when intruding for maintenance. What we endeavour to maintain is that such occasionally occurs, but not so often as is usually supposed. Such as are really hybreds are unprolific *inter sese*, but when matched with pure Pheasant or domestic fowl, inter-hybred specimens may be obtained, which are incapable of founding a new variety or sustaining a class. That is inter-hybreds whether matched with inter-hybreds, with hybreds, pure Pheasant, pure fowl, or any described in our series of experiments are, as a rule, unprolific, and the very exceptional specimens thus produced are sterile. That Game fowls receive their pugnacity and high metal from any relationship with the Pheasant is very erroneous, their blood

is quite distinct, they are of different species though belonging to the same genus. We trust our remarks will be taken as they stand as evidence in support of facts, or disproved of and tested. Of the two we would much prefer the adoption of the latter. We, therefore, cannot allow that the pheasant Malay has right to be considered related to the Pheasant in the remotest degree. Hybreds, that is the produce of the Malay hen and Pheasant cock, are not allied, even in appearence, to the so called pheasant Malay, the only resemblance being in the colour of the plumes, which are more or less Pheasant like in both, whilst the shape and make are at unquestionable variance. From whence came the pheasant Malay, which we prefer designating pheasant-spangled Malay for the express purpose of indicating its non-blood relationship but mere feather resemblance to the Pheasant. We firmly believe they sprang from the black Malay and golden spangled Hamburgh, with an after admixture of light brown or chocolate Malay blood. We have ourselves procured specimens bearing much resemblance by these means, with the exception of the comb, which in each case has ultimately become larger than in any pheasant-spangled Malay we have yet seen. But the after admixture of the light brown Malay, together with the breeding in and in to which they have been subjected may have reduced it to that minimum displayed as exhibited in this breed.

The pheasant-spangled Malay cock's average weight is about seven pounds.

The pheasant-spangled Malay hen's average weight is about five pounds.

The former is of good courage, and in the latter is displayed a consequential and at times perversive spirit.

General shape.—More after the full size Game than Malay, but bearing a resemblance to each.

Head.—Their countenance invariably bears strong affinity to the Malay, and the expression of the eye denotes fierce cruelty.

Ear-lobes, blueish white.

Comb small, but larger than in the pure Malay, is of similar shape and inclination, but in some resembles a diminutive Hamburgh's.

Neck long, neck-hackle in both sexes black and velvetty, with greenish shadows. In the male occasionally is exhibited a dark reddish hackle with black ink stains or tips, with a lighter tinge underneath.

The usual colour of the body of the male varies from a light to a dark red, with breast and rump black or partridge brown, the former spangled with semi-oval spots. The females are far more beautiful, being of a rich pheasant colour or light red, are of good shape and make. The markings on the breast resemble the plumage of the cock pheasant, from which peculiarity arises the idea of the existence of a cross between them and that bird. Some specimens are less attractive, being of a duller hue.

Tail not strongly sickled, but well defined and carried uprightly, is more abundant than in the Malay, and of a dark brown and black feather, frequently grey or grizzled in some part. In the hen they are of a similar hue, and in some specimens the two uppermost feathers indicate an inclination to curl.

Legs yellow, but sometimes white and rather long.

The hens prove excellent sitters and mothers, and if well feathered are very ornamental. Their eggs are well shaped and of good flavour, but rather small, averaging about two ounces in the winter season, and two and one-third during the warmer months—are of smooth surface and tinged with buff or light chocolate. They are free layers, but usually commence late in the season.

Flesh is white and very excellent, partaking of the flavour of the Pheasant, in connexion with the size and juiciness of the fowl, is held in much esteem as a table delicacy.

The chicks of the pheasant-spangled Malay are rather small, but present a regular appearence, varying from a light yellow to a deep orange tint, with one or two deeper stripes running longitudinally from the head to the lower part of the back. They should be hatched early in the season, but not too early, as they feather but slowly. Taking the average of seasons, the last week of April is best adapted for their exclusion. After the age of eight or nine weeks they grow rapidly, and the pulleret, a few months after, presents a neat uniform plumage. The cockerel's feathery coat is usually developed one month later.

Hybreds between the male Pheasant and common fowl vary much in feather, necessarily resulting from the diversified plumage of the hens matched with him, and depending upon the peculiar variety of both. They, however, invariably exhibit more or less the pheasant-spangled plumage of the male, tinted with chocolate or fawn, with hackles and tail of a dark brown. The feathers of the latter are long, and carried midway between the inclination of the Pheasant's and the fowl's. No comb or wattles, no definite circle round the eye, as in the Pheasant; legs and claws of a darkish hue. The general carriage resembles the latter more than the domestic fowl. They are miserably shy, but tame, stupid, sheepish, drowsy looking "things," more than birds, but appear to comprehend their own position in the scale of anomalies.

However curious the breeding of such useless creatures may prove, I feel satisfied much disappointment will ensue if the object be mere fancy without any accompanying motive for experimentalization. Valueless as fowls, equally

so as pheasants, they display nothing but those qualities calculated to instil into the mind sensations of pain and regret, that such poor listless creatures should be called to an existence of such gaping imbecility.

MALAY-DORKS

(Hitherto termed "Chittagongs.")

That we are about to settle a dispute which has existed in the minds of "fanciers" for a considerable period respecting the ancestry of this fowl, or sift and analyze the arguments of either side for the purpose of determining the controversial point, we do not entertain the remotest anticipation. Our object being the realization of truth and the extension of the same to the public—the product of our most solicitous inquiries and earnest investigations into the subject are here set forth without the least restriction of circumstance. We will not, however, enter into the details of our adventurous expositions, but lay before our readers our opinion as resulting therefrom, together with the main facts as they stand.

The so-called "Chittagong" cock averages from 22 to 23 inches in height when standing at ease, and 9 to 10 pounds in weight; the hen averages from 19 to 20 inches in height, and 7 to 8 pounds in weight.

The usual colour of both sexes is speckled grey with similar hackles—some are of uniform light yellow marked with pale brown and black; others are irregularly spangled—tail small—comb medium. They are perfectly free from topknot, with moderate wattles; head broader and shorter than the Malay's, but with similar expression of

countenance. Breast ample as in the Dorking, and shorter in the leg than the Malay. The figure resembles the Dorking in general conformation. Shanks bare and yellow, or orange, in some instances white. As market fowls or as egg producers they are superior to either Dorking or Malay, and a most invaluable bird—the flesh proving white, juicy, and of good flavour. They consume much less than the latter, but arrive at perfection at an earlier period—are much hardier as chicks than the Dorking, and attain superior weights. It must be borne in mind the above is not the description of one specimen, but of the average of five hundred pairs. I here unhesitatingly pronounce my firm opinion, founded upon the observance of facts, that all such specimens as have hitherto been exhibited as "Chittagongs," or have come before me as such, have been either Malays of a light colour or the issue of admixture between that class of birds and grey Dorkings, or in some instances between the light yellow Malay and the same birds. I do not, however, positively assert that there are no birds which should be termed "Chittagongs," but merely that all that have come before me bearing that appellative deserve but the distinction of "Malay-Dorks" as indicative of "facts."

CROSS-BREEDS.

BRAHMAPOOTRAS OR MAYSHANG-DORKS.

For cross-breeding purposes, or the infusion of fresh blood into degenerate farm stock, the Malay's size and constitutional hardiness render him well adapted; but, in

most cases of such degeneracy that have transpired under my own observation, a fresh importation from another strain of the same class has proved sufficiently remedial without resorting to cross-breeding. Admixture, when confined to the same class, we approve of, but, as a principle, seriously object to crossing distinct families of fowls when it can otherwise be prevented—when such is however expedient the effects produced by the presence of a vigorous Malay cock, in the place of a degenerate stock bird, will be manifest in the hardiness and vigour of the immediate progeny.*

From whence, and what are Brahmapootras? are questions which are frequently presented under envelopic forms at the office of our poultry association. The many subscribers who have thus favoured us with their confidential patronage receive in the following remarks our candid impression upon the subject:—

Without parading with the intricacies which have been solved in our minute and solicitous inquiries into the origin of many specimens bearing the distinguished title of Brahmapootras, we here produce before the anxious "fancier" the result, and not the items of our researches upon this point. That nearly all the specimens, recognised and denominated under this head at our poultry exhibitions, are of a mixed character is certain. That is if they claim pretence to a distinct class, we urge there are many varieties of them, and that they are exceedingly irregular is proved in the rearing of a few broods, some exhibiting a small cup at the uppermost part of the comb, as in peculiar specimens of Dorking, but more diminutive; others possess a spike comb, whilst some a rose one; many may

* For this purpose we recommend the black or brown-red Malay as the most appropriate.

be recognised with a small single one *fac-simile* of the Shanghae's, whilst not by any means the fewest number a head piece closely resembling the Malay's flattened warty excrescence. Next comes the eye which, in far the greatest number, closely resembles the Malay's in its expression of ferocity, and for being deeply socketted—whilst in some the Shanghae's is self-evident. The great difference existing between the ear-lobes of the various specimens bred from one pair next forcibly presents itself; some have a considerable mouldy white patch as in the Dorking, whilst in others it is no more developed than in the purely bred Shanghae. The entire head and crimson face bear the closest resemblance to the serpent-headed vivid Malay's, whilst the legs usually are feathered to the toes as in the Shanghae; some, however, develop different degrees of featheriness about their pedal limbs, and others possess little or none. With regard to the general body feather, for the most part Shanghae featheriness prevails; but I have observed in some a firmness and closeness about the wing-coverts much resembling the Malay in wiriness. Their usual colour is presented by a grey ground with black pencillings in the neck, saddle-hackles, and wing-coverts, and similar dark tints in the outer web of the quill feathers of the wing, with black tail points; some are indiscriminately splashed all over with black on a grey ground—others present plumes as in the coloured Dorking.

What I wish to inculcate is that a portion of the birds exhibited as Brahmapootras are but a grey variety of the Shanghae, whilst the rest are made up, as were a pair forwarded me by a gentleman a few months back, which were acknowledged remarkably fine, but ultimately proved capable of generating Malay, Shanghae, and Dorking chicks to pretty good perfection. Now, were the Malay crossed upon the

Shanghae without the presence of the Dorking blood the offspring would naturally run more lanky than the pure Shanghae, seeing the Malay has a greater inclination towards that form—moreover, many so-called "Brahmapootras" possess a less expanse of breast—the Malay being thus deficient in connexion with a sharp fall from the base of neck-hackle to the insertion of the tail.

This latter peculiarity only a few Brahmapootras exhibit. But why? Because most have, but some have not the presence of the Dorking blood, which tones down the aspiring tendency to shoot upwards, and registers the breast and body in part conformity with its own close compact frame, distributing at the same time its speckled tints with more or less regularity to the otherwise grey plumage.

I do not by these remarks intend to discourage the philanthropist who is endeavouring to produce a superior strain of birds capable of more efficiently supplying the demands of the market, but rather to incite. At the same time, as a recorder of classes and varieties, it behoves me to instil into the minds of the people the absurdity of coining distinct apellatives for cross-breeds, and the necessity of selecting only such as are denotaries of facts, so that the naturalist, in future years, may have the less obscurity to remove from the threshold of his labours, and fewer stumbling blocks from his path. Let us, therefore, term them no longer Brahmapootras but "Mayshang-dorks," and hybreds between the Malay and the Shanghae by the term "Mayshangs;" and those genuine grey birds which originally came from Shanghae, and not from America as is currently reported, Grey Shanghaes, seeing they are but a differently feathered Shanghae to the other varieties, and are similar in appearance, save in the

tail which is carried more erect; the outer web of wing quills is moreover black. There are no other Grey Shanghaes, why therefore should this be insufficient to denote the existing differential points? (See page 20.)

The flesh of the Mayshang-dork is superior in quality to that of the average Shanghae or Malay, is of good flavour, white, plump, and juicy, with less offal, and having the advantage of superior weight over the Dorking, whilst their eggs are larger than the former bird's, and more abundant than the produce of the latter.

"SHAKEBAGS."

"Shakebags" are the immediate issue of the British Game hen when matched with the Malay cock, and will receive our attention under the head of "Game fowls."

THE COLUMBIAN FOWL.

From whence originates this, that, or the other magnificent bird, are queries likely to be urged and indefinitely responded to so long as elegance or nobility of deportment are recognised, indicative of primitive distinctions. Much as we confute exhibiting the spirit of rivalry or countenancing contention, we are bound to expose error in whatever form it may appear, register its deteriorating effects, and elucidate truth. It is not, however, with persons we have to contend, but with their theories. Mr. Richardson has

evidently confounded typical representations of originality by endeavouring to establish the primitive character of this bird upon the ground of deportment, he remarks—"a very noble fowl presenting the appearence of a cross between Spanish and Malay, but possessing so much nobility and stateliness of aspect that I am loath to regard it otherwise than as a distinct and very primitive variety" (page 74, "Richardson's Domestic Fowl). At page 75, he continues—"I think it not improbable they are the origin of the breed now known as Spanish." The latter surmise is evidently no less fallacious than the former, but mere persuaded supposition is all the evidence produced in support of either.

This fowl is a native of Columbia, in South America, but not an aboriginal. Its many semblances to the primary Spanish and Malays are perceptible, even to a casual observer. In some the comb is single, but large, erect, and serrated at its edge, as in the Spanish; in others double or wart-shaped, and uneven as in the Malay.

Wattles differ, in some the lengthy caruncles of the former bird are developed, in others the rudimentary appendages of the latter.

The eye and face are usually denoted by a *fac-simile* representation of the fierce and cruel Malay's, but are irregular in this particular.

The legs are slate colour or black as in the Spanish, also olive, and sometimes yellow, but less bright than in the Malay. They are higher on the leg than the former, and approximate the latter in the length of their pedal limbs.

The general plumage is of a raven black as exhibited in the Spanish, but some specimens are more extensively shaded with green metallic lustre.

The neck-hackle betrays the properties of the Malay in repletion, as exhibited in its peculiar glossy appearance.

They are entirely devoid of topknot, but possess a development of beard differing in extent, in some but little is exposed to view, in others there is no pretension to its possession. It is formed by a collection of feathers spreading from the cheeks to the lower mandible. This feature is evidently acquired from the Malay, some of which may be met with, bearing this irregular supplimentary supply of throat feathers. In answer to a query which appeared in the *Field*, February 18th, 1854, I register the fact of the procuration of two male specimens direct from the Peninsula, one of which subsequently assumed the lower mandible appendage in full repletion. When first imported he displayed but a minimum development arising from his fullness of moulting habit. The beard is but exceptionally possessed by the Malay, neither is its mien desirable: whatever may be the effects produced by the combination of topknot and beard, the absence of the former renders the presence of the latter in no way ornamental. We have endeavoured to prove that all arguments advanced in opposition to the idea of their origin being derived from an admixture of Spanish and Malay blood, upon the ground of the impossibility of generating a breed of permanent beard developing birds from such as were destitute of the feature, are groundless, inasmuch as the principle though valid, is not borne out by the facts of this example, seeing bearded Malays have been met with.

The male birds weighs about			8	to	$8\frac{1}{2}$ lbs.
The hen	do.	do.	do.	$6\frac{1}{2}$ to	7 do.
The former stands			do.	22 to	23 ins.
The lattter	do.		do.	17 to	18 do.

They are very prolific, producing eggs exceeding the weight of the Spanish, with equal supplies; the extraordinary weight of four and a half ounces of egg stuff has

been enclosed within one shell, such, however, is but exceptional, at the same time the average weight of their eggs exceeds that of any other known variety. They are large consumers, and require almost an equal amount of sustenance to the Malay; are good incubators and careful mothers, here evincing, as in that bird, a tendency diametrically opposed to the modern Spanish. The chicks are robust from the moment of their exclusion and easily reared, proving equally deserving of attention by their superior flesh, which is white, delicate, and very fine in flavour. The care conferred upon ordinary fowls is ample for their requirements, being hardy and of sound constitutional habit of body. From these particulars may be perceived the existing development of the respective traits of the two birds advanced by us as progenitors of the race. At the same time not desiring our opinion to be recognised as valid without the exercise of discretionary experimentalization and research, we earnestly recommend the adoption of such a course as a medium of just and satisfactory corroboration.

Having instituted searching investigations into the right by which they are regarded as primitive originals, we are compelled, by the force of evidence deduced, to pronounce them an acquired race, and typical of no primary class, but the probable result of admixture between the primitive Spanish and Malay fowls.

Lithographed by J. Gallitod. 27, Southampton Street Strand

BLOOD-WING PILE, GAME. BLACK-BREASTED RED.

Bred by Mr G. Ferguson.

THE GAME FOWL.

HISTORY OF THE GAME OR ENGLISH FOWL.

CONTENTIOUS displays of argument respecting the ancestry of this most beautiful and noble race of fowls are numerous. Authorities, worthy of credit upon many details, appear devoid of that accuracy of thought and soundness of principle when tracing the origin of this fowl, which would claim for them its just exercise on this point. Some appear eager to condense the primitive originals to an unity upon the ground of mere possibility, without regard to form and substance; others equally zealous to nominate every variety a progenitor, and claim for such a distinct primary origin. Amongst the former Buffon appears foremost, who, aware the many troubles to the naturalist consequent upon a further peculiar division and subdivision of poultry into classes, varieties, and sub-varieties, and the tracing of such to their respective progenitors, abandons the idea, by the more convenient task of concentrating them to one primitive original pair. His task was indeed a comprehensive one, that of classifying the many orders of the animal world, and therefore the more minute particulars were destined to form the occupation of succeeding ages. The Rev. Mr. Dixon, the ablest authority in support of the latter, contends earnestly for the substantiation of his thoery; but as representatives of the Game class he produces but few varieties, and recognises the blue dun fowl as distinct from them.

We on the other hand acknowledge the identity of blood of the different strains and varieties of Game fowls when purely bred, but are constrained to claim on behalf of the entire class rights to typical originality. We purpose, in the prefatory remarks to this volume, rendering an exposition of the various originals described by all travelling naturalists deserving of credit, and tracing their respective resemblances to our own several classes, for the purpose of registering such as appear entitled to the credit of progenitorship, at the same time renouncing such as are hybridous, thereby divesting this subject of its obscurity, and rendering it more tangible and intelligible than it has hitherto appeared before the public.

We contend the Game fowl, if purely bred, bears no affinity to the Malay, and that he is not related by blood even in the remotest degree, but assign his descent to a species of the *Gallus Sonneratii.* Whatever differences in feather may present themselves from the alliance they are but small compared to general computations on this head, and still less at variance in shape, carriage, and general conformity. We do not maintain all varieties and sub-varieties of the class recognised as such are directly descended from this stock, neither do we consider the present Indian breed of the same lineage—whilst the true bird's symmetrical form closely resembles the air and elegance almost invariably exhibited in pure primary breeds, many may be observed bearing the carriage and appearance of the Malay, some with the Polish lower mandible, and crest appendages in a diminutive form, and others possessing a development of the ordinary fowl's coarse features and feathery armour. We do not urge that these termed Game fowls are similarly descended, but merely that their game properties are indicative of partial descent, and that the progenitors of those traits

were in themselves typical of a primeval order. The existence of the practice of cock-fighting in the Peninsula of Malay, and other parts of India, anterior to the introduction of the Game fowl into this country, and its continued nationality in those parts, does not in the least countenance the idea that the birds thus brought into requisition were or are identical with our gallants. The Malays of the present day frequently stake their "all" upon the chances of one battle, until their last coin is placed upon the head of their favourite bird. The wealthy, not exceptionally, risk personal property to enormous amounts upon their supposed invincible hero, whose merits have been previously tested, and whose prowess still remains in unequalled force. But these champions are much heavier and less agile than the British Game, being usually generated from the Malay but occasionaly from an admixture of a smaller indigenous species, or a favourite imported variety with that bird. Neither can the breed produced from the Malay, when mated with the immediate discendant of the *Bankiva* or Bantam race, be confounded, the issue thus bred have been by some recognised as progenitors of the Game class, such must be confuted, since improbable conjecture is all the evidence in its favour. Let but the single comb become permanent from the admixture, and it will command our attention. This feature by domestication is induced to duplicity, but never to become single. Without extending objections, in this feature alone, lies ample evidence in support of the non-recognition of this absurd theory.

A work of this character, with the smallest pretensions to portray the peculiar distinguishing qualities of the varieties of poultry, would be incomplete were the history of so interesting a fowl omitted from its pages. That polished nation the Greeks are the first on record who

advantagized the natural propensity of the breed for the diversion of its citizens, with whom it became a national and fashionable sport (B.C. 500.) In the city of Pergamus an amphitheatre was erected for the express purpose of carrying out the desire of Themistocles, a celebrated Athenian general, in its annual celebration.*

Socrates, Solon, and the ancient philosophers, highly commended the sport as calculated to engender resolute courage, and incite the stimulating effects of national resentment in the soldiery. The pupils of these philosophers were equally encouraged in its practice, as exciting and productive of energetic displays of decisive resolve to overcome every difficulty besetting the path of literature. At a subsequent period the Romans no less emulously complied with these enjoined national precepts, and at once acknowledged the diversion as of religious and political importance. The cock was regarded by them as the emblem of courage, and dedicated to their several deities. Moreover, the pugnacious propensities and indomitable courage of either beast or bird furnished means for their diversion, and was seldom overlooked by the Roman. The monsters of the Lybian desert, and the British mastiffs, in

* The primary cause of the celebration of this sport appears to have arisen from a peculiar circumstance which occurred whilst Themistocles was commanding his army againstthe Persians. "In his march he espied two cocks fighting and immediately caused his army to behold them, and made the following speech :—'Behold, these do not fight for their household gods, for the monuments of their ancestors, for glory, for liberty, or the safety of their children, but only because the one will not give way to the other.' This so encouraged the Grecians that they fought strenuously and obtained a victory over the Persians; upon which cock-fighting was by a particular law ordained to be annually practised by the Athenians, and hence the origin of this sport in England was derived."—*Bailey's Universal Entomological English Dictionary.*

which this isle once abounded, played their part in the arenas of ancient Rome; neither was the Quail overlooked. The Persian breed of cocks appears to have been regarded as invincible, and was much sought after by all capable of paying the exorbitant prices demanded. The description furnished by Aldrovandi, on the authority of Florentius, of certain hens in Alexandria from which fighting cocks were bred, bears close resemblance to our own; he moreover mentions their extreme incubating powers, and their general excellent qualifications as mothers and protectors. They were called *monositæ* (*i. e.*, one mealers, or such as eat but once a day.) There is nothing peculiar respecting this latter circumstance, for no close sitter of any breed should leave the nest more frequently than once in twenty-four hours; nature invariably contriving to relieve and replenish itself during the regular interval of a few minutes per day. Some hens absent themselves from the eggs but every other day, and, upon first taking to a strange place, I have known them to remain thereon for seventy-two hours without intermission.

To the Romans we are, doubtless, indebted for their introduction into this country. Anterior to their possession of the soil a species of fowl was domiciled, but of which we have no particular description. There can be but little doubt they imported their own well loved well proved breed, and at once nationalized the practice of cock-fighting in Britain; but we are unable to trace any account of such previous to the reign of Henry II., when immense numbers were annually bred for the special purpose. This once popular diversion has been subject to much change—at one period revered, at another menaced by law. Henry VIII. and James I. were amongst its enthusiastic supporters, and in their day it became the minister to

the imperial sports. Oliver Cromwell (1554) on the other hand, had a personal detestation of its practice, and denounced it, inflicting severe penalties upon its patrons. In the reign of Charles II. it again flourished, and the rendezvous of Henry VIII. was re-opened by the king in person for the special purpose of its celebration.*

It cannot be regretted that this inhuman sport is now prohibited by law in England as being productive of demoralization, and its inevitable effects poverty and distress; but although no longer recognised as a national or approved pastime, hundreds of cocks are annually fought, both in mains and single handed, in London and the country. For the effectual carrying out of this unlawful diversion resort is obtained to the uppermost stories of ale houses, and other out of the way places. The matches usually "come off" about the season of Lord Mayor's day and subsequent periods, commencing from three o'clock in the afternoon and continuing on and off until midnight, according to the number of previously arranged suits. Cocks and even chicks hatched the same year are frequently fought on the Lord Mayor's day. They are carried to the ring in hand bags, at the bottom of which has been deposited a little straw. Their feathers are then trimmed short, tail docked, spurs truncated with a small fine saw, over which is placed the socket of the silver or steel heel, more frequently the former. By the means of a small layer of chamois leather a perfect fit is obtained, and a few careful

* Likewise many pits of very inferior description were in vogue, in which the lowest of the rabble would spend their last mite upon the chances of "the fight." The effects of this diversion reduced many distinguished families to poverty and distress, proving a far greater curse to the nation than the present gambling connected with race courses, and far more serious in its ulterior results.

and neat twists with a piece of thread previously waxed ensure a firm and steady pair of heels. They are placed in the scales in thin bags, weighed and matched to a quarter of an ounce. The "setters too," then take each man his cock in hand, wipe the feet, and having marked the ring, and taken opposite sides, the birds are let fly. The betting then rages—two to one—four to five—half crowns, crowns, half sovereigns or sovereigns, whichever you please. I must here make one observation although frequenters of these repositories of evil deserve all they lose, still we object to see men robbed under any circumstances. We remark,—whilst the birds are being scaled or heeled, a stranger, to "you at least," will occasionally go round and desire you to bet on one of the two cocks—which you please—agreeing to take the other at the same amount. Now as he sembles a very good natured fellow, and reminds you it is just to make a little sport, it appears very fair, and forms a clean bait, and a generous hearted sporter will usually accept it. Let us see the result. The cocks meet, a few blows disables one, and you perceive you have the best of the game—one or two strokes more and your bird stabs his foe mortally—he falls; you look up but your man is nowhere to be found, he has most likely gone for the money, but seldom succeeds in finding it, and never returns. The next meeting day he has no recollection of you, and was not at the place the time you speak of, he had to call upon a friend, and was detained. But, mark the difference. The two birds meet, *your bird* is stabbed, and at length killed or will not peck, and no sooner is he "counted out" than your friend stands before you.

It would surprise our "friends" if publicity were given to the names of our gentlemen of the sanguine turn of mind, who are, according to verbal testimony, physically recommended

to the spectatorship of this exciting diversion. Many would be the wonders created in the breasts of delicate females were but the initials of the coadjutors of these assemblers placed in alphabetical order in a column of the *Times* newspaper—I mean columns. Let them now take the hint and withdraw from these depravities and personal proofs of virtue's decline. But however urgent might be claims of humanity and refinement for the prevention of the opportunities of indulging in this cruel sport, it becomes equally patent, if its provisions were sufficiently stringent to entirely outroot it, this breed, the glory of the British poultry keeper, and the most beautiful and noble of fowls, would soon degenerate into mere nominal value, and the emblem of courage would be plucked from British soil to flourish elsewhere.

Without an occasional trial of quality no certainty can be established, since admixture is equally necessary, and admixture with that which has received uncertain mingling is equally contingent. Were the race horse not permitted to run, equally deteriorating to the breed would be the effect, seeing propagators unable to discover blemish would be compelled to match indiscriminately. The Game fowl among poultry is analagous to the Arabian amongst horses, the high-bred short-horn amongst cattle, and the greyhound amongst the canine race.

However interesting the details of "cocking" and its accompaniments might prove to some, or the peculiar feeding, and nicety of weight to which they may be brought in a given time, or the rules observed in the ring, we are unwilling to impart a further knowledge of them, as calculated to be productive of disgust to the refined and injurious consequences to the depraved. We must at the same time mention that those mysteries which some writers appear

anxious to instil into the minds of their readers, in connexion with this sport as food for conjecture, are no mysteries at all save to themselves. There is nothing but the cruel diversion itself, peculiar, but appropriate methods of feeding, adapted means for its private continuance, rules calculated to the observance of order, fair play, equal matching, and prevention of dispute, or detection of those exceptionables non-fee-receiving constables.

We do not in these remarks intend breathing countenance to so strong a mark of depravity as is self-evident upon the face of this sport, but merely to maintain there are no mysteries connected with it. We promise our readers to make them acquainted with all matters calculated to render them assistance in the more harmless and instructive diversion of rearing and breeding their respective feathery tribes, and trust this will be deemed a sufficient proof of good faith.

Britain has long been, and still is, the grand repository of this matchless race of "nobles." Buffon himself regarded such as a fact in his day, by expressly nominating them "the English fowl." The Knowsley strain of black-breasted reds, belonging to the late Lord Derby, were, and still are, considered the finest and most select in the country. The pedigree has been carefully preserved, and the various admixtures with Lord Sefton's, and other distinguished strains registered for its preservation and further judicious admixture. This nobleman dearly loved witnessing the display of those distinguishing characteristics of the breed, exhibited in their dauntless prowess and resolute courage—their noble contour and aristocratic deportment—together with their rapid but graceful actions, skilled fly, and powerful strike—their elegant posture and

watchful eye. Neither were rings or silver spurs associated with any disagreeable reflections in his breast.

He, moreover, possessed breeders, special feeders, and knowing setters-to, for the purpose of supporting this most exciting pastime. He regarded it no more inhuman to place cock with cock than trained hounds with hare or fox; no further violation of good faith with the animal world to subject the noble chanticleer to a violent but valiant, rapid, and fearless decease for the sake of sport, than hunting the tenants of the wood, and exposing them to that fatiguing, heart-distressing, and alarming condition consequent upon a protracted death, without regard to the awful sensations of fear they endure, but merely with a view to the self-indulgence of pleasure. In the name of humanity, we ask our gentle hunting readers, what moral difference they perceive? Not whether the former is equally humane with the latter, but rather whether the latter is not as much at variance with the dictates of humanity as the former?

CHARACTERISTICS OF EXCELLENCE OF THE ENTIRE CLASS.

Allowing for difference of size and sex, the hen conforms to the shape and general figure of her mate. It is, moreover, requisite to observe that the following distinguishing characteristics are independent of plumage, there being but one recognised standard of excellence for the shape, deportment, and properties of the entire class :—

Head should be small but long, tapering or serpent-shaped in both sexes, and very finely finished.

Eye large and bright, full of expression, but not cruel as in the Malay. The iris of the black variety is usually dark hazel. The black-breasted red, vermilion red, deep

orange, or yellow. Duckwing, orange, daw, or grey. Dun, dark red. Pile, daw, but in the blood-wing pile more frequently vermilion red.

Beak should be very thick at base, strong, and well curved.

Comb of bright crimson, is small in both male and female, and evenly serrated at its edge; should be single, erect, straight, and of fine texture. A double or sprouted comb indicates unquestionably impurity; moreover the quality of the breed becomes manifest in the quality of the comb and gills.

If the lower mandible appendage or comb of this class be compared with the Dorking's, or with that of any ordinary fowl, a contrast in texture and quality will be at once apparent.

Wattles or gills, of fine texture and small.

Throat of the male is bare as in the Malay, but not to such an extent, save when trimmed.

Ear-lobe in both sexes very small, with a light greenish tinge; in some a blue tint prevails. An extension of this feature in the form of a mouldy ear-lobe is exceedingly objectionable.

Ears are covered with fine diminutive wiry hair rather than feather.

Face, in both male and female, of a vermilion red; but the darkest strains are occasionally gipsy-faced, with comb and gills of similar dark purple hue, in connexion with a deep hazel iris, black pupil, and deep brown and black beak.

Neck long, full, and strong. A short neck is very disadvantageous in the "pit," and proves equally objectionable to the eye of a connoiseur.

Neck-hackle round, close feathered, wiry, but of silky transparency, as in the Malay.

Breast broad, prominent, and fully developed, indicative

of constitutional vigour. An indented or crooked breast is a decided malformation, and its consequent disadvantages necessarily become apparent in the first protracted skirmish in which such an one may be engaged.

Belly should be small and compact.

Back short, stiff, close-feathered, and hard; should be flat and broad between shoulders.

Saddle-hackle, in the male, of silky transparency, shaded off towards the extremities, and falling in a graceful inclination between the wing and insertion of tail.

Thighs short, thick, and muscular, well set to shoulder, and held wide apart. Birds with legs set far back in the body are never so active or capable of sustaining a fatiguing affray as those whose pedal limbs are in the foremost part.

Shank or beam of leg rather long as compared to the thigh, should be well boned and strong, finely and evenly scaled. Such as present shank and beak of a similar colour are preferred.

Toes—four on each foot, should be clean, even, and flat on ground, with long fine claws. Short toes are decidenly objectionable, as lessening the power of the clutch or "spring-stay."

Spurs, clean and well made, the lower on the leg the greater the extension of leverage, and therefore the more deadly the blow inflicted therewith. The hens are sometimes spurred, more frequently the dark dun strains. I have observed birds bred from such hens usually prove firm and clean hitters, that is, strike hard, high, and scientifically.

Wings carried Bantam fashion, but being much longer do not appear so struttish; they are very long, full and round, and amply protect the thighs; are of energetic muscular adjustment, and furnished with very hard quills. The wings of the noble chanticleer are frequently brought into

requisition after reaching the summit of a wall or lofty perch, and with a resolute and rapid flap they strike in bold defiance, and, as a further signal for his native powers, his noble voice immediately resounds as far as echoe's reach, and challenges the world despite her claims. He spurns the lofty perch he occupies, and flies to meet his rival on the field of strife. Occasionally his wings proclaim aloud his presence even after his gallant crow, but more frequently before.

Tail—in the male, long, well sickled and spread, deeply rooted and tufted. In the hen fan-shaped, and carried well up.

General figure.—Well put together, round-bodied, and tapering towards the tail. Should not be flat-sided, such being usually induced from hereditary sources, or breeding in and in, no specimen presenting such a malformation should be bred from. The Game fowl is of beautiful symmetry, and when perfect, is the most graceful of all known varieties of the extensive family of fowl. The hen should be round like an apple, tapering towards the tail. In general figure, closeness and elegance of form, she bears as strong a resemblance to the male as possible, allowing for the existing differential sex.

Deportment.—The male should be erect and majestic, bold and confidential, but not stiff or reserved; the hen elegant, graceful, and neat, full of life or fire if need be.

Gait.—The gait of the male is stately and elastic—he should never be seen jogging along with wings on back "goose fashion," but strutting nobly with wings extended over thighs; the hen should be of easy carriage, agile, and of light and elastic tread.

Crow varies with the diverse strains, but averages a clear, but not by any means shrill, alto—loud, but not harsh, and

of medium duration ; some varieties pronounce their authority in defiant and abrupt strains. Their note of war should be very continuous, and reiterated often during the day and at early morn, accompanied by the warrior's defiant flapping of his feathery armour, proving thereby his right to hold the title "merry bird," a term indicative of peculiar excellence. If the hen return from a victorious conflict, she too will occasionally follow the example of her lord, and strain a note or two of his ambitious song. Game hens of notorious good quality are prone thus to aspire to regal rights. Some irritable masters of the domain will scare their bold mistresses for this public violation of submission, this indelicate assumption and breach of modesty. Others, with the wing extended to the ground, will take a circuit round and sweep the turf in gallant exstacies to the honour of their modest dame's resentment to the intruding foe. Much has been said by nearly every writer, or compiler of our poultry journals, respecting the demerits or ill luck connected with the crowing hen, the whistling woman, and the lass who prattles Latin. Were the kind authors "*vice versa* sexed," a virtue not a vice perhaps might be conceived existing. Ah! would but a modest lass emerge from hidden safe retreat and guide the willing pen through this sad difficulty.

Well I am resolved to side no more with those who without justice judge so arbitrarily, and therefore must renounce all fellowship with them on this sore point.

I contend the hen is equally as estimable the day she nobly triumphs in crowing notes as the day before, and desire to know what physical process has been operating to render her valueless so soon. The fact is she has really proved a valiant and a Briton, and we, as lovers of Briton's

birds, do much admire and show her all attention, inducing her at the same time to render us her like. It is evident the blood, the spirit of a valiant, could not be appreciated, and therefore was abused. If discord she produce among the chanticleers, or strife betwixt her compeers, remove her gently from the rest, but ruin not her name. Say you not she is sterile, for young pullets, prolific as the feathery Spanish aristocracy, have pleased me oft by boldly proclaiming their part conformity to the character of their lord. I repeat some of the most distinguished Gallic heroes of this noble race have been generated from such worthies.

As a rule amongst practical men all such are recognised as the marrow, spirit, and sinew of the strain, from whence its primitive original vigour and nobility may be remodelled.

Disposition.—The male is proud, aspiring, jealous, and resolute, but very generous, gallant, and attentive, to his favourites. Brave, pugnacious, invincible, and unflinching in conflict; but severe, hasty, and petulant, though not cruelly tyrannical where respect by distance is observed.

His capriciousness increases with his age, and duelling renders him excessively irritable even with his hens.

The society of chickens he almost invariably disproves, as evinced by sundry strokes with the beak, or the raised posture of his pedal limbs, to loose a feather from their backs.

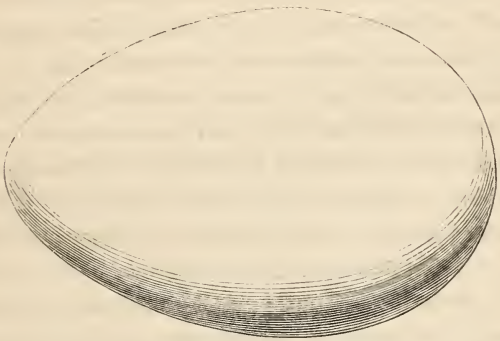
Constitution.—The male is capable of enduring a greater amount of fatigue and bodily distress than it is possible for any one unacquainted, with the cruel matches in which he is occasionally engaged, to form the slightest conception of. In the last agonies of death he will endeavour to seize his antagonist, and if unable will receive the cruel spur wherever

it may enter without a sigh. This power of endurance arises not only from a repository of pride, spirit, and prowess, but from the substantial coalition of a sound and vigorous constitution, induced from an hereditary source; without such an auxiliary he would be unable thus to stand as hero to the last. When full grown they are extremely hardy, and although naturally very active and lively, are capable of bearing confinement as well as any variety of poultry, and far better than the generality, if but proper attention be paid to cleanliness, and they be provided with a few feet of dry and gravelly soil. Until fully grown however, they must not be introduced to a life of confinement, or an almost immediate check upon their progressive powers will become manifest. Where is there a bird which loves liberty and thrives better under its confienment than our hero? But my experience with the several varieties enables me to say there are but few fowls capable of bearing up against disease when subject to confinement better than the tight-feathered robust Game class.

Feeders.—They are ever eager to welcome their supplies, but require less sustenance than the Malay, Shanghae, or the Spanish fowl. Being remarkably active they find much which is overlooked or unturned by other poultry; but even when unable to procure ought but hand supplies their wants are satisfied by a smaller donation than is requisite for the satiety of those adverted to.

Producers.—They cannot by any means be considered first-class layers save in exceptional instances, still taking the average of varieties they may be regarded very fair contributors to the privy purse of their keeper, usually laying every other day, but occasionally two days elapse before the second tributary fee arrives.

Their eggs vary in shape and size, but the illustration is more capable of efficiently portraying the accurate and average size and shape than any amount of description.



FAC-SIMILE OF THE "GAME" EGG.

The mean weight may be regarded from two and a quarter to two and a half ounces. The shell is of fine texture and varies from a white to a very pale buff tint. The Indian Game breed are almost invariably producers of the latter. The eggs of the entire class are considered very fine in flavour, rich, but not strong. The difference in the colour of their respective yolks is an interesting feature. One given hen usually produces the same coloured yoke; but the different varieties of the same class vary much. It is certainly connected with their plumage, dark birds usually producing dark yolks, but this is not invariably the case, from observation connected with this exception I am induced to consider the quality and description of food as possessing material influence over it.

Incubators and mothers.—They are unequalled as sitters, and prove most solicitous protectors, as might be inferred from their ardent temperament. They are remarkably steady upon the nest, and seldom if ever break an egg, being

very light and careful in both retiring from and resuming their sedentary occupation. Their courage is oft displayed in the defence of their progeny against the assaults of the powerful grimalkin, or more treacherous adventurer the "*mouser*." Neither can the feeder escape their resentment, if he incautiously interferes with their offspring.

Flesh.—To be in good seasoned condition the flesh of the male should be firm but light. Upon an ordinary run they will always be found in a tolerable and creditable state. The flavour is acknowledged to be unequalled, and the whiteness, juiciness, and inimitable quality is proverbial.

Size.—Natural average weight of male 5 lbs.

Sporting weight 4 lbs. 4 oz., to 4 lbs. 10 oz.

In the sporting circles all birds exceeding the last-named weight are termed "turn-outs," and are not allowed to fight in ordinary.

Hen's natural average weight 3 lbs. 6 oz., to 4 lbs.

Exceptional specimens are daily to be met with exceeding the heaviest weight mentioned, but we have here given the family average.

General feather.—It is an indubitable fact that the Game class runs off into an almost endless variety of feather. This is principally induced by injudicious matching. There are, however, several comparatively permanent varieties which have generated, with regularity and precision, progeny resembling themselves in plumage. These demand our respect as partially distinct sub-classes, having been retained and sustained by select admixtures. But it may be asked which is the best colour, and which is truly typical of the primary progenitors? We remark the black-breasted red appears to us most in proximity with the probable originals and representatives of the breed, but not by any means identical. In our prefatory remarks ample reasons will be expounded for this persuasion. Every breeder who seeks

for quality and proves his strain must acknowledge that first-rate birds may be found of any colour. Those who regard feather as the grand desideratum have their own peculiar favourite tints. But some endeavour to improve quality and metal, looking at shape and advantageous points as the all important consideration, confessing a disregard to colour, seeing in most cases the admixtures have been so frequent as to render the same blood differently feathered. Although a certain feathered specimen may appear resembling a remote progenitor, and follow him in quality and other peculiarities, it so often occurs that a bird assumes the appearance of his father in feather and mother in quality, and *vice versa* as to render the rule exceeded by exceptions, thereby nullifying it. If the bird be known to be of pure origin, and possessed of good properties, as shape and make, is agile, in robust health, proved to have been taken from a good grass master walk, as corroborated by fine and seasoned condition, hard, close, and sound feather, he is everything with the lover of quality. But the refined amateur desires, in conjunction with those properties, uniformity of coat and plumage. There are a few notorious breeds which stand prominently forth with these combined excellences. The Knowsley black-breasted reds, also Lord Sefton's strain, Freeman's Piles and Duns, of which I have been fortunate enough in procuring the supposed entire stock; likewise Plumber's brown reds are a merry hard-feathered strain, with golden points of quality. In fact every colour has its lord whose peculiar Black, or brown reds, Duns, Piles, or Duckwings, are acknowledged very superior to the general run. Whatever be the colour selected, the points of quality are identical. The general feather should fit tight to the skin, be as close as though waxed, and of firm, hard, wiry, but silky transparency. The gingers or brown-

reds are usually the soundest in feather, whilst the Whites or Piles, although good birds, are for the most part less excellent in this respect.

After the second moult they are usually attired in a full and mature suit, but the third frequently produces another tone of richness to the otherwise splendid attire.

Colour.—It may be necessary to observe the varieties are nominated according to the plumage of the male, without regard to the more modest garb of the female. For instance the black-breasted red hen possesses a deep robin-tinted or light maroon breast, her suit moreover is composed of various shades of straw and fawn; still we term her a black-breasted red hen, meaning she generates that variety of cocks. The Brown-breasted red hen, by that appellation would be considered a lighter bird than the black red, by the uninitiated; she is, however, darker, and moreover possesses a breast in accordance with her name, but exhibits no development of the brighter hue ascribed to her; still she propagates birds in comformity with her variety. We renounce the breeding together of irregular colours, and recognise only such as are of uniform appearance, of settled and sound plumage whatever the colour may be. The adoption of indiscriminate admixture has had the effect of surrounding the class with a multitudinous display of meaningless appellatives which, together with the injudicious method of appropriating local distinctions, have enveloped their individual histories in obscurity almost impenetrable. They, however, require to be registered that they may not be increased.

VARIETIES.

The standing varieties are Blacks, Black and Brown-reds, Duns, Duckwings, Piles, and Whites.

VARIETIES.	SUB-VARIETIES.
Further respectively distinguished by white, yellow, olive, light and dark blue, or black legs.	
1. *Blacks*, including - -	Blacks. Brassy wings.
2. *Black-breasted reds*, do. -	Black-breasted ginger-wing red. Black-breasted crow-wing reds. Black-breasted crow-wing gipsy-faced red. Furnesses. Polecats.
3. *Brown-breasted reds*, do.	Brown-breasted or ginger reds. Pheasant-breasted red. Blotch-breasted reds.
4. *Duns*, do. - - - - - -	Duns. Blue duns. Red duns. Smoky duns. Yellow duns.
5. *Duckwings*, do. - -	Black-breasted birchen duck-wings. Brown-breasted ginger duckwings. Black-breasted berry birchen duckwings. Marble-breasted greys. Turkey-breasted greys. Clear mealy greys. Black-breasted greys.

VARIETIES.	SUB-VARIETIES.
6. *Yellows*, including - -	Black-breasted yellows. Grey-breasted do. Black-breasted yellow birchen.
7. *Piles*, do. - - - -	Blood-wing piles. Yellow piles. Streaky piles. Dun piles. Spangled. Cuckoos.
8. *Whites*, do. - - - -	Whites.
9. *Indian Game*, do. - -	Whites. Brown-breasted reds, &c.
10. *Hennies or Hencocks*, do.	Blacks. Brown-breasted reds, &c.
11. *Muffs and Tassels.*	
Cross-breeds.	
" *Shakebags.*"	

To avoid iteration, no mention is here made of those particulars described under the head "characteristics of the entire class," but merely the colour of their respective feathery suits, in connexion with exceptional peculiarities.

BLACKS.

Blacks.—Some have imagined the black Game fowl of impure descent, but supposition being the groundwork of that belief, and no argument or evidence in its support being adduced, the exposition of this fallacy by such means is rendered unnecessary.

The purely black bird is very scarce, but of peculiar beauty, possessing the characteristics of this noble family in full repletion, in connexion with a retired class of plumage of contrasting excellence.

To be regarded perfect in feather, neither sex should exhibit ought of a coloured or white tint in any part of their attire, which must be of a rich and lustrous black, the tail full and of similar metallic hue.

A partial and advantageous relief is afforded by the crimson face and throat, the full sparkling and heroic expression of their prominent ocular members, and the coloured portion of their pedal limbs, which latter are yellow or deep olive, but sometimes black.

It is a difficult matter to procure genuine birds of unalloyed black feather, and when obtained it will be found that the male offspring for the most part possess the yellow barred wings of the "brassy-wing;" this partly accounts for their scarcity.

Brassy-wings.—Many specimens bearing the name, but devoid of sufficient semblance to this breed to entitle them to its appellative, are frequently injudiciously recognised as such—whereas, birds with the slightest colouring in neck, saddle-hackle, or back, should be excluded. Only such as possess yellow barred wing-coverts, in connexion with an uniform jetty black plumage throughout, are entitled to be regarded as belonging to this sub-variety, seeing the former cannot be bred from pure blacks without admixture, whilst it is too well known the latter are frequently generated from them.

They are in every respect similar to the blacks, with the exception of the yellow barred wing-coverts, the colour of beak and legs equally varying as in those birds. The development of the yellow bars is but partial in stags,

but after the second or third moult becomes strongly marked. The hens are not thus distinguished, but resemble the blacks of the same sex in plumage and general appearance.

With the exception of the "brassy-wing," we consider no bird with the slightest colour of red or orange in the hackles, back, or wing-coverts, should be regarded as belonging to this variety. However dark may be the orange in those parts, or however slight its presence, all such must rank not as blacks but as black-reds, and according to their depth of shade, extent of colour, and other particulars, so must receive nomination in that variety; we have, therefore, classified the "polecat" and the "furness" as varieties of the black-red.

BLACK-BREASTED REDS.

Lord Derby's or "Knowsley breed" are considered the most select strain in the country, having been carefully kept at Knowsley upwards of a century. In shape and general conformation they resemble the "characteristics of the entire class."

The colours of the male, as described by Mr. Roscoe, are—

Face—bright red.

Neck-hackle—deep orange.

Uppermost neck-hackle, near throat, still deeper in its hue.

Saddle-hackle—rich orange-red, shading off towards extremities.

Back—rich dragon's blood.

Breast and thighs—clear black.

Lesser wing-coverts—maroon.

Greater wing-coverts—light dragon's blood, barred at extremities with steely blue.

Lithographed by C. J. Cuthford.

22, Southampton Street, Strand.

BLOOD-WING PILE. BLACK-BREASTED RED.

Bred by Mr G. Ferguson.

Primary wing feathers—bay, with black shafts.

Tail—full and black, glistening with metallic lustre.

The shape and make of the hen conforms to the already advanced requisites of the male, allowing for the differential sex. The plumage varies from a straw tint to a partridge-brown. Neck-hackle feathers, bright yellow and of considerable depth of tint towards the approach of the throat; the web pale brown or black, but in some instances white; saddle and wing-coverts of a rich straw or partridge-brown; primary wing feathers black; tail black, tinged with deep bay; breast clean roan or fawn, shading off towards the vent, which is of an ashy hue; beak, shanks, toes, and nails, white. In some hens may be observed a fine bright hair, running longitudinally through the centre of each feather of the entire suit, more especially in the wing-coverts and breast. The breast of the cock should exhibit no trace whatever of a brown feather, a clear coal black being regarded the handsomest and purest breastplate he can present. When clear, it forms a most striking relief to the eye, rendering the entire plumage rich, but toning down the otherwise gaudy suit to a subdued but splendid combination of handsomest hues, and a harmonious blending of richest shades.

The peculiar features of the Knowsley breed consist of grey or daw eyes, as in the jack-daw, white beak, feet, and claws, and one or more partly white or grizzled feathers in the pinion. These appearances may be more distasteful to some than pleasing to others; but, whatever the fancy in respect to the eyes and feet, the discolorations in the pinions must be considered foul marks, which considerably deteriorate from purity of feather in any uniformly coloured breed. Whites, Piles, Yellows, Duckwings, Spangled, &c., &c., may have white pinion

feathers—but Blacks or Reds should exhibit no semblance to white or grey in any part of their plumage, if perfection in feather be the standard. But pugilistic qualifications, resolute courage, valour, shape, make, and its accompaniments agility and strength, and elegance of deportment, may be centred as much in birds of mixed and unsettled hues as in those of uniform feather. The merits of the Knowsley breed are unquestionable, and its prowess unsurpassable; one bird of this strain has been known, not exceptionally, to bring down two and sometimes three of his foes, and, according to well authenticated record, no less than seven upon one occasion fell before the hero of the night. Excepting the one particular before described, their plumage is of extreme excellence.

Specimens possessing yellow legs are usually more brilliant and showy in their plumage than such as exhibit shanks of a deeper hue. Olive tinted pedal joints are most esteemed, and it must be acknowledged the peculiarly finished appearance of this ground renders the possessor at once strikingly unique and equally refined. Dark blues are by some regarded as of hardest and strongest bone, whilst light blue or white but weakly in this respect. Yellow an indubitable criterion of breed, but black of rather questionable purity. These opinions will, doubtless, be entertained and fostered by some, but the fact is an equal number of first-rate birds may be found of each sort, thereby rendering this feature no criterion of quality or strain. The old truism of blue and yellow originating green is equally applicable with respect to these birds; for blue and yellow-legged specimens when bred together, frequently generate olive-shanked progeny, and white with dark blue produce pale blues.

The term "ginger-winged" is but the distinction applied to birds in which the primary feathers of the wings are of

that hue—are more frequently exhibited in light yellow-legged specimens, whilst crow-wings or black-wings are usually found in birds of the darkest strains, or in such as exhibit considerable depth of ink stains in the hackles.

The term "gipsy-face" is sufficiently described by its appellative to require any lengthened definition. Dark strains are occasionally thus faced. (See characteristics of the entire class.)

Furnesses are not allied to the Piles with which they are frequently confounded. No white should be visible throughout the feathery suit of the true Furness, whilst it forms one of the component colours in the plumage of the Pile. They are placed with the Blacks by some, but in that variety no bird possessing the smallest amount of red is admissible, they must, therefore, belong to the black-red variety, in which we consider they have rightful claims of recognition. Black-reds are not bound to any shade of red but range from orange-red, or as the name indicates, to black-red, there is, therefore, no extension of the term by their connexion.

The male Furness possesses a black-breast and body with red saddle feathers, is slightly marked in neck-hackle and wing-coverts with a similar hue, varying in extent in different specimens. The hen is of uniform black, save in the neck-hackle, which is of a golden yellow, with deep ink stains extending longitudinally throughout the feather. Legs and beak black.

Polecats are very similar to the last-mentioned, but the male possesses an increased extent of red of a lighter shade, whilst the plumes of the female are occasionally tinged with deep brown, and neck-hackle feathers edged with a light golden hue. The "gipsy-face" is most usually exhibited

both in these birds and in the Furness, with its accompaniments the black beak, legs, and toes.

BROWN-REDS.

The brown-breasted or ginger-reds are frequently the hardiest, closest, and finest in feather of the entire family, but their plumage is not usually so brilliant as the black-reds. The brown-red breast, although beautiful in itself, affords but little relief to the eye when compared with the coal black frontispiece of those birds. The general colours of the plumage of the brown-reds are in other respects similar. The hen is usually of a rich partridge feather, possessing light maroon breast and black tail, and frequently surpassing the black-red hen's in richness of plumage.

Partridge-breasted reds are not dissimilar, but present the breast of the partridge in a beautiful degree; the hens are moreover of a very rich feather, and exhibit the same peculiar markings in a reduced scale throughout.

Blotch-breasted reds are too well described by an appropriate cognomen to require definition, being similar to the brown-reds in body and general plumage. The breast feathers are very irregular, and comprise black and brown in unequal proportion, as would be suggested by the admixture of the brown and black varieties, having previously been domiciled select for many years.

DUNS.

We are compelled to differ not only with the Rev. Mr. Dixon, to whom we owe much respect, but with our contemporaries respecting this fowl. Mr. Dixon distinguishes it by a separate chapter—this, we think, answers no purpose. But as chapters are mere divisions of matter,

Lithographed by C. J. Culhford,

22, Southampton St Strand

RED DUNS.

Bred by Mr G. Ferguson

and matter but description, we make no further comment; otherwise to deprive a fowl of its connexions, and renew its acquaintance with none, might prove as confusing to the general student as depressing in its ultimate effects to progressive classification. If the dun fowl belongs not to the Game, in which class shall we place it? By itself in isolation? This we cannot acquiesce in, or upon a similar plea the Duckwing and several other varieties might claim their respective bills for separation, thus prefixing confusion to intricacies without an equal amount of probability of realizing the slightest advantage.

The dun fowl is unquestionably a variety of the Game, and proves himself so by the surest of all expedients and the most certain of all tests with which we are acquainted. He is no less pugnaciously disposed when his opponent, heeled with the trying piercing metal, rushes furiously upon him in the pit, and capable of enduring, without the slightest indications of distress, all the tortures to which he is there subjected.

We pronounce him without hesitation a Game fowl, as evinced by his courage, actions, disposition, shape, quality of feather, and general conformity to the entire class, and the regularity with which the offspring assume the characteristics of the breed in quality and disposition.

Our contemporaries describe the blue dun fowl as though red or orange formed a component part of the colour of his plumage, this is erroneous. Those which thus exhibit other hues than dun are respectively distinguished by appropriate terms as red or yellow Duns, &c., which indicate the peculiar shade or admixture of tint.

The dun fowl of both sexes should be of uniform silvery slate blue or leaden colour, including the breast and wings which are without the slightest admixture of red or

yellow. Neck-hackle in both sexes somewhat darker. Legs usually dark blue. Head beautifully finished and small. Comb and face of a dark complexion. Purely feathered birds are exceedingly scarce, and the colour is a novelty; but are we justified in substituting birds which are not in exact conformity with the standard of excellence to make up the deficiency? We think not. However unattainable that degree of excellence hitherto recognised as our standard, no less should our endeavours extend to encircle its path.

In the black varieties of Game no white should be exhibited, or they are placed but as sub-varieties.

In the white specimens no black or red, or they require a defining term.

In the black-breasted red no white should be perceptible.

In like manner in the dun, if red or yellow be exhibited a further distinction is necessary in the form of a prefatory appellative.

Red duns are of striking beauty, and the proceeds of a judicious admixture of the blue dun and black-breasted red (Game). The male possesses the blue dun body and thighs of the blue Dun, interspersed in some specimens with a greater or less degree of brown or red; the clear dun breast, however, is most in esteem. Neck and saddle-hackles of a bright orange, with light dun shafts; saddle and wing-coverts of a rich blood colour, shading off into a light orange or golden tint; flight feathers reddish brown; tail dark dun, sometimes approaching black, interspersed with grey or grizzle. The hen should be of an entire silvery dun throughout, save in the neck-hackle which is of a golden orange with deep dun stains. In some a very light slate blue predominates, whilst others exhibit a deep leaden tinted plumage. (See illustrations.)

Lithographed by C. J. Culhford,

22, Southampton St. Strand

BLACK-BREASTED DUCKWINGS.

Bred by Mr. G. Ferguson.

Smoky duns are very similar in plumage, but of a deeper and duller shade in both sexes.

Yellow duns are extremely beautiful, and in general plumage resemble the birchen yellows save in the breast, belly, thighs, vent, tail, and points of wings, which are dun or a mixture of maroon and dun; the neck, saddle-hackles, and wing-coverts, being of the various shades of orange; the web of the neck-hackle is invariably light dun; legs and claws usually light olive or yellow. The hen is less attractive, frequently exhibiting tints which require a considerable extension of depth to become uniform or settled in their appearance.

DUCKWINGS

Are considered by many the most beautiful of the entire family. The males present a combination of delicately shaded plumes, varying in richness from the palest straw to the richest orange. The entire class are distinguished by a steely green iridescent bar extending across the larger wing-coverts, in connexion with cream coloured primary wing feathers as exhibited in the Mallard duck, from which they derive nomination.

Black-breasted duckwings form a most striking but pleasing contrast when compared with the more highly coloured varieties. The breast, belly, thighs, vent, and tail of the male should be of a clear coal black, the latter full and of decided hue, but shining with green metallic lustre; the neck and saddle-hackles vary from a light straw to a rich orange, shading towards extremities into the palest canary colour; wing-coverts, from a rich orange to a deep chocolate, are of a decided hue, and harmoniously blend with the entire suit; larger wing-coverts edged with the lustrous bar already alluded to; legs and toes yellow or

pale olive. A healthy coloured visage is of immense advantage, and adds greatly to their beauty. The hen should be of a settled and uniform feather, varying in different specimens from a mouse colour to a greyish straw, with silver pencilled neck-hackles, light red or maroon breast, and black tail tinted with greyish specks. (See illustrations.)

Black-breasted birchen ducks are extremely hardy, and of peculiar wiry feather. The general ground varies from a pale yellow to a birchen tint; breast, belly, thighs, and vent coal black; hackles yellowish grey with black ink stains; wing-coverts of a deep straw or orange; tail black. The hen is usually of a light grey, tinted with birchen, with silver neck-hackle stained with black pencillings; breast light maroon; tail black, tinted with grey; legs, toes, and beak yellow; nails white.

Brown-breasted ginger ducks possess brown breasts in connexion with the general feather characterizing the previously described birds, but somewhat of a warmer tint, more especially in the coverts. The hen is likewise somewhat darker.

Marble-breasted greys possess for the most part but little of a brighter hue than grey throughout their feathery suit. The hackles, saddle, and wing-coverts being of that colour, comprising various shades; breast streaky and resembling light marble in its character. Hens are in full conformity with their mates, and exhibit similar peculiar markings in the breast.

Turkey-breasted greys.—Saving the resemblance the breast of both sexes bear to the common Turkey they differ in no respect from the previously described birds.

Clear mealy greys are of an entire grey suit including the hackles and wing-coverts, and exhibit no pretension to a

yellow or brighter tint in any part of their body. Legs, beak, and toes pale yellow.

Black-breasted greys.—The male possesses a clear black breast which gives a finished appearance to the entire suit. The hen exhibits a pale maroon frontispiece; in other respects but slight differences are perceptible between them and the former.

YELLOWS.

Yellow specimens are occasionally met with approaching a dark cinnamon hue, but devoid of the steely iridescent bar at the extremity of larger wing-coverts which distinguishes the duckwinged breed, although of similar plumage. This deficiency necessarily renders them yellows and not duckwings, seeing the very peculiarity exhibited in the latter, and from which their name is derived, being absent; the adaptation of that typical term is at once incorrect.

Black-breasted yellows.—The male possesses a clear coal black breast, thighs, and tail, and dark cinnamon plumage. Hen light buff throughout, with yellow legs.

Grey-breasted yellows are similar in plumage, with the exception of the breast, which is grey as the name implies. The hen conforms to the general hue of the male.

Black-breasted yellow birchen are similar to the black-breasted yellows in character and general colour of plumage in both sexes, but resemble the birchen in depth of tint. Some, however, run streaky in the breast. The hens are of an entire dark plumage, tinted with grey throughout, and neck-hackle edged with silvery white.

PILES.

All birds, whether belonging to the Game or any other class, possessing white as a component colour of their

feathery suits, are termed "Piles," of which there are several varieties, as hereafter described. Unfortunately they have received nomination from mere local distinctions or peculiar incidents connected with domestication, instead of their respective attributes. Hence we have the Cheshire, Staffordshire, and Worcestershire Piles, which are inadequate distinctions. Why not call the former blood-wing Piles as indicative of facts, and the casual observer, by making use of his ocular nerves, would be enabled to identify them, seeing the wing-coverts of the male are of that colour? We have no more reason for calling the Pile varieties by geographical phrases than the black-breasted reds, which are nominated as they should be from visible characteristics.

We opine that all such narrow terms should henceforth give place to judicious and recognisable appellatives, and such as would at once be suggested to an observer as appropriate. For Staffordshire Piles we propose the substitution of yellow Piles, seeing those parts, which in the blood-wing Piles are red, are in those yellow. Worcestershire Piles should give place to dun Piles, as being thus tinted throughout the entire feather. Ambiguous local terms must necessarily engender controversies, since Cheshire Piles may be bred at Worcester, or the Staffordshire birds at Chester, or any other locality. We trust, therefore, further disputes will not arise whilst a remedy so patent, without being patented, is at hand.

Blood-wing Piles.—In the male the breast, belly, thighs, and tail, are white, with a few maroon feathers interspersed; a perfectly white breast is preferable, but seldom if ever to be obtained. Neck-hackle bright orange, with white shafts. Saddle and wing-coverts of a deep golden dragon's blood, the latter barred with clear white; saddle-hackle shading off into a pale canary yellow. The hen varies

from a clear white to a bright cream, with neck-hackles and wing-coverts slightly edged with yellow. Breast robin-shaded, usually termed "robin-breasted," but varying in depth of shade in different specimens.

Yellows are marked with pale lemon yellow in those parts in which the blood-wing Pile is red; are frequently found possessing perfectly white breasts. The hens, not unusually, are purely white throughout.

Streaky Piles are in both sexes irregularly marked with black and red in hackle and tail, and possess unsettled brown and red hues, indiscriminately extended throughout the plumage.

Dun or blue Piles.—In the male black, white, and blue tints, are perceptible in the hackles and tail. The hens are irregularly shaded or tinted with dun. Legs usually olive or yellow.

Spangled Piles plainly indicate their origin, and their appropriate nomination renders minute description unnecessary. A spangled or speckled plumage predominates throughout the entire suit of both male and female, whilst the former possesses a larger amount of yellow and maroon than the latter.

Cuckoos resemble the Dorkings of that name in the character of their plumage, each feather being marked with three or four bars of grey, yellow, or black, upon a white ground.

WHITES.

Whites or Smocks are very beautiful, and of exquisite delicacy of plumage—should be purely white and of unstained feather in both sexes; beak, legs, toes, and nails, white, olive, or yellow. In general conformity they differ in no respect from the entire class. They are very liable

to break into Piles, and generate Pile offspring, especially where admixture is most recent. Their general feather, although hard and firm, compared with other fowls, is inferior in this respect to the coloured Game varieties.

INDIAN BREEDS.

The genuine Indians are not near so handsome in shape and make as the English Game, possessing a heavy and comparatively clumsy appearance, in connexion with very coarse features. Latterly British Game of first quality of the several varieties have been liberally exported thence, thereby rendering it possible that those very specimens, now received from that quarter as Indians, are the direct proceeds of an admixture of English blood. It is evident those beautiful white specimens, latterly exhibited as Indians, were vastly superior to anything of the sort previously seen in plumage, shape, carriage, and general conformation.

The brown-breasted reds are similar in plumage to the British brown; likewise the many other varieties resemble our breed in the character of their respective suits, but are wanting in that elegant and finished outline which renders the genuine English birds so exquisitely unique, and the *beau ideal* of primary and uncontaminated descent.

HENNIES OR HENCOCKS

Are thus nominated from the striking semblance the plumage of the male bears to the females. Both neck and saddle-hackles being but little more developed, with tail almost as straight and spare, and equally devoid of sickle feathers. They are a select breed, and generate their kind in form and feather with regularity and precision. Are

equally pugnacious, and no less determinate in conflict than the more masculinely plumed varieties.

Blacks are of an entire black feather in both sexes, but occasionally exhibit the bar of yellow in the wing-coverts as in the brassy-wings.

Black and brown-breasted reds resemble the Knowsley breed in the colour of their plumage, but being spare are necessarily less brilliant.

Yellows are another variety of this description, and of a light buff in both male and female.

MUFFS AND TASSELS

Are usually of a brown-red class of plumage, the former possess a beard extending round the throat. The tassels are without that appendage, but derive their name from the presence of a few long head feathers projecting from the back of the comb as in the crested fowls, but not erect. Comb and face usually purple; iris deep rich hazel. A breed termed tasselled muffs have been produced from the breeding together of the two. These three strains are usually extremely savage, petulant, and spiteful, and no less pugnacious in the pit. Had their metal not been proved by repeated trials, I should have ranked them amongst the mongrelled race without hesitation. But, although not thus adventurous, I cannot allow the opportunity to pass without advancing my opinion that they are not of pure origin, but the issue of a remote admixture with that class of birds, resembling them in their throat and head appendages, and from which they thus obtain a hereditary feature. Repeated importations for successive ages of genuine blood may have eradicated the deteriorating effects upon their metal, produced by a cross of so foreign a fowl, whilst the material feature may still have remained, see-

ing the breeder usually preserves such as exhibit the fullest development.

SHAKEBAGS, OR DUKE OF LEEDS' FOWL

Are now supposed extinct, that is the peculiar breed which gave rise to the name are no longer recognised. His grace the Duke of Leeds, a devoted fancier, produced from the Malay cock and Game hen, birds of wonderful pugnacity, and their prodigious size and herculean strength rendered them unrivalled in the annals of the cocking registry. He invariably brought them to the pit in bags, and previous to their release challenged them against any that could be produced. Specimens produced from a similar cross are now reared, and, as a matter of course, equally deserve the name of Shakebags, if that term indicates characteristics, if not, such as reveal their hybredism would be more appropriate. They are unquestionably a very noble and magnificent fowl, and occasionally specimens may be seen devoid of those awkward bearings of the Malay, but uniting its size and power, with a fair share of the Game fowl's conformity, contour, and elasticity of motions. The general run, however, stand higher and heavier on the leg than the Game, joined with an awkward bearing much at variance with the required standard of the British aristocracy. If the blood of the Malay be genuine their courage is undying, and their rivals to be looked for. The issue of the Malay hen, when bred with the Game cock, is not usually so suitable for the purposes of the pit, proving less active. The affinity between mother and son being stronger than exists between father and son. This holds good with all the Game varieties; if the hen be not genuine, worthless are the progeny, more especially the males. I would much rather breed from the issue of a genuine hen and mongrel

cock, than such as were generated from a mongrel hen and true-bred cock. Be it observed, however, I would not depend very much upon the good conduct or regularity of either; and, apart from decided disproval of all species of gambling, I would never think of exposing even a cent to the perilous position consequent upon the chances of their signal success, or precipitate flight, but would anticipate the latter as inevitable. A remark which is equally applicable for all the varieties I cannot refrain from making mention. Although the true bred bird is of undying resolution, and exhibits invincible powers under the most painful and distressing circumstances conceivable; if he be unwell, or suffering severely from disease, when first introduced to his antagonist, he will frequently have sufficient sense to prefer deferring the engagement until some more suitable occasion. If in good bodily health, when placed before his foe, he never turns tail, even though limbs be mutilated; but if struck in the testicles, he, too, will falter, and the attitude of the fleeting fugitive will succind to that of the noble chanticleer.

SELECTION OF STOCK FOR BREEDING PURPOSES.

A judicious selection of specimens for propagation is of the utmost import. Whichever be the variety, care must be taken that their characteristics are in strict comformity with the already advanced standard of excellence, and obtained from a hereditary source. In the Game hen this becomes peculiarly imperative. (See page 256).

We have already enumerated tested facts at pages 31, 74, 104, and 172, and expedients which are equally requisite in the successful breeding of Game fowls. A summary of importances may thus be adduced.

Pullets should never be mated with stags, but with two

or three-year old cocks, and hens of the same age with stags.

For breeding Game birds high and vigorous, the male's prolific mates should be limited to four, whilst several in addition, non-simultaneously productive, may be allowed with impunity. The senior male bird prefers select society, as evinced in his irritability of temperament towards some, but affable and decorous demeanour towards his favourites.

At the expiration of his fourth year he should be dismissed the breeder's stud, or be allowed but one hen, and that but for the ensuing season.

Great care should be taken that specimens mated together match well in plumage. A white feather in a coloured bird is necessarily a foul mark, and if once admixed its eradication becomes most difficult. I feel confident that the more artistic the nicety of calculation bestowed in selecting tints which harmonize in shadow, the more beautiful the progeny will prove.

Relationary breeding must ever be avoided, more especially the consanguinity necessary resulting from brother and sister being matched.

Infusions of fresh blood must be effected in the form of an occasional introduction of a model male bird with the hens, or fresh pullets with the finest family male about every other year.

The blood thus imported must be of first-rate quality, or its postponement becomes necessitated until such can be produced.

A pedigree should be kept describing the several admixtures to which the breed has been subjected.

In breeding blacks it becomes advantageous to mark the chicks, which, when first excluded from the shell, are of the deepest black. Although they may ultimately become no

further distinguished for a handsome and settled plumage than the rest, I have been enabled, by observation and experiment, to discover that more dependance can be placed upon their offspring in this respect, than in the progeny of such as are first attired in a dull suit.

Furnesses, Polecats, and black-breasted crow-winged Reds, are frequently produced from the admixture of Blacks with the Black-reds.

Blotch-breasted Reds from Black and Brown-reds.

Red Duns from blue Duns and Black or Brown-reds.

Smoky Duns from blue Duns and Blacks.

Yellow Duns from Duns and yellow Birchens or Duckwings.

Brown, streaky, and marble-breasted Ducks, from the various blendings of mixed Brown-reds and Duns with Duckwings.

Blood-wing Piles from Whites and two or three admixtures with Black or Brown-reds.

Yellow Piles from the same source, but having sufficient mingling with the Reds to tinge, but not to colour.

Spangles from irregular admixtures with the Blacks, Whites, and Reds.

Dun Piles from the Dun and Pile.

Tasselled-muffs from the union of the Tassels and Muffs, as denoted by an appropriate appellative.

I do not here intend to convey the idea that the varieties which, when admixed with others, produce this, that, or the other feathered progeny, are themselves of a primary order of plumage, but merely that this recent blending of select breeds is capable of immediately producing such as I have described.

GAME CHICKS.

It may be necessary to observe that the legs of all the

varieties, including the white and olive, but excepting the black or dark blues, vary from a pale to a decided yellow, when first excluded from the shell; although a few weeks are ample to denote their constitutional hue. The chicks of the black varieties, we have already had occasion to notice (but for the completion of the list, once again repeat), vary from a coal-black to a brown-black, and are marked with white on the face, breast, and wings.

Blacks and brown-reds are of a rich brown maroon hue, possessing three deeper parallel stripes running longitudinally down the centre of the back, from the head to the extremity; occasionally a narrower mark over the eye is perceptible. These stains disappear as the chicks advance in growth.

Duns are of a deep tinted grey, but the darkest strains are frequently black or chestnut-brown, marked with white, as in the blacks.

Duckwings deep orange, with three darker stripes extending down the back, as in the reds, but not so intense.

Yellows of a still lighter hue.

Piles principally white or cream, but depending upon the peculiar variety or sub-variety to which they belong.

Whites of a pure white, but sometimes tinted with pale cream.

The chicks of the Indian breed, also the hennies, muffs, and tassels, semble the progeny of the other varieties of the same feather; that is the brown-red Indians, muffs, and tasselled chicks, assimilate the brown-red of the true English breed.

The chicks of the entire class are robust and of vigorous constitution; they moreover feather very rapidly, but being small, care should be taken that they are fed in small quantities, but with frequency. Being very hearty consumers for their size, whilst young, if after fasting a liberal supply be afforded,

indigestion may ensue, as engendered by excessive repletion. Whatever confinement mature fowls are capable of enduring, it becomes equally evident, until full grown, such must prove very deteriorating in its effects. For other particulars connected with feeding and rearing chicks—(see Parts III. and IV., from page 112.)

The month of March may be regarded the most suitable for their exclusion. The mother is a most tender, watchful, and careful manager of her progeny, and capable of protecting them against the trying effects of a varying temperature in almost all its severity if but bare means be afforded. No more than eight should be allowed her if prime quality be desired; seven or eight fine sturdy chicks being of far more value than twice that number of ordinaries. The first ailment to which they are usually subjected arises from their pugnacious propensities being indulged in. Whilst yet but a few weeks old, still protected by one common parent, and equally requiring her guardian care, their little beaks and pedal limbs are raised against each other for offensive and defensive warfare. The determination which they exhibit in these sanguinary engagements is surprising. But the first revolution over, and the various degrees of authority settled, the principal difficulty is overcome, for each little man knows his several masters, and humbles himself at their approach. But where many broods are confined together, the first affray must necessarily result in the loss of some—each bird having as many battles to dispute as there are males, unless the vanquished shun the presence of his friends of untried strength until recovered from his wounds. When reared together, it is far the wisest plan to allow them to settle their differences without resorting to temporary separation, as that is but adding strength to combativeness, and rendering

all such capable of protracting the campaign, over a considerable period of time, upon their return. The best method is to assist, in each skirmish, the one most likely to vanquish, by buffeting his opponent with a cloth until he be "cowed." Although slight after differences will arise, they are not likely to be so frequent as would be the case if the weaker, upon the ground of his inability to exercise such authority as the stronger, were chosen as the victor. These after differences are not fought for, with the same amount of determination or injury to the combatants as the first general appeal to arms, seeing the heart once overcome requires time to be restored, especially where the master is in constant sight, and memory lasting. The old stock bird exhibits a distaste for petty strife, and soon disperses the juvenile chanticleers which are thus engaged.

It is the practice of all breeders of quality to mark the chicks, when but a few days old, with their own stamp of recognition, in case of larceny or temporary loss. The readiest method of effecting this is by clipping a small peculiarly shaped piece of web from between certain toes. A pair of sharp scissors will accomplish it in an instant, inducing no more pain than that produced upon the human subject by the prick of a pin.

When five or six months old, the operation of dubbing is best performed, that is the amputation of the comb. The gills and ear-lobes are better left for a month later. This mutilation may at first glance appear inhuman, but it is necessary for the preservation of the bird. A straggling foe at one time or other is almost sure to cross his path, when these appendages if not curtailed are sadly in the way, forming a hold for his antagonist for inflicting deadly mischief; but, in the event of his foe being disabled, lasting proofs of the skirmish are evinced by their irrecoverably

torn and shattered condition. The comb may readily be removed by making a slight incision at the back near the skull when one dexterous pull should complete the operation. By this means it may be momentarily effected, but not always sufficiently artistic to give unqualified satisfaction. For this reason a pair of sharp clipping scissors are best adapted for the purpose, and with which it may be performed in almost an equally short space of time. To stop the flow of blood from the wound the application of the fluff of a feather, or a layer of cobwebs suffices. A good bird seldom evinces the slightest pain by any effort at release during the operation, nor raises his voice against its performance. We do not propose explaining the surgical operation, considering a personal attestation absolutely necessary to his skilful and humane performance. The imperious air exhibited in the breed is greatly heightened by the absence of the comb, and becomes considerably increased after the removal of the gills and ear-lobes.

Where many birds are bred, and a select breed maintained, it is usual for the owners to obtain a few country grass walks for several of their male birds as soon as trimmed. For this purpose a friendly farmer will, for the sum of 2*s.* 6*d.* or 3*s.* per annum, place a few birds at separate runs, from whence they may be removed when required, by the substitution of another and the payment of the fee.

An occasional loss of a fine specimen must not discourage, being fully compensated for in the superior accommodation afforded, without which the continued maintenance of the strain would become dubious.

The same distinctive appellatives, made use of to denote the particular age of either male or female, hold good with every class and variety of poultry, to mention which would be but an iteration of remarks contained in page 136.

AS FARM STOCK.

Fancy versus *Profit.*

It is a well attested fact that Game fowls will not flourish in large quantities, seeing males sufficient for rendering many hens prolific will ever be at variance, and manifest intense jealousy at the courtesy paid the fair sex, both by superior and subordinate companions. The best method is to rear a brood of fresh blood, and introduce the finest male birds of that brood to the hens. The former never having been separated are settled in their relative positions of rank, and likely to remain so if not interfered with or disturbed by some general outbreak consequent upon the presence of a stranger—when the previously master cock, after being slightly bedaubed with blood, will be no longer recognised by his subordinates, and disastrous consequences will inevitably succeed. But apart from such casualties, where many chicks are reared for the market, Game blood is not admissable, for a general civil war amongst the juveniles of the poultry yard would be the means of retarding their progress considerably, and rendering a loss rather than a gain the probable result. The ardent temperament of the hens, too, would be a source of much trouble, if domiciled in large numbers, both as regards their incubating determination and the sanguinary conflicts in which they would doubtless be engaged with their previous companions upon their return. Even when but a few days have elapsed, they frequently greet their former superiors with the air of endeavour at self-advancement. Neither are their powers of production sufficiently prodigious to make up for the great disadvantage under which their owners would be placed by such campaigning.

And lastly, we arrive at flesh, which is unquestionably of first-rate quality, but its natural size and weight is below

mediocrity—and apart from being retarded in its development by pugilistic encounters, the chicks are by no means precocious as are the Dorkings or general farm stock. From personal observation and kind corroborating testimony received from all quarters bearing upon this momentous point, I am compelled to pronounce my favourites below that standard of national utility which would place them in the hands of our producers for the market.

But this confession leaves open one plea which I must advance in their behalf. If they be not collectively the most profitable subjects for the farm, they possess characteristics which rank far higher in the scale, than such whose greatest charms render them but fit subjects for the satisfaction of animal exigencies. Features they exhibit which excite our most enthusiastic admiration, and our closest study. The death of the spit is neither honourable nor desirable, but to be beholden of continued generations with the eye of satisfaction, and to claim that regard is no less meritorious in itself than a position of acknowledged preferment. As bodies endowed with life they must necessarily surpass in degree the whole range of herbs in its most extended sense, and as mirrors of nature's power they reflect her peculiar care.

Stand back! compare not the senseless lily with the proud puissant hero of his race. The richest tint the prickly plant unfolds—the sweetest charms the blushing rose portrays stand far surpassed in hues by the noble exquisitely golden amber shades of nature's blending, which the proud, the noble, and the valiant chanticleer displays—in life's attire. His form of beauteous elegance is wrought by nature's finished and most skilful hand, with care and much peculiar nicety; his merits stand the test of heaven's own scrutiny.

DISEASES.

Nature having produced so valiant and exquisite a form, and to have peculiarly subjected it to disease would have been somewhat irregular. She occasionally acts thus for hidden and all-wise purposes; but the hero before us is constitutionally subject to few ailments, and his hereditary maladies are more limited than with almost any other variety of our poultry denizens.

Cankered mouth is induced from advantagizing opportunities of indulging in their pugnacious temperament, and to which ailment they are as susceptible as opportunities are afforded them for exercising their abilities with a rival. Being a local ailment, the best method of affording relief lies in thoroughly cleansing the mouth with lukewarm water, and rubbing the parts affected with dry salt. A little fresh blood will doubtless flow, but that is of mere temporary importance; the application of garlic to the wounds is moreover beneficial, or a little bread and chamberlie may be administered for a few ensuing mornings as a tonic. If badly struck, or internally wounded, which may occur if his opponent be heeled with long and piercing weapons, a teaspoonful of castor oil will much relieve him, but resort should not be made to such medicinal remedial measures unless the bird, appearing dull, exhibits loss of habitual prowess.

Lithographed by C. J. Cullford.

22, Southampton St. Strand

GOLDEN PENCILLED HAMBURGHS.

THE HAMBURGH FOWL.

GALLINA TURCICA, OR TURKISH COCK* OF ALDROVANDI.
VELVET-BREECHES—BUFFON.

The terms Feathered† Fowl and Everlasting Layer are moreover applied to the entire Hamburgh class in all its varieties, but Dutch Everyday Layer exclusively to such as are pencilled, seeing the latter alone are imported, whilst the spangled are the result of climatic influences and domestication, and but imperfect types of the primitive order.

HISTORY OF THE HAMBURGH FOWL.

WERE our pen confined to the natural or domesticated history of poultry, we should, doubtless, have abnegated the Hamburgh appellative as applied to this class. Hamburgh appears but the medium by which they were originally imported (in the way of commerce) into this country from Turkey, or some other eastern climate, and not the mother country as usually supposed. Our primary object being that of recognition, whilst analysis holds but a secondary position, we prefer registering errors that they may not be increased to divesting recognised breeds of their appellations in the substitution of new. It is evident before poultry had commanded that amount of attention which is now studiously bestowed, distinctions

* Now more usually applied to a Bantam variety.

† The term "feathered" equally applies to Polands and Bamtams, the accuracy of the markings in their plumage being the grand desideratum.

and terms were conferred at random. Amongst others, Hamburghs, that is birds now recognised as such, were confounded with Polands, and Polands with Hamburghs; and even to the present day there are several much disputed points. Some of our eminent breeders consider the real Hamburgh was a bearded fowl, and that our specimens holding that specific name are but Dutch everyday layers. Much as we approve rightful nomination, and confute settling down upon the most convenient point of a controversial labyrinth, we are compelled to sacrifice our opinions when calculated to engender that which we seek to avoid. Considerable as would be the interest connected with analysing the original causes of applied distinctions, it would be wholly unprofitable if introduced into the pages of *our* poultry journal. To rectify past misnominations would require a simultaneous publication of a dictionary appendix, gratis; and that, even if generally recognised as desirable, would take years to become established, and ultimately answer but an insignificant purpose. Let us rather recognise our present Game birds as Game fowls, even though they should be termed "English," and Malays as Malays, Shanghaes as Shanghaes, Hamburghs as Hamburghs, and Polish as Polish. Names are but significations of identity; if certain sounds are capable of transmitting required intelligence they need but registry and general adoption to answer all desirable purposes. Let us not, therefore, sigh and strain for the universal abandonment of a sound to the substitution of another which may also orignally have misrepresented facts—but rather be on the alert, and permit no extension of new misnomers; let none but judicious appellatives slip in, and no useful ones out,—thus will the point of universal recognition of distinctions, which we are all desirous of promulgating, become established.

Aldrovandus may be regarded as the primitive master of poultry detail, although so frequently pirated and despised in the pages of our "fowl vocabularies." His description of the Turkish cock and two hens is evidently that of the Hamburghs. Without applying to the original we thankfully avail ourselves of the Rev. Mr. Dixon's translation, it being, doubtless, correct. "The cock whose likeness we now give, is called the Turkish cock, his whole body was in a manner inclined to white—still the wing feathers were partly black; the belly also was black; the tail consisted of feathers that were partly green, partly black—some also half green, some half black. His whole body was exquisitely adorned with lines that were sometimes golden and sometimes silver, and it is wonderful what a beautiful effect this produced; his legs and feet were tinged with blue. The hen, which in like manner is called the Turkish fowl, was all white, sprinkled over with black spots; the feet tinged with blue; the wattles were short when compared with those of the male. The next hen would seem the same, except that her neck was yellowish, and she had a sharp point on the top of her head; her feet altogether blue, and an immaculate tail."

Although he mentions "his whole body was exquisitely adorned with lines that were sometimes golden and sometimes silver, and it is wonderful what a beautiful effect this produced," it does not appear whether these lines were exhibited on one specimen, and the amalgamation of rich hues produced the effect alluded to, or whether some specimens possessed the golden and others the silver markings. Although the peculiar comb of our birds is not described, his rude wood-cuts fully illustrate their points of identity, and leave no doubt but that such specimens belonged to the same class.

Buffon describes thus—"The Hamburgh cock, called also 'velvet breeches,' from the black velvetty appearance of his thighs, is a large stately fowl. Bill is much pointed; iris of the eyes yellow, and the eyes enriched with a rim of brown feathers, under which there springs up a tuft of black feathers, covering the ears; there are similar feathers behind the comb and below the wattles, and round black spots on the breast. The legs and feet are lead coloured, except the soles which are yellow. This is a peculiar breed, which is brought over from Hamburgh, and is much esteemed by the curious."

The feathers covering the ears may have been full muff-shaped or but diminutive, as exhibited in any other variety, but the presence of feathers behind the comb and below the wattles, induces me to consider the Polish appendage is here represented. These birds evidently approximated the bearded specimens, originally called Hamburghs, rather than such as are now recognised by that name.

Previous to the commencement of the fourteenth century we are unable to discover, by description or portrait, whether our present Hamburghs were generally domiciled in this country. But Chaucer's knowledge of the breed appears satisfactory, his description in the "Nonne's Preeste's Tale" evidently portrays considerable similitude. He concludes thus—

> "His combe was redder than the fin corall,
> Embattled as it were a castel wall;
> His bill was black, and as the jet it shone,
> Like asure were his legges and his tone (toes),
> His nailes whiter than the lily flour,
> And like the burned gold was his colour."

CHARACTERISTICS OF EXCELLENCE OF THE ENTIRE HAMBURGH CLASS.

(All existing differences of form between the Pencilled and the Spangled are noticed under this head.)

Head should be short and neat in both sexes, and perfectly exempt from topknot. The head of the pencilled variety is peculiarly well finished.

Eye full and prominent, but mild; usually very dark, but varying in shade.

Beak very short and well curved, is of light or bluish grey colour, but sometimes almost white.

Comb should be in both sexes of a bright coral redness, square and of double rose character; varies in the male from three-quarters of an inch to one inch and a quarter in width, should be low on the head, but standing erect, wide and evenly spiked on the surface, and terminating in a large flattened pike curving slightly upwards, and extending considerably over the back of the head. The hen's should be of similar shape, but more diminutive. The comb of the gold-spangled is usually the fullest developed, the silver-spangled next, and that of the gold-pencilled rather fuller than the silver-pencilled. (A single comb is inadmissable.)

Wattles or gills rather large, full, and round, but vary much in length.

Face small and red in the cock, but paler in the hen.

Throat.—No tuft or collection of feathers should be presented on the throat, face, or head.

Ear-lobe white and large compared to most fowls, whilst very much smaller than in the Spanish, but the larger and purer the white the more preferred. The spangled variety seldom develop this feature so purely as the pencilled.

Neck slender and elegant.

Neck-hackle rather long, but close and tight.

Breast rather narrow.

Back short.

Thighs short and small boned.

Shank should be perfectly clean and free from feathers; are small in bone, and of blue or leaden colour, usually darker in golden-spangled varieties.

Toes neat, and tapering towards extremities, should be well spread; nails almost white.

Spurs frequently rather high on the shank (no criterion).

Wings very full and ample, rendering the light-bodied possessor capable of passing almost all the boundary marks.

Tail full, and carried erect; sickle feathers very long.

General figure very compact, and of beautiful symmetry, resembling the elegance of the Game fowl more closely that any other; the spangled are not quite so finished in appearance.

Deportment.—The male bird carries himself very erect, but easy and graceful; the hen is, moreover, exceedingly sprightly; the former stands very firm on his pedal limbs, which are held rather closely together.

Gait gay and proud, but easy.

Crow shrill, Bantam style, but of longer duration.

Disposition.—They are impetuous, but cowardly, very cheerful, but object to close confinement; are of gentle habits, but if disturbed are exceedingly turbulent, and unceasing in their cries of displeasure.

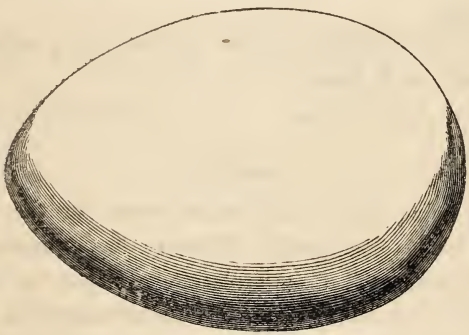
Being very prolific their acclamations of rejoicing appear continuous, which has given them the name "noisy fowl," but the truth is—one egg one song—two eggs two songs; if, therefore, three are laid whilst other inhabitants of our poultry denizens are producing two, an increase of music

is inevitable. It is unnecessary to add, under the circumstances, we greatly admire the tone of harmony these songs afford.

Constitution.—When fully grown they are tolerably hardy, but not by any means vigorous. The chickens are tender, and require more care than is usually bestowed upon the produce of other fowls. Damp is exceedingly injurious, and affects them severely if exposed to its detrimental influence, whilst a run is indispensable for the well being of either fowl or chick of this variety. (See rearing Chicks, page 286.)

Feeders.—Rather small consumers.

Producers.—As egg producers they are exceedingly prolific, and without doubt may be considered layers of a greater aggregate number than any other known variety; usually commencing when from five to seven months old, and not exceptionally continuing for nine or ten months in the year, with little or no intermission.



FAC-SIMILE OF THE "HAMBURGH'S" EGG.

Their eggs are small and of French-white exterior, averaging about one ounce and a half in weight, whilst those of the golden-spangled variety about one ounce and three-quarters.

Incubators.—True-bred pencilled Hamburghs rarely evince a disposition to undertake the duties devolving upon incubator. The spangled, though very seldom, are rather more inclined, but never to be depended upon.

Size.—The average size of the entire class may be considered slightly below the Game fowl standard.

			lbs.	ozs.		ins.
Average weight of the	golden-spangled	cock	5	4,	height	19
,, ,,	,,	hen	4	4,	,,	16
,, ,,	silver ,,	cock	5	0,	,,	18
,, ,,	,,	hen	4	0,	,,	15
,, ,,	golden-pencilled	cock	4	12,	,,	17
,, ,,	,,	hen	3	12,	,,	14
,, ,,	silver ,,	cock	4	8,	,,	16
,, ,,	,,	hen	3	8,	,,	13

Exceptional specimens may be occasionally met with both exceeding the heaviest, and below the lightest weights mentioned.

Flesh white, delicate, and of good flavour; rather small, but equally so in bone.

General feather close.

VARIETIES.

There being many synonymous terms for the self-same class of birds, considerable difficulty has hitherto existed in the classification of its varieties. It may be necessary to observe, that the terms or provincial* names in the right hand column are but local distinctions or representations of some such trivial differences as might arise in the progeny of any one pair of birds. To render the subject as

* We are much indebted to B. P. Brent, Esq., of Seven Oaks, and other gentlemen, for their kind and invaluable corroboration upon this and many other points.

concise as possible, the family may be divided into four main orders.

1. Pencilled Hamburghs. | 3. Laced Hamburghs.
2. Spangled Do. | 4. Black Do.

Provincial or synonymous terms.

1. *Pencilled Hamburghs*, comprise
   - Golden-pencilled
     - Bolton-bays.
     - Copper-moss.
     - Golden Dutch everyday layers.
     - Golden-pencilled Dutch.
   - Silver-pencilled
     - Bolton-greys.
     - Silver-moss.
     - Prince Albert's breed.
     - Silver Dutch everyday layers.
     - Silver-pencilled Dutch.
     - Creole, creel, or white necked Pheasant fowls.
     - Corals.
     - Chitteprats, Cheteprats, or Narrowers.
2. *Spangled Hamburghs*, comprise
   - Golden-spangled or golden-pheasant fowls.*
     - Golden or red-moonies.
     - Red-caps.
     - Copper-moss.†
   - Silver-spangled or silver-pheasant fowls.*
     - Silver-moonies.
     - (Silver-moss.)†
3. *Laced Hamburghs* - Golden and silver.
4. *Black Hamburghs or black-pheasant fowls** - Blacks.

* The term "pheasant," as applied to this or any other variety of domestic fowl, we disclaim, as calculated to engender false notions respecting its descent or the acceptation of that absurdity, the possible connexion between it and the Pheasant—(see page 200.)

† The term "*moss*," although occasionally applied to the mixed feathered specimens of the spangled variety, is more particularly adapted to such of the pencilled, either gold or silver, as exhibit dark lines resembling the branches of moss in lieu of a clear white ground.

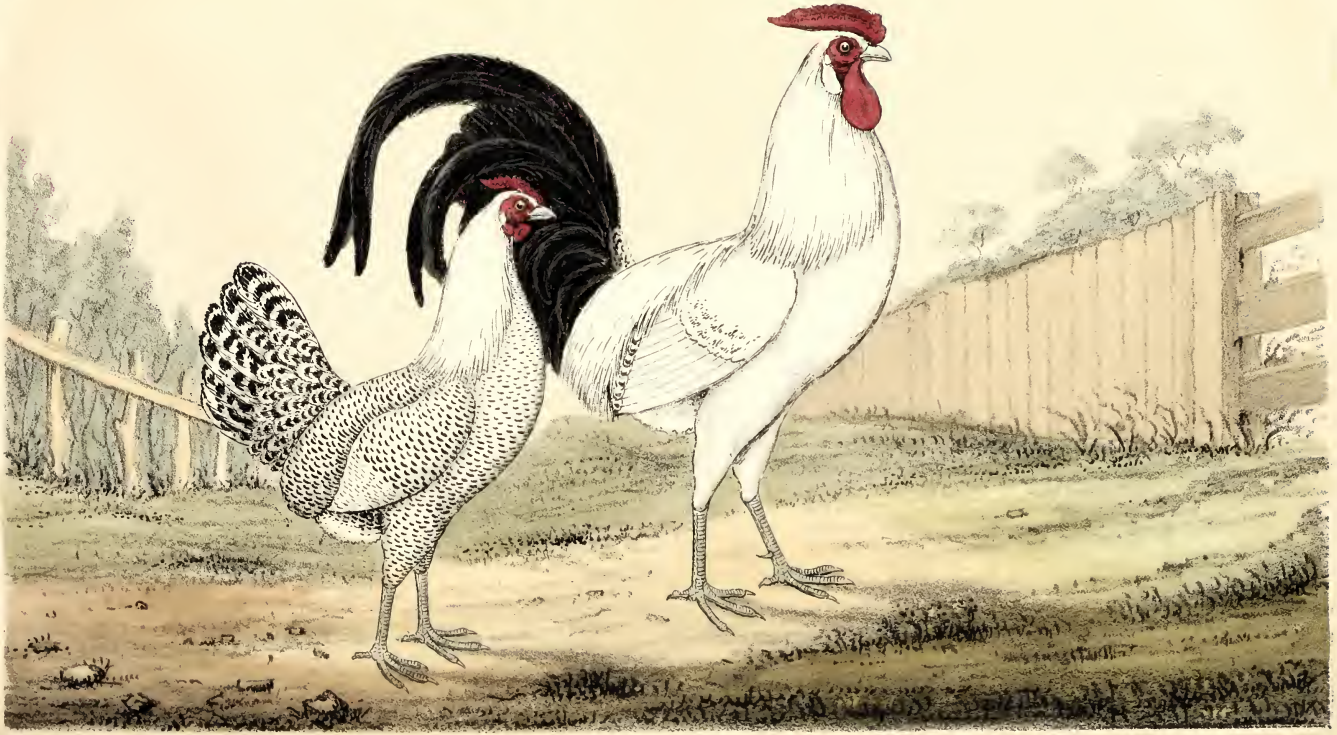
PENCILLED HAMBURGHS

Are divided, as already described, into two varieties, the gold and the silver, distinguished by the colour of the ground of their plumage. The former presents a beautiful bright bay, and the latter a silvery-white pencilled feather, but in other respects are similar.

Golden-pencilled.—It may be interesting to note the trivial peculiarities incidental to the various specimens of this variety holding synonymous terms. They are provincially termed *Bolton-bays* from being extensively bred at Bolton, in Lancashire, and clad in bright bay plumage. *Copper-moss* when of a splashed appearance, or marked with dark lines resembling moss branches. *Golden Dutch everyday layers* from their golden feather, moreover being imported from Holland, and proving exceedingly prolific. *Golden-pencilled Dutch* from the markings or pencillings of their feathers.

To be eligible for a first class prize, the plumage of the *Male* must display the following points (for form, size, &c., see characteristics of the entire class, to which they must also conform):—The general ground of the body is a bright bay or Rufus-yellow. *Neck-hackle* yellowish bay, but should be destitute of dark markings. *Upper wing-coverts, saddle-feathers, breast,* and *thighs,* pale Vandyke-brown, free from pencillings. *Tail* black, or rather bronze, uppermost edge brown, should be ample, and furnished with long sickle feathers.

Hen.—Neck-hackle, deep ginger, and free from stain, but can seldom be obtained so pure as the silvers. *Breast, wings,* and *back,* brownish buff, regularly pencilled. *Tail,* rich ginger, pencilled throughout. *Iris,* dark and full. *Legs* and *toes,* in both sexes, slate blue.



Lithographed by C. J. Cullifford.

SILVER PENCILLED HAMBURGH S.

22, Southampton St Strand.

A peculiarly, *unique,* and finished appearance accompanies the pencilled birds, whether golden or silver, whilst the former are rather larger than the latter, and usually possess somewhat heavier combs.

Silver-pencilled alias *Bolton greys* from being extensively domesticated in Bolton, and presenting a feather of a grey or silvery ground. *Silver-moss* if grizzled, or marked with lines resembling moss. *Prince Albert's breed,* this designation is confined to such as are supposed to have received a remote admixture of Game blood, for the purpose of improving the shape, but are not distinguishable by any peculiar feature. *Silver Dutch everyday layers* from possessing a silver plumage, being imported from Holland, and frequently laying for many successive days. *Silver-pencilled Dutch* from their pencilled markings. *Creole, creel,* or *white-necked Pheasant fowl,* from being an admixture of black and white throughout the feather, and the partial resemblance between them and that bird. *Coral* from the similarity of their comb to red coral. *Chitteprats, chete-prats,* or *narrowers,* the causes of these terms are so inconclusive as to be unworthy of notice.

The ground of the golden-pencilled being substituted for a silvery-white, this very delicate and beautiful variety is at once described.

Male.—The plumage of the male should be of a clear white, and as free from stain as possible, save in wings and tail. *Hackles* and *breast* white. *Wings* evenly barred with black dots across wing-coverts, and down extremities of the secondary wing feathers. *Tail* rather full, well sickled, and of lustrous black, edged with bronze or silver, shading into black, but should never appear grizzled or splashed with white.

Hen.—Is far more extensively marked than the male,

and presents a silvery-white ground, each feather being pencilled with three, four, and sometimes five parallel transverse bars. *Neck-lappel* of clear unstained white. *Body* and *entire suit* purely and regularly pencilled. *Breast* definitely and similarly marked, but less solid. *Flight feathers* evenly defined. *Tail* exhibits larger tranverse bars, and should be marked throughout. *Legs* slate blue, nails white. A mottled, mixed, streaky, or spangled appearance in any part of the suit is decidedly objectionable, and has given rise to the term moss, &c. In some specimens the lower part of the breast of the hen exhibits a creamy or white surface at the expense of the pencillings, this we deem objectionable. The greater the extension of that distinctive feature "pencilling," for which the entire class is peculiarly notorious, the more eligible should such specimen be considered for the first prize award, seeing that in the definite and full development of this characteristic depends their interesting ornamental and full dress *habile.*

SPANGLED HAMBURGHS.

Golden-spangled alias *red-moonies* from the variations of the spangles in different specimens resembling in shape the several phases of the moon, whilst such as semble that luminary when full, are regarded the most perfect. *Red-caps* from the extension of bright red comb which surmounts their head; the gold spangled usually possessing a more fully developed comb than any of the other varieties. *Copper-moss* from the supposed similarity existing between confused streaks and moss branches.

Male presents a ground of deep orange-red, spangled with greenish black. *Neck* and *saddle-hackle* bright yellowish copper, marked down the centre of each feather with

a greenish black shaft, or spangled towards the tips with a full moon of a similar hue—should be fringed with gold throughout the entire edge; secondary wing feathers evenly edged. *Wings* marked with two bars of rich greenish black spangles. *Wing-coverts* deep rich copper and fully spangled. The markings in the breast should be moon-shaped, well defined and solid, and not clouded or irregular. *Thighs* and *belly* bronzed-black. *Tail* black, well plumed, perfectly free from grey, but deeply shaded with bronze.

Hen.—Neck-hackle feathers stained with black, or spangled towards the extremities as in the male, but less intense—edges evenly fringed with bright body ground. *Body feathers* regularly spangled throughout. *Legs* and *toes* slate blue, nails white. Occasionally adult specimens of this variety may be met with possessing clear hackles, but such are too exceptional to require further notice. The hens of this variety vary in richness of feather, many are exceedingly handsome and of brilliant plumage; they exceed the average of the pencilled in size, but are less elegant and *unique*.

The more regular the spangles, and the closer their conformity to the full moon in shape, the more they are esteemed—whilst a black breast is decidedly objectionable. Hamburghs are carefully bred in Lancashire, Westmoreland, Yorkshire, and the vicinities, but are little known in the more southern counties.* We subjoin a table of recognised characteristics of excellence from our northern club's registry.

Points.	*Marks of feathers, &c., considered best.*
1st—Comb	Best double; best square; the most erect; and best piked behind.

* Are said to be extensively domiciled in Russia.

Points.	*Marks of feathers, &c., considered best.*
2nd—Ear-lobes . . .	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.
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.

By substituting the word *white* for red or gold throughout the table, it becomes applicable to the silver-spangled variety.

We heartily recommend the general publishing of recognised characteristics of excellence for the guidance of poultry clubs, and regard it as one of the main features to be observed in the establishing of our poultry improvement associations.

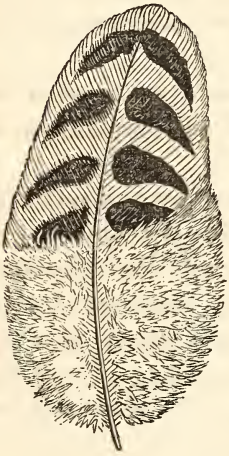
Silver-spangled alias *silver-moonies* and *silver-moss* from causes previously alluded to, and the substitution of a silver ground for a golden.

Male.—The ground of the entire feather silvery white. *Neck-hackle* white, but spangled towards extremity, with moon-shaped black dots, or stained with dark shafts, running longitudinally down the centre of each feather, thereby exposing its beautiful white edges, which in silver birds are too often slightly tinged with yellow. *Breast, wing-coverts, back,* and *thighs* are white. The breast should be regularly and evenly spangled, with one greenish-black moon-shaped dot at the extremity of each feather. *Wing-coverts* regularly barred, with two circular rows of similarly shaped spangles; secondary wing feathers evenly marked at extremities. *Tail* black, splashed with white. An evenly marked tail is quite exceptional, the shorter feathers, however, should be more uniform.

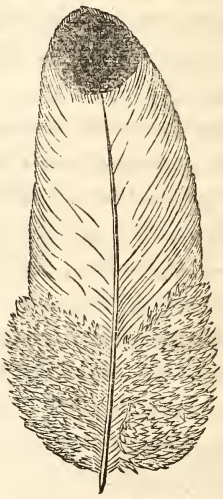
Hen must be regularly and evenly spangled throughout, including neck-hackle, back, wing-coverts, and tail. The *neck-hackle,* exhibiting the white edges in each feather and the tail, exposing a beautiful and regular row of circular tips at extremity. *Eye* full, prominent, and deep, but mild. *Shanks* and *feet* blue in both sexes, nails white.

The difference between the pencilled and the spangled consists in the freeness from markings in the hackle of

the former, the non-marked plumage of the male save in wings and tail, and the four or five bars running parallel transverse across each feather of the plumage of the female, whilst in the spangled but one black round spot exists



FAC-SIMILE OF THE SILVER-PENCILLED FEATHER.



FAC-SIMILE OF THE SILVER-SPANGLED FEATHER.

towards the extremity of each feather of either cock or hen; moreover the breast of the male of the spangled variety exhibits a regularly marked feather, and in the hackles a deep black shaft, both of which should be absent in the pencilled variety.

LACED HAMBURGHS

Comprise the silver and gold varieties, both of which closely resemble the Sebright Bantam in the character of their laced markings. They are extremely scarce, but of great beauty.

BLACK HAMBURGHS

Are doubtless the produce of the other varieties of the Hamburgh family, but although identical in blood, an amount of difference of a partially permanent character has been acquired by select breeding which renders them somewhat distinct. Features thus engendered are by no means analogous to primitive distinctions, and the student of nature who searches minutely with just comparison into primary features, becomes cognizant of their differential bearings, both in their tendency to degenerate and the irregularity of the progeny's characteristics.

The black Hamburgh sembles the form, and conforms to the entire class, exhibiting those points of peculiarity, those features of notoriety for which the family are at once distinguished. The plumage of both sexes should be of uniform deep green-metallic black; shanks clear blue. —We subjoin a copy of requisites from the rules of our northern club.

Points.	*Marks of feathers, &c., considered best.*
1st—Comb	Best double, best square, most erect, and best piked behind.
2nd—Ear-lobes . . .	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.

BREEDING STOCK.

It may be urged, without reference to any particular breed, that the polygamous propensities of the male, when subjected to the stimulating influences of domestication, render a partial adherence to supposed primitive generation necessary on the part of the breeder, if a reproduction of standard excellences be desired. That the male, when confined with one companion whilst domiciled in ordinary,

exhibits an unusual amount of tender regard towards his mate is not surprising, but that his attachment should lead him occasionally to undertake the partial duties devolving upon incubator (as the pigeon—*cum multis allis*), commands an amount of serious deliberation on the part of the naturalist previous to his pronouncing sentence against the possibility of original monogamy. The fair discussion of this extremely interesting subject would necessarily occupy more space than we are justified in appropriating to its special use. We are bound, therefore, to apologize for verging upon so attractive a field, and aggravating the interest of the sensitive by such tantalization. But, without entering fully upon this point, a fact of acknowledged probity enlists our notice and attention. Breeders of quality know too well the evil effects resulting from overrating the productive powers of the male, whilst recognising the importation of vigour in the progeny of such as may be his limited associates. It may be urged in opposition, that even when thus situated his generative powers are engaged upon the few as frequently as upon a multiplicity, and far exceeding the actual requirements of those few. To the former we entirely disincline, observation being sufficient to identify the stimulating effects even of permanent variety; to the latter we agree, but consider no argument is therein furnished against primary monogamy, seeing numerous animals which naturally escort but one female are found actually *capable* of rendering prolific many of their species, and are retained in domestication for that purpose. Again, if a given number of the eggs of any class or variety be subjected to the incubating process, the number of males usually produced exceeds the females by the ratio of six to four; whilst in some, more especially the Shanghaes, nine males to five females are not

exceptionally produced, which is a well attested reality. Some may reply, yes; but the largest eggs are usually selected for incubation. We acknowledge this to be the case; most persons preferring the finest and boldest for that purpose to such as are of diminutive form, thereby increasing the male offspring, seeing the largest or heaviest eggs usually produce birds of that gender (see page 44). Having proved by a reiterated series of experiments, carried on, I believe, without bias (seeing the realization of truth, without interest in the relative result of either, stimulated action)—that if the hen be allowed to generate without the interference of her keeper, or if her produce be removed and returned her when she exhibits broodiness, without selection, male birds will usually exceed the females in the proportion of seven to six. Such being acknowledged, we desire a reasonable elucidation of nature's provision in producing seven to six, when the requisite proportion is said to be but one to eight, nine, or ten. She might freak without inconsistency in generating rather more males than are absolutely necessary to the insurance of an adequate and efficient supply in cases of emergency, but we have clearly shown if the present usually recognised proportion be primitive, she furnishes at least seven times the number of males needed for the efficient system of reproduction.

Our opinion upon this subject is not advanced in these few words for reasons previously stated. Without a sufficiency of conclusive argument *pro* or *con*, bare sentence is but weak, for, if contrary to recognised principles, to be regarded as mere assertion, is its inevitable doom, whilst if in conformity, the charge of reiterating truism confronts it, with its quoter's signalization as a copyist. But we do maintain, without hesitation, seeing all are capable of proving and corroborating this statement, viz.—there is a limit to

vigorous productive power. That point agreed, we have but to discover the extent. This may be done by experimentalization, the careful registering of all incidental exceptions, the just comparison of all classes, and the striking of a well authenticated and approved average.

But to render the subject conformable to Hamburgh fowl's high breeding requisites, we insist upon the proportion of one to four never being exceeded; with a hint, if the strain indicates degeneracy, or the absence of vigour, the company should be rendered still more select—that is if an immediate improvement in the progeny be desired. For breeding Hamburghs, and preserving the beauty and high colour of their plumes, it may be requisite to notice that either male or female should be of dark feather, two pale birds, if matched, not exceptionally generating either mossy or faded offspring. I prefer the male of the deeper hue. The spangled varieties are doubtless but offshoots from the pencilled, but for the pure propagation of either, admixture *inter se* must be strictly avoided.

The analogous position held by the constitutional liabilities of the Polish and Hamburgh fowls is somewhat peculiar, *and not to be overthrown by incidental exceptions*, the observance of many identical requisites being of equal import in the propagation of both. (For other importances as to the strict prohibition of relationary breeding, &c., &c., see pages 170 and 257.)

HATCHING AND REARING CHICKS.

As previously stated, the hen's extreme aversion to the sedentary occupation devolving upon incubator renders the procuration of a foster mother necessary to their due generation. Such must be of light form, the eggs of this fowl being small. A Game hen is most adapted, and will

tender her step-family with most assiduous attention. In the north, where they are extensively bred, the middle of May is considered the most suitable period for their exclusion, but in milder counties the second week in April is not generally found too early.

When first hatched the *silvers* are usually of a beautiful cream tint, or white marked with a deeper line extending longitudinally from the nape of the neck to the extremity of body.

The golden varieties of a light yellow, but similarly marked. Not many days elapse from the exclusion of the former before traces of the pencilled character of their plumage become manifest, and an equally short space of time is ample to render the appearance of the latter in part conformity with their parentage. Their remarkably agile movements render them as conspicuous in the poultry yard as the Polish chicks, whose rapid motions cannot fail to be productive of considerable interest, even to the casual observer. Although their feathery armour grows with rapidity they require considerable care and attention until well plumed, their bone being but small, and their frame less robust than the generality of their compeers. Tangible evidence of the extreme importance of change of dietary being administered, is furnished by the continued thriving condition of the progeny thus tended, whilst its neglect is equally palpable in the dull, languid, and protracted development of others. A tendency to "stand still," when but half-grown, is observable in the offspring of this class, and upon its first indication unless remedial measures be resorted to, in the extension of run or entire change of food, a period of some weeks may elapse before its deteriorating influences become eradicated. If allowed to fasten upon the stock its effects are irrecoverable, and a flock of miserably puny

and but partially developed specimens is the consequent result.

Until the completion of the first moult even the silver-pencilled cockerels are apt to run irregular in feather, maturity and full plumage seldom being attained, until they have reached the age of eighteen or twenty months, but the suit progresses in beauty until the third year.

Pullets usually commence laying, as previously mentioned, when from five to seven months old, whilst some before that age. This greatly depends upon the quantity and quality of food supplied, peculiar housing, and the extent of hereditary precocity by which they are thus induced. We, however, prefer such specimens as continue the full development of the body and muscle until the age of six months, without exhibiting their powers of production, such almost invariably proving the finest types of their class. Thus we are compelled to denounce that unconstitutional precocity induced by the supply of stimulating food, as decidedly deteriorating in its ulterior effects. (See page 72.)

AS PROFITABLE OR FARM STOCK.

Where eggs are the main object, and a fair run be afforded, Hamburghs will, doubtless, be found the most profitable of fowls. Their precocious powers of production and extreme natural fertility rendering them capable of furnishing the market with an incessant supply of eggs for eight, nine, and sometimes ten months in the year; so prodigious a yield far more than compensating for their individual deficiency in weight. But on the other hand, their comparatively delicate habit of body, the disastrous consequences inevitably arrising from their exposure to damp, and their diminutive size, unfit them for occupying a prominent position in the repository of the

producer of dead stock for market. Whilst a constitutional liability to imbibe the evil effects consequent upon confinement, renders their close domiciling in metropolitan or town districts in every way unsuitable.

But we repeat, where but few are preserved, either as ornamental fowl or egg producers, and a moderate extension of liberty be afforded, their merits will surpass the most sanguinary expectations of their keeper.

DISEASES.

Damp.—The primary origin of so many maladies to which poultry are subjected is peculiarly injurious to this class, producing almost immediate disease of the respiratory organs, and proving far more fatal in its effects than such ailments as usually proceed from exposure to dry, cold atmosphere. Excessive cold, as engendered by the searching influence of wet or keen north-easterly draughts through the roosting-house, frequently carries away the patient in the face of every remedial application.

Being free from ailment, when not peculiarly exposed to detrimental influences, the presence of the former forcibly suggests the effects of the latter, for the timely eradication of which the application of medicinal measures is inefficient without the immediate removal of the inducing cause. (Will be prescribed for under the head of diseases.)

BANTAM FOWLS.

(Gallus Bankiva) Phasianus pusillus Lath.

HISTORY OF BANTAMS.

To have reduced our prefatory heading to the singular number would have necessarily consigned the entire represented class to an indubitably mongrelled origin. This may appear strange, but the not merely admixtures but crosses to which some branches of this family have been exposed, and the influences of occasional instillations of foreign diminutiveness with their collateral issue, have unquestionably rendered the produce as different from each other in appearance as partially distinct. A preliminary institution of inquiry, therefore, becomes necessary to the rescuing of the whole race from defamation. Without giving response to the numberless quibbles urged by non-students of natural phenomena against the original unity of the Bantam race, we immediately advance towards its support by answering such as have been suggested by her students.

We do not recognise in the Sebright and the black the same type of primeval ancestry, neither in the ordinary game Bantam and the spangled variety, a consanguinity of progenitorship. But why? Because different degrees of climatic exposure, strict domestication, crossing, breeding in and in after admixture, blending of specimens differently admixed, and continuous selection of such as developed peculiar characteristics, have effectually operated upon the

size and feather, thereby inducing differences of peculiarly distinct aspects. That is to say, we contend for the primitive character of a form and carriage resembling more or less the Bantam race, but consider the many existing differences in feather the result of inter-alliances with other blood or peculiar breeding, and amply to be accounted for by such means, and not the result of original distinctiveness. To define still closer, we would say, one original variety of this Lilliputian family existed, which, from the effects of previously adduced influences, has given rise to all the extant varieties.

It may be urged, are not similar operating causes upon the same principle sufficient to account for the existing diversities of the entire family of fowls *(Galli)*? We respond, yes, for the varieties of our several classes, but certainly not for all the classes of the species. Size may be reduced or increased, but shape will always bear semblance to originality. It may deviate for a time, but its return is found by all practical men as inevitable, unless an admixture has been effected. But our several classes respectively possess their own peculiarly distinct shape, carriage, and characteristics, from generation to generation without evincing the slightest tendency towards the assuming of any other. The Bantam possesses a beauty of shape and form peculiarly his own, and retains it however much he may be exposed to the capriciousness of art in peculiar breeding; but if he be crossed with any other fowl it soon becomes entirely lost, and his form unperceived. Now were the class next in size to himself in part conformity, we might be tempted to suppose that reduction was sufficient to render it thus symmetrical, but it is otherwise. He proceeds from the same climate as the Malay fowl, which is the tallest bird known—they are

both exposed to the same influences of temperature, but retain their own natural standard of size and weight from one generation to another without variation. To suppose the Bantam characteristics the result of chance, man's contrivances, or irregular phenomena, is to rob the Creator of his honour. Why should there not have been called into existence several classes of fowls *(Galli)*, when reptiles were produced in multitudinous distinction? Why should we consider the Shanghae, Spanish, Polish, Game fowl, and Bantam, sprang from an identity of blood, when the watery element contains myriads of living types of primitive forms, rendered capable of generating their respective distinctions? Being blind to the beauteously graduated claim of Heaven's creation, weak mortals gaze with indifference at copious nature, and fix her bounds to their own frail conceptions. Argument would degenerate into quibble were all the groundless suppositions which have been advanced by some against the primitive character of our several classes responded to, whilst the improbabilities suggested by others are on a par with long since exploded absurdities.

The Bankiva fowls of the eastern Archipelago are doubtless more in conformity with the requisite character of the Bantam progenitors than any other race. To the wild Bankiva birds of Java we, therefore, confer the title of progenitorship, and to the town of Bantam, a district in the north-west of Java, the right of nomination. That many of the primitive birds mentioned by naturalists have originally issued from the same source is obvious; the ancient Turkish cock of some naturalists we count but the collateral issue of the Bankiva under another name, and the existing differences between them, within the scope of reason and analagous evidence to account for. But the

Bankiva fowl was clean-legged. From whence, therefore, came the feathery pedal limbs presented by many of our purest Bantams?* Are they descended from the same source? What saith Buffon and other eminent naturalists who followed in his steps respecting feathered shanks?—"excess of nourishment conduces to engender feathered legs." But was this ever found to be the case? Have we ever discovered by the most solicitous care in instilling into our pets of other breeds, and their issue for a continuance, all the nourishment they were capable of receiving with advantage, have we ever procured one single pedal feather thereby? Certainly not. Excess of nourishment may perhaps conduce, but the question is whether it brings into existence and develops. We acknowledge most readily, pedal feather is soon lost, and may be re-established even though generations intervene, but disclaim the idea that a new feature of such striking distinctness can be acquired by any artificial means, and regard the supposition of such becoming constitutional with still greater disproval.

The Polish crest is still regarded by many as arising from similar influences; to insist upon his wing having been created by man or circumstances, or his primary existence the result of spontaneous consummation, would be no greater monstrosity. These ideas oft urged, from mere temporary impressions, are seldom the result of the deliberate judgment of a keen student, and will not bear reflection. The feathery crest of the bird, although the

* Buffon describes the Bantam cock thus—"Possessed of a fiery eye, feet covered with feathers on the outer side, those of the legs very long and forming a sort of boot to the very claws." He distinguishes two sorts, the large booted and the dwarf, the latter of a golden plumage, and double or rose-combed.

most prominent and striking to a casual observer, is but the smallest peculiarity in connexion with the skull. (See page 151.)

We contend instead of feather being acquired by art it has been lost, but not so much by art as natural exposure; the effects of the former could readily be recovered seeing it is but limited in its extent and duration, and therefore vacillating; but the Bankiva fowls, previous to our first records concerning them, were by natural exposure subjected for generations (of men) to wild and precarious supplies. They were, doubtless, intended to be under the control of man to administer to his wants, and be themselves supplied—but their exposition to weather, to partial seclusion, and to the continued deprivation of their pedal feathers, consequent upon their woody retreat, reduced them to the position they were found as clean-legged Bankiva fowls. In form, shape, carriage, and size, however, they resembled the original, and were in conformity with our Bantam. After being domiciled and receiving from the hands of men shelter and sustenance the feathers ultimately returned; but such cannot be considered acquired but merely re-established. The presence of pedal appendages in the present day is regarded as objectionable; but should future ages again approve it, its further re-establishing even from specimens void of its presence in themselves, may be gradually effected by selection, owing to its original adaptation to their systems; but according to the remoteness of its last development so the difficulty and duration of its restoration, whilst from other breeds devoid of such feather, and unmixed with Bantam blood, it can never be produced.

We therefore consider Bankiva fowls the progenitors of Bantams, that is of the true Bantam characteristics—

that pedal feather is not an acquired feature but was possessed by the primeval Bankiva fowls, and its absence in Bankiva specimens alluded to by travellers, was the result of continued exposure to effects adverse to its development—that its reappearance in domestication cannot be considered an implantation from art, but merely an inducement towards natural growth resulting from nourishing diet and seclusion—that the many extant varieties of this puny race are the result of effects already enumerated—and that the tendency of the present disproval of feathery shanks is to extirpate such from the British isles, which, if continued for several centuries, will doubtless render its reproduction extremely protracted, but will not furnish any proof that such specimens are distinct but merely a variety of the few, which, having been naturally bred, present well feathered pedal limbs.

CHARACTERISTICS OF THE ENTIRE CLASS.

Head small and neat, but well arched and subject to much agitation if its possessor be excited, when it becomes proudly thrown backwards.

Face and throat bare and highly coloured.

Eye bright and full.

Beak short and curved.

Comb.—To become eligible for prize awards the Sebright, the white, and black Bantams, must possess the full rose-comb, whilst the other varieties may retain the single without becoming disqualified for honorary distinction; the former is, however, preferred.

Gills small and round.

Ear-lobe should be as white as possible in all the varieties, but in the Sebright it is seldom, if ever, to be obtained;

but this circumstance affords no license for the exhibition of red ear-lobes, which are decidedly objectionable.

Neck-hackle.—In the Sebright the male must retain no pretension to a masculine development of this feature, whilst with the other varieties it becomes an actual requirement.

Breast protuberant and full.

Back short.

Thighs firm and tight.

Wings full and carried low, thereby covering the thighs and exhibiting a defined exterior peculiarly striking in the male, when excited.

Shank.—The Sebright must always present clean shanks, perfectly free from feather. In the other varieties, both bare and feathered pedal specimens are found, but in the eye of our connoisseurs clean-limbed are preferable.

Tail should be carried uprightly and even. In good specimens sometimes sufficiently erect to come in close contact with the neck-hackle. The Sebright must possess a square hen tail entirely devoid of sickle feathers, whilst the other varieties are allowed to carry full plumes with advantage.

General feather firm and close.

Form round and plump but light, and of graceful contour.

Carriage very erect, impudent, and consequential.

Weight.—As an average summary, no male bird of the entire class, to become eligible for distinction, should exceed 20 ozs., or female 16 ozs., whilst the Sebright, the black, and the white must be considerably below these weights. Mr. Bailey mentions "17 ozs. for the male Sebright and 14 ozs. for the female, as the extreme weights, and asserts he has met with an adult pair, perfect in every point, not

over 23 ozs." But in a general way the causes of such acquired diminutiveness prove deteriorating to the form, symmetry, constitutional vigour, and generative organs.

Flesh very delicate in flavour, and may be dressed as partridge or young chicken.

Disposition lively and vigorous; of determinate courage, but assuming and tyrannical.

Producers.—They may be considered very prolific, usually laying seven or eight months in the year, and producing, upon an average, four or five eggs in a week. The mean proportionate weight varies from one ounce to one ounce and a quarter, and the colour from a pure white to a pale buff.

FAC-SIMILE OF THE "BANTAM'S" EGG.

The black variety usually produces longer eggs than described in the annexed illustration, and of the latter tint. The eggs of the other varieties are rather blunt in shape and of the former colour, whilst the white Bantam produces the smallest ova of the entire family. It must be borne in mind we allude to the produce of specimens which have been or are eligible for exhibition purposes, and not to such as stand without the circumference of fancy birds.

As incubators and mothers.—They are unquestionably very steady and careful, proving as well adapted to perform the duties of their sedentry occupation as peculiarly tender and watchful with the progeny, and may be employed in the rearing of pheasants and partridges with considerable advantage. The feather-legged specimens, or such as develop four or five inches of pedal drapery, are less careful and far less active; their appendages frequently proving as ruinous to the eggs, from becoming saturated in their daily departure from the nest, as annoying to the chicks from their brushy character; at the same time incapacitating the parent bird for vigorous scratching, which, however pleasing to the nurseryman, must necessarily prove detrimental to the progeny.

VARIETIES.

Black-breasted reds or game Bantams.
Duckwing *do.* *do.*
Nankeen or yellow.
Spangled.
Cuckoo.
Pheasant Bantam.
Partridge *do.*
Black *do.* — { Rose-combed and clean-legged. / Single do. feathered do.
White *do.* — { Rose do. clean do. / Single do. feathered do.
Sebright *do.* — { Gold-laced clean do. / Silver do. do. do.

COLLATERAL CROSS-BREEDS.

*Silky Bantam.**	*Jumper or Creeper.*
Russian or Siberian.	*Turkish or Turkey Bantams.*
Chinese or Tartarian.	*Dumpies or Scotch Bakies.*

It may be necessary to observe that the whole of the first ten varieties already mentioned are found both with bare and well feathered tarsi, the Sebrights alone excepted, which must always present clean shanks. The first specimens of the Bantam family were imported into this country at the commencement of the seventeenth century, as we have already had occasion to mention. They were of larger development than the British extant race, and possessed of well feathered limbs.

Formerly no specimen devoid of pedal appendages was recognised as worthy of notice, but excluded the amateur's stock. In the present day this very feathery supplement is denounced, and the unbooted alone, with very few exceptions, compete for national awards. But why? Not because the natural garb is regarded as imperfect in itself, but from its unsuitableness to our climate. However much a full display of this featheriness in the noble Shanghae may be approved of, its presence in the puny race is disadvantageous, both to its possessor and the offspring, when exposed to the average inclemency of the weather. But where ample means and suitable provision can be made for diverting the evil effects of wet and damp, we are bound

* The progenitors of the Silky or Persian fowl's characteristics, which will hereafter receive further notice, must be regarded perfectly distinct from the Bankiva fowl; nevertheless, specimens are occasionally produced from the admixtures of the issue of the two, exhibiting more or less the form of the latter, but the peculiar coat of the former. The produce of such admixtures are calculated to deceive, and lead the uninitiated to the supposition of their original identity.

to confess we greatly admire the full development of the fringy ankle garb, and further consider, as they are purely fancy birds, where such cannot be afforded they should not be domiciled; at the same time, unless the development be complete and full, their pedal limbs are far better bare.

The description of every specimen differing from the standard criterion of its variety would be indeed volumnious, even though poultry comprised but this Lilliputian family. Innumerable are the differences presented even in one strain, but we consider the already enumerated varieties form every class of plumage known, though not every exceptional shade, neither such as may be bred from the admixture of specimens which are themselves the produce of irregular combinations.

Black-breasted red or game Bantam.—This bird approaches the Bankiva fowl more closely than any other variety, but may frequently be seen presenting a minimum portrait of the black-red Game, although retaining its own distinctive carriage. The comb and gills are similar to the same features of that class, the former being usually single. The extreme weight of the male should not exceed seventeen ounces, neither the female fourteen ounces, whilst specimens much lighter may be met with of symmetrical form and full vigour. Whilst we thus allude to this variety it becomes necessary to observe that many specimens exhibited as such are but immediate hybreds between the Game class already alluded to and the Nankeen or dark-breasted Bantam; but the differences presented between the genuine and the spurious birds become apparent to the experienced amateur at a glance.

Duckwing Bantams bear the same affinity to the black-breasted red variety, as the game duckwing holds to the black-red of the same class. They have

been but lately exhibited, but are of unique and showy appearance, resembling in feather the black-breasted birchen game duckwing, and possessing yellow legs and beak.

Nankeen or yellow is usually considered the primitive feather of Bantams. Not very long since this variety commanded unqualified approval, but the Sebrights and other choice varieties have at length surpassed it, still it retains a few earnest admirers. The plumage of the male resembles the buff Shanghae, or a pale ginger yellow, with neck and saddle-hackle of a brighter hue, but frequently presenting dark shafts; wings and saddle deep reddish chestnut; tail black and well arched.—Hen pale orange or ginger yellow throughout, hackles frequently stained, but specimens exhibiting the slightest markings preferred; tail feathers should be deep buff, shading into black at their edges; comb double in both sexes, but the presence of the single comb does not disqualify, if the birds exhibit a fair pretension to other requisites.

Spangled specimens usually exceed in weight the recognised limits for prize birds. Many so called are in reality but the admixture of the Sebright with the other varieties, frequently exhibiting black markings of irregular forms, and seldom sufficiently clear and defined to deserve recognizance. Some, however, are of more remote ancestry, but these are very rare; the usual feather of the male is deep reddish bay, whilst the hen is of a lighter shade, but should in both sexes be definitely spangled throughout with black spots. Specimens not exceptionally may be met with, possessing white markings, which, if regular, present a striking contrast to the otherwise bay ground of the plumage. The spangled variety is usually rose-combed and booted.

Cuckoo Bantams are incidentally met with resembling the Dorking of the same name in the colourings of their plumes, each feather being marked with three or four bars of grey, yellow, or black, upon a white ground, and usually possessing the single comb in both sexes. They, however, frequently exhibit both in form and carriage considerable pretension towards the maintenance of dignity in the Bantam class.

Pheasant Bantams are thus nominated from the resemblance their markings bear to the plumage of the common pheasant.

Partridge Bantams.—The male of this now rare variety should possess a full rose comb, yellowish-brown hackles; saddle of a similar hue, streaked with black; back and wings partridge colour; primary wing feathers dull bay; tail deep black, and sickled; lower abdomen deep drab. The hen possesses an entire suit of partridge-brown, saving the breast and belly which are more usually drab, and yellowish hackles with black shafts. Average size for the male twenty ounces, female sixteen ounces. Many have of late been produced from an admixture of Game blood, thereby considerably increasing their size, but improving them for the rearing of pheasants and partridges, to which they officiate with the greatest care and assiduity. From the latter it frequently becomes difficult to distinguish them whilst young, owing to their similarity of size, colour, and shape. The genuine diminutive partridge Bantams are now rarely to be obtained.

Blacks.—The male of this variety, when of good form and feather, is very striking, and displays his courageous audacity and domineering spirit upon the slightest opportunity. Of this waggish family he strenuously endeavours to appear foremost, but equally objecting to that position

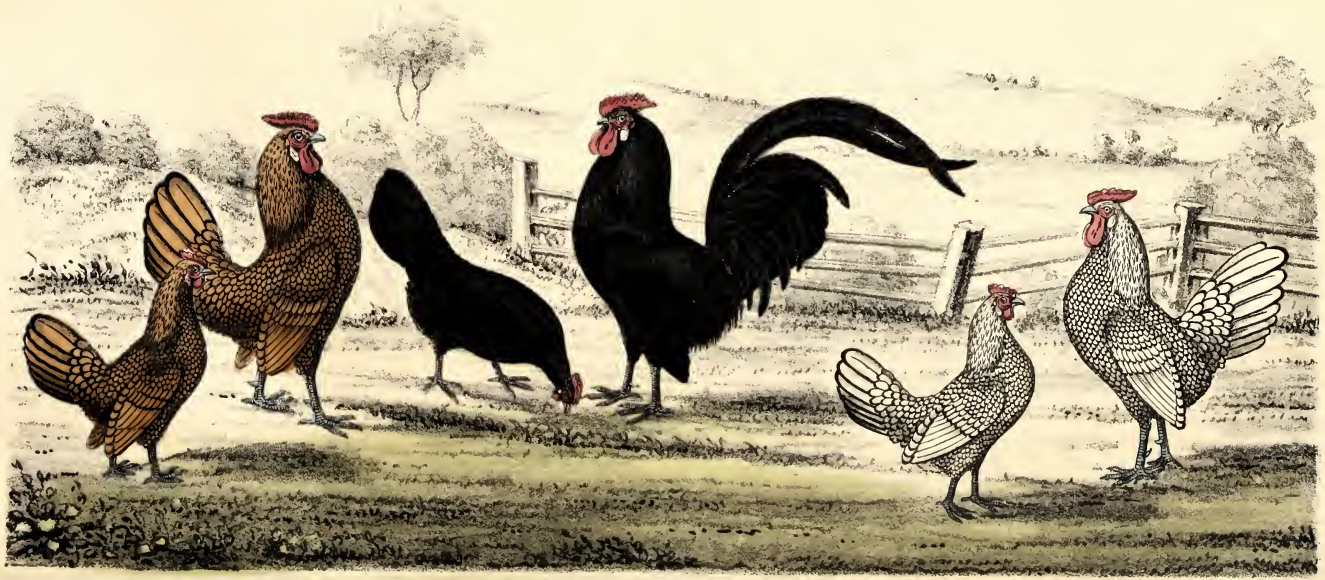
in a running chase. The hen, although quiescent when unoffended, is of the same material, and the presence of an intruder small or large affords a suitable occasion for the consummation of her prowess. They are rather hardier than the other varieties, and very prolific. Amongst them may be found specimens the most diminutive of the entire family, whilst some exceed the limits assigned for exhibition birds.

The plumage of the male should be of uniform glossy black, resplendent with purple metallic lustre; tail deep black, and well sickled; comb full and rose-shaped, which, together with wattles, should be of bright crimson; ear-lobes white and not tinted with red; legs medium length; shank and toes dark lead, whilst such as are perfectly free from feather are decidedly preferred, and it must be acknowleged of all the varieties the blacks exhibit feathery pedal limbs to the greatest disadvantage.—Hen presents an entire dull black feather, diminutive comb and gills, and white ear-lobes. After attaining the third year blacks of purest strains usually become grizzled in hackle, wings, and tail, which disqualifies them for exhibition purposes. Such as develop red or orange in the hackles, or yellow bars across the wing-coverts, are also inadmissible. A variety of the blacks possessing a single comb and feathered shanks may be met with occasionally, but is not in equal esteem.

Whites.—The male of this variety should possess a clear unstained white plumage, and fully sickled tail of snowy whiteness, relieved by a scarlet rose-comb and wattles of similar colour; ear-lobes should be clear white; beak, shanks, and toes, white or dull flesh colour, and perfectly bare, yellow or blue pedal limbs being much disapproved of. A clear and healthy coloured visage forms another requisite and important feature in the finishing stroke of first class

birds. Such may be considered the description of a selected prize specimen—as too many of the whites so called are inclined to a dull rather than snowy whiteness —the latter must necessarily be the choice. The hen is less brilliant than her lord, but should be of pure unmixed feather and considerably smaller. Whites are rather less robust than the generality of their compeers; but if the fact be borne in mind by the keeper, in their non-exposure to detrimental influences, its presence may be almost unperceived. The male should not exceed fifteen ounces, nor the hen twelve ounces, whilst specimens of still smaller dimensions but of perfect symmetry are to be met with. Clean shanks are at present the fashion, otherwise this variety exhibits white leggings to the greatest advantage, and the silvery fringe ornamenting the exterior side of their legs and ankles is no less beautiful in itself than natural to the class. As in the blacks, a single-combed variety possessed of booted legs exists, but seldom procures equal attention at the hands of the amateur.

Gold-laced Sebright.—Both sexes should present a clear golden yellow plumage, with every feather, including hackles, wing-coverts, flight feathers, and tail, laced, that is bordered with a margin of black of perfectly regular width all round. These markings should be plainly defined, and not found mingling with the interior golden yellow ground of the feather; comb double, and extending in a regular point at extremity; ear-lobe rather small, and the nearer they approach white the more preferred *(see ear-lobe characteristics of entire class)*—tail should be of clear unmixed brown-yellow, laced with black at extremity. As previously stated the tail of the male must be square as in the hen, and entirely devoid of sickle feathers, the shorter plumes rising at base, together with wings, should be particularly



Golden Pencilled.

Black.

Silver Pencilled.

B A N T A M S.

Lithographed by C.J. Culbford.

well laced. The neck and saddle feathers of the male must be developed but little more than in the hen, and similarly marked, or they cannot be regarded within the recognised limits of fancy birds; legs blue, and perfectly clean; their carriage should be in full conformity with the entire class, and exceeded by none in gallant contour, impudent and consequential strut of lofty sedateness; head of the male carried uprightly and thrown backwards; tail erect, the uppermost feathers of which, in good specimens, frequently approach in close proximity with the neck-hackle; wings carried low over thighs. For weight, &c. (see characteristics.) The hen should correspond in feather with the male. It may be requisite to add if the lacings exceed the usual width, which is about the sixteenth part of an inch, the specimen is rendered too dark, and the beauteous contrast, for which the class is so remarkable, becomes considerably circumscribed; or if the lacing be wider at the extremity of the feather than at the sides, it produces an irregular appearance. To be considered free from fault in this respect, the same proportion of colour and lace should prevail throughout the entire plumage.

Silver-laced Sebrights.—By the substitution of a clear silvery white in the place of the golden-yellow ground of the former bird this beautiful variety is fully described, all other characteristics being in strict conformity. A dingy or yellowish white is decidedly objectionable, whilst the purer the ground the more eligible for distinction. The average weight may be considered slightly over that of the golden, although but one standard for both is recognised. It becomes indisputably evident that the silvers, especially the lightest specimens, require further retardatory measures to suppress their natural development than the golden variety.

BANTAM COLLATERAL BREEDS, ETC.

Russian or Siberian Bantam.—Specimens bearing this compound name, usually exhibit too surely their extract, to render keen investigation necessary. The bearded Bantam, a mongrelled breed of Polish affinity, becomes thus nominated, but no motive worthy of their mutual application suggests itself to our notice.

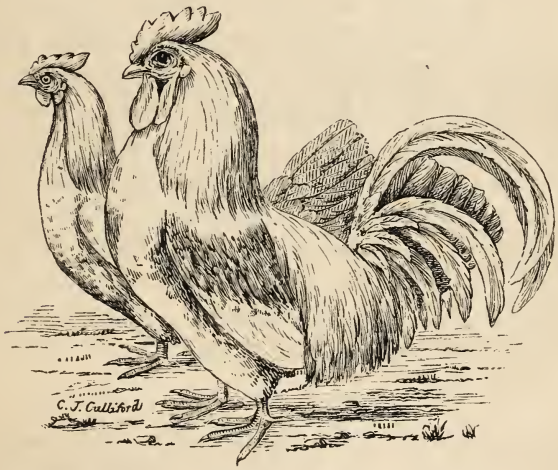
Chinese or Tartarian Bantams are but indefinite appellatives, and represent equally indistinct specimens possessing every appearance of hybredous origin in their speckled and non-symmetrical form.

Jumpers or creepers (fowls of Cambodge of Buffon*) derive their English appellatives from the peculiar helplessness of their gait, arising from the contraction of their pedal limbs. Their shanks are *usually bare but not invariably*, a feathery garb being at times manifest. We are strikingly reminded of the evil effects consequent upon subjecting nature to capricious art whilst gazing at these deformed members of one beauteous family. It would appear as if a section of the Bantam race, more or less pure, had been formerly subjected to a continuous system of artificial expedients, with a view to the further reduction of their pedal limbs, regardless of body conformity, and that their stunted growth had been of an irregular character, and a deformed frame the consequence. Such specimens as exhibited their lower members the most diminutive being selected for propagation, rendered a development of non-development, and a consummation of deformity the result.

* Buffon's description may be thus rendered :—" Their legs so short that their wings trail the ground ; they are very like the dwarf fowl of Britanny, and have always a jumping gait."

Turkish fowl and "Turkey Bantam."*—We regard the latter bird, the produce of the admixture of the Jumper and Dorking blood, thereby pertaining to the Bantam in a degree. They possess single, double, or cup-combs, as in the Dorking, but are not confined to the features of that class but occasionally exhibit Polish affinity by the lower mandible feathery appendage. In colour they semble in part Aldrovandi's description. Average weight of the male from three to four pounds, female three pounds.

Dumpies or Scotch Bakies are confined to the admixture of Jumper and Dorking blood, and are thus analagous to the Turkey fowl, but differ from it, inasmuch as there exists a greater proportion of Dorking blood than in that bird. Their great conformity to the Dorking in



* Buffon refers to a *coq de Turquie* as being remarkable for its beautiful plumage. Timmerick regards it as a variety of the Bantam. Aldrovandi describes thus, "whole body whitish, with golden and silver streaks save in tail, wing feathers, and belly, which are black tinged with

shape and characteristics, quality of flesh, productive and incubating powers, is fully corroborative of this idea, more especially in some specimens, whilst the closer their issue is observed, the further it becomes manifest. A fair natural average for the male is six pounds, for the female five pounds, but both capable of becoming much heavier by judicious cooping and fattening. They possess extremely short legs, comb as in the Dorking, ear-lobe white and full; general feather coarse and ample, usually of a light colour but varying in this respect; tail full. Being naturalized to the northern parts of Great Britain they have become somewhat hardy, but the offspring of the second generation, bred in less exposed but damper regions, have in many instances proved otherwise than was anticipated. Their tendency to roup, to which distressing disease Dorkings are peculiarly susceptible, renders clayey or low positions extremely detrimental and unsuitable to their propagation. Birds with short legs are necessarily more exposed to the deteriorating influences arising from exposure to damp than such as stand high upon their pedal limbs. However well Dumpies may be enabled to withstand dry cold atmosphere, it becomes equally patent their constitutional requirements are diametrically adverse to the presence of damp, as exhibited in their extreme susceptibility to imbibe disease when exposed to its influences, and to develop its distressing results.

green on the outer side ; legs and toes bluish. Hen white, spotted with black; neck yellowish." Sir W. Jardine's description of the Turkish fowl is in part accordance with the Bantam race; and Richardson's in conformity with Aldrovandi's. It must, however, be borne in mind the fowl thus described is not identical with the bird alluded to by us as the Turkey Bantam, the presence of the Bantam exists in both, but in different forms and degrees.

BREEDING STOCK.

The Sebright Bantam derives its prefatory name from that devoted amateur Sir John Sebright, M.P.,* by whose continuous efforts the breed at length became propagated. Their history has ever been enveloped in the greatest mystery, and all attempts towards the exposition of their genealogy has hitherto proved inadequate. We will not discuss the probable accuracy or absurdity of the numerous hybredous sources to which they have been assigned by some, neither the equally improbable conjectures urged in their behalf by others, but briefly comment upon their analogous position to the several peculiarly feathered varieties of other classes, and their direct relation to the Bantam family in the same degree as the varieties of the Shanghae, Game, Polish, and Hamburgh, assimilate their respective heads.

Why seek to deduce some foreign theory respecting the mysteries of their feather when every distinctly marked plume is unaccountably produced? From what source issues the peculiar tints of the golden-spangled or white-crested black Polands?—from whence the dun Game cock, the white Malay, and the many other varieties of our several classes? That Sir John Sebright's stock was originally obtained from an eastern source we doubt not, although its comparative scarcity rendered its continued procuration extremely difficult. We do not assert that such specimens were in exact conformity with the present Sebrights, but, on the contrary, affirm that they considerably exceeded the limits assigned for prize specimens of the extant race; they moreover possessed sickle feathers, and exhibited the full difference of plumage usually existing between the male and female.

* For Herts.

It must be studiously observed in the breeding of this race that the attaining of diminutive form is but one elementary importance to success. That the specimens chosen be of constitutional soundness, and as remotely related as possible—that the form, carriage, feather, and general contour be in strict conformity with the class—that the male be of mature years,* and his mates limited to two—that he be the most vigorous, whilst the hen, the most compact and healthiest of the brood, are requisites of equal import, and respectively demand judicious attention to the successful propagation of the breed. If the most diminutive specimens be selected regardless of vigour, or consanguineous breeding be allowed for a continuance, a supply of unproductive eggs is the inevitable result.

At the completion of the second moult a male may be considered in his prime. At three years Sebrights of the purest strains of both sexes frequently become "kite-winged," that is grizzled in the wings and tail with white, which renders them useless for exhibition purposes.

But as breeding stock they are far better adapted than cocks of inferior vigour, or stags of the greatest beauty. In fact we regard vigour as the grand desideratum, even though accompanied by slightly additional weight, since the present exacted criterion of diminutiveness is partly the operating cause of their impaired condition. When two specimens exhibit equally good properties, and are alike vigorous, the smaller should doubtless be the choice; but what we would suggest is, that if that diminutive form be accompanied by vigour below the natural standard, such should be discarded.

We have oft observed, whilst treating upon breeding

* Not under two years.

stock, that the power of reproducing the plumage of the male in the offspring is considerably dependant upon the hue of the hen. When the male is of darker and richer hue the progeny are more clearly marked than when the tone of the hen's plumage exceeds the male's, or than is the case when both sexes are equally deep or alike pale. This becomes a feature of importance in the breeding of showy specimens of the Bantam family. If the golden Polish be matched with the silvers of the same class, clearly and distinctly marked specimens of each variety may be occasionally produced. In like manner golden and silver Bantams being matched, issue bearing the resemblance of both varieties are generated, at once testifying their original identity, and but comparatively recent separation.

The blacks, whites, and yellows, do not thus generate laced progeny, but their own respective hues from the same causes which render the other varieties of our several classes breeders of their own colour (viz., their lengthened selection.) If the Sebright be not sustained by instillations of fresh blood he will degenerate, not only in form, but the distinctive markings in the offspring will by degrees become confused and irregular, until at length a dull yellowish spotted plumage will be exhibited as proof of virtual decay; at the same time, if the varieties above alluded to be admixed with him, worthless will be the progeny as fancy birds, the feathery coats of such issue usually partaking of the tints of the two indiscriminately. It, therefore, becomes requisite to procure birds of the same feather, but of a different strain. The evils attendant upon neglect are indubitably witnessed in the present extensively debilitated state of their generative organs. Every breeder is cognizant of the large quantities of unproductive or "poor eggs" produced, especially by the highly-bred birds, as

resulting from the circumstance that nearly all such have proceeded in a more or less direct line from Sir J. Sebright's stock. The procuration of fresh imported specimens from the east is therefore imperative, or this beautiful breed will become indeed but a name.

We also urge that our judges should regard the form and carriage of the specimen as the grand desideratum, and although a standard of weight is recognised, which must not be exceeded, still if the observance of that criterion is found incompatible with the continuous sustaining of the breed, it should be raised a trifle. Simultaneously acknowledging that where extreme diminutive form is accompanied by equally vigorous constitutional evidences, such should still be regarded the *prima donna* and *beau ideal* of its class.

It is an indubitable fact that the sustaining of the breed lies in continued instillations of fresh blood. We will firstly suppose, for the sake of description,* that all extant varieties of the Bantam claim rights to one common originality in the form of a progenitor pair. Now the two specimens forming this pair must have been more remote in blood from each other than any of their produce, seeing they were individually distinct, whilst all other proceeds were but the admixture of this distinctness, rendering them different when exposed to the differential effects of climatic influences, but not distinct. Although the form and tint of some might have been developed in conformity with either progenitor more than with others of the same brood, still the blood was the same. It is, therefore, undeniable that actual avoidance of collateral breeding is impossible, unless admixture with blood of some other class be resorted to.

* Such is, moreover, our decided opinion.

And even if we cherish the idea that several of our, not only classes but varieties, were primitively distinct from each other, it becomes equally evident that actual relationary breeding cannot possibly be avoided, unless these so called distinct varieties be admixed either *inter se* or with other blood. Years of separation or climatic influences are inadequate to the rendering of blood distinct, but we hold a difference may thus be effected, seeing that the corporeal frame which is the seat of blood and changes, is considerably influenced by external exposures; and changes in the constitution necessitate variations in succeeding blood.

Certain blood subjected for several generations to climatic effects, peculiar feeding, and different external causes, when matched with blood of primitive identity, but equally affected by circumstances, renders the ulterior progeny different from such as may even have been the issue of the same blood, but bred and domiciled in clime or under circumstances of an adverse character.

We, therefore, regard the differences existing between the constitutions of a pair of birds to be the grand feature in high breeding. It would be possible to match specimens which had been placed under similar influences, but actually of ten generations separation, without receiving an actual vigorous instillation of fresh blood, whilst from such as but three or four generations since had issued from the same pair, but exposed to considerable internal and external differential vicissitudes, might emanate the desired vigorous instillation. It therefore becomes requisite to the insurance of the continuous success of the amateur stud, in the reproduction of first-class specimens, that a just regard be paid to the constitutional tendencies of specimens intended for admixture, and a line of action adopted in conformity with such conviction.

BANTAM CHICKENS.

About the middle of June may be considered most suitable for their exclusion, but periods much later are usually resorted to for the express purpose of retarding their development. In addition to the particulars already advanced upon rearing chicks, it becomes necessary to add, on account of their extreme diminutiveness, that the utmost precaution is requisite in guarding against the injurious effects of damp. They should, therefore, be detained in a perfectly dry apartment for a few days subsequent to their exclusion from the shell, and supplied every other hour with split groats, &c., in small quantities, leaving suitable stubble or ground rubbish for their amusement in the interim (see page 112). The produce of black Bantams, when first excluded, are usually black, including bill, eyes, and legs, but frequently possessing greyish abdomens. Golden Sebrights are of a yellowish brown throughout. Whites of a light creamy hue. Conflicting are the statements respecting the constitutional vigour of Bantams, and such is likely to remain the case, seeing the several varieties differ as much from one another in this respect as from quite distinct classes, and specimens of the same variety vary to an equal extent. A fair average, therefore, is the only guide to a correct computation. We consider the constitutions of the parents, local influences, and peculiar treatment, are the inducing causes of these differences. If the parentage be sound, and the offspring be hatched in suitable weather, fairly tended and guarded against damp, their active frames and precocious feathering will carry them past chickenhood without more than usual mortality. But if the offspring of continued relationary breeding, if specimens the weakest in the family be chosen as stock birds because they are the most diminutive, if they be

bred in damp or exposed situations, if the offspring be excluded late in the autumn or tended with negligence, the result will be seen in the exclusion of but one or two puny birds from many sittings of eggs, one or two reared chickens from many broods, and but one or two fair specimens from many reared chicks; and according to the extent of precaution exercised in guarding against these causes of degeneracy, in the same ratio will the breeder be successful or otherwise.

BANTAMS AS FANCY BIRDS.

Fancy versus *Profit.*

At the commencement of the seventeenth century through the English settlers at Bantam specimens of this Lilliputian race were first imported into Great Britain, since which they have commanded universal admiration and held conspicuous positions in the collections of all distinguished amateurs, neither are they likely to give way in public esteem.

But farmers and rearers for the market cannot be too particular in secluding their stock from the presence of so diminutive a breed. To them size and weight are of main importance, not omitting quality; but to whatever extent the latter may excel, the absence of the standard development of the former renders all dead stock below mediocrity. Their diminutive form, however, renders them capable of being domiciled in metropolitan or manufacturing districts where eggs are in demand, and where larger fowls are at times found inconvenient. The Bantam roosting house requires but the cleansing of a light hand for its decent preservation; the consumption of this class is indeed moderate, whilst

their productive powers are not below the average. Their extreme beauty, delicacy of plumage, elegance of form, contour, and great vivacity, cannot fail to gain them many admirers; and, to the ladies especially, we heartily recommend the adoption of this Lilliputian family.

MALFORMATIONS.

It is not surprising that Bantams should degenerate and become partially unprolific, when the most diminutive specimens, regardless of hereditary vigour, are bred from; that the tail should be devoid of sickle feathers when masculine distinctions are curbed by in and in breeding, and the continuous eradication of such features. We regard the entire absence of hackle and sickle feathers the result of art, or rather the effects of art, and closely connected with the generative organs. Birds, whether of Bantam or any other class, when bred in and in to the production of hen tails, naturally become impaired in their generative organs; but it becomes important to observe that such materially differ from those which are minus the plumes from their continuous eradication. The very large number of unprolific eggs produced by Bantam hens is but another form of these deteriorating effects and so long as the most diminutive specimens are selected as progenitors of further stock without regard to vigour, so long as admixture is postponed, this affection will be on the increase.

We hold that the generative organs are in proximity to the seat of all differential plumage, and the source of most of the peculiar changes occurring in this family *(Galli)*. Unprolific hens of all classes not unfrequently exhibit partially curved sickle feathers. A remarkable instance of this occurred under my own observation. Some few years

since a brown-red Game hen of Freeman's strain, when eleven years old became sterile, at the ensuing moult she exhibited the partially curved sickle feathers; but the following season she assumed the full plumage of the male. I possess her preserved exterior, and can further vouch for the accuracy of this statement. Hens which are over-fed frequently become diseased in their generative organs, and ultimately sterile, when a double accumulation of internal fat is produced from the conversion of egg stuff into flesh instead of eggs. Such are not likely to assume the plumage of the male, but their decease, anterior to the ensuing season, may be regarded as inevitable. It becomes necessary to add that the strain which produced the hen already alluded to, had been bred in and in for nearly forty years by that noted breeder Mr. J. Freeman, who entertained such sanguine ideas of the peculiar excellence of his own strain that admixture was purposely avoided. Had it not been for his superior judgment in the selection of breeding specimens, and the limitation of the male to two hens, he certainly could not have sustained his breed so long. In the course of his experience whites, piles, and duns, were produced from his brown-reds, without any admixture having taken place for eighteen or nineteen years. These he selected, and by the continuous breeding in and in of such as were of the same feather, and the destroying of all partially or irregularly coloured specimens, a permanent family of each was at length established. Within the last ten years the stock has much fallen off, and the strain, which in the sporting registry was once acknowledged of first-rate merit, has become surpassed in excellence by others more judiciously sustained by admixture.

The first expedient we resorted to, when this breed came into our possession, was the matching of two pullets with

a two year old black-breasted red cock of proved excellence. Our expectations as to the result were realized, the progeny for the most part exhibiting the full benefit of the admixture, no less by a full development of vigour, than by the superior firmness of their plumage. The males were richly coloured with deep dragon's blood on the saddle, but lighter in the hackles, rendering them blood-wing Piles. One of the original hens we allowed to remain with her sire, and from which issued a most remarkable production of *lusus naturæ*, of which we annex the life-size *fac-simile* portrait.

This creature, thus possessed of two supplementary legs and wings, survived but a few minutes after exclusion. Its form has been carefully preserved by Mr. Newill, of Southwark, previous to which it underwent a critical examination before many distinguished anatomists, who expressed their great surprise at such a consummation of irregularity becoming so far perfected by nature. It possessed two wind-

pipes in the same neck, moreover two back-bones, besides a duplicate set of the principal organs. Excepting Aldrovandi's account of monsters, of which description is not furnished, we have no mention of any similar production. Chickens rarely issue in any shape from double-yoked eggs, but occasionally two distinct but weakly and diminutive specimens have been excluded; likewise double chicks, or chicks with two complete bodies have been heard of, but never in the experience of a modern, one in the form and shape of a winged quadruped. We regard this and similar productions the result of a disordered state of the generative organs, or induced, as in this instance, by close consanguinary breeding.

Male specimens possessing two or three spurs upon each leg, also twisted beakers may be occasionally seen, but such are merely local malformations. The former a freak of nature, seeing on the pedal limbs of such chicks of but one day's growth may be observed the number of peculiar warts which will ultimately become developed as spurs; the latter also an irregularity in the process of the formation of the egg, seeing the specimen is excluded with a twisted beak, although its continued growth in the same adverse course renders it more and more conspicuous. Specimens possessing twisted crops are at times met with, more especially in the Malay breed (see page 190), others with a curvature of the spine (see page 170). Shanghaes and Spanish are, moreover, more or less liable to lateral curvature of the tail (see page 64). Crooked breast bones or keels are usually produced either from permitting the juveniles of the poultry yard the opportunity of roosting whilst too young, or furnishing adult specimens with perches of too narrow dimensions (see page 29), whilst from such birds are occasionally produced similarly deformed progeny.

SILKY OR PERSIAN FOWLS.

*(Phasianus tanatus, Lath.)**

It is a remarkable fact that not only specimens bearing much resemblance to the Bantam family exhibit a silky or hairy coat in lieu of feathers, but that silky Spanish and Shanghaes should be met with in other respects perfect types of their respective classes, but capable of generating silky offspring with regularity. It may be urged that such specimens are but the effects of an admixture with the silky fowl; but the fact is, it would require continuous instillations of that blood to produce such a consummation. Buffon considered peculiar diet was the inducing cause, whilst it may be urged with equal effect that it originated in the diseased condition of the skin, as induced from exposure to heat. We find men possessing woolly hair in the same climate from whence these birds proceed, a fact sufficiently ample to denote the power of climatic influences upon the skin.

The coat of the silky fowl is composed of webbed feathers or rather hairs, rendering its appearance very striking. It is found in China and Japan, and bred in these parts without difficulty.

VARIETIES.

Emu or silky Shanghae—(for description see page 25).

* Timmerick considered the silky fowl a native of India, and described it as existing in a wild state.

Algerian silky fowls are usually of a deep brown hue, with neck-hackle stained with black; they possess single comb, but are almost destitute of tail.

Silky Spanish resemble black Spanish in comb, ear-lobes, and general conformation, but possess the hairy coat of the silky fowl. Mr. H. Reese, of Bath, in 1851, imported five specimens from Calcutta, but subsequently informed me that during his eleven years residence in the east they were the only silky birds of this description which he was able to procure, although no opportunity of research was left untried.

WHITE SILKY FOWLS OR SILKY BANTAMS.

These birds exhibit the appearance of having been descended from the Bantam race, although in some particulars they differ much from that class. They are not adapted to the climate of Great Britain, unless it be the southern parts, damp and cold proving extremely injurious. The average weight of the male is about two pounds and a quarter, the hen one pound and three quarters; the former stands thirteen inches in height, the latter eleven inches.

They are of compact form, and usually of a white plumage. Their bones are of a very different complexion, and

not exceptionally covered with a black or purple membrane or periosteum. The skin is also of a similar hue, but the flesh white, though usually unpalatable. The tail is moderately plumed, whilst the legs, which are always short, should be of a pale blue, and feathered on the outer side. The comb may be found both double and single, and is of a leaden cast, behind which rises a small crest; the face is of a similar complexion, whilst the ear-lobes and beak are pale green.

There exists another white variety possessing white skin and bones, and red comb and gills, but in other respects closely resembling the above. We do not, however, consider them of pure descent.

Yellow or Nankin silky fowl.—This bird is of a dull yellow plumage, and doubtless of Bantam affinity, in other respects similar to the last-named variety.

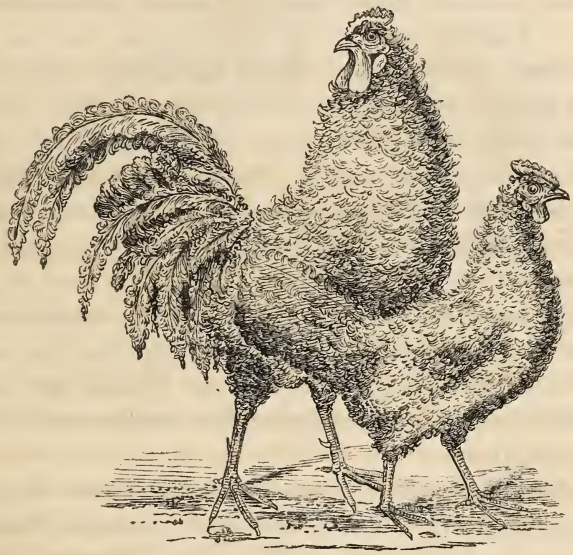
Black silkies, Negroes, or Kaffirs (Phasianus niger, Lath.) are similar to the white silkies, save in the colour of their plumage. They are rather rare, and possess black hair, skin, and legs, and a small crest behind the comb of the same deep shade, whilst the membrane which covers the bones is of a similar hue.

It is considered by some that the true Negro is not a silky bird, but a black species possessing purple bones, skin, comb, gills, and shanks, and having the ordinary feathery plumage; such, however, we have not yet seen.

GENERAL CHARACTERISTICS.

Silkies are moderately productive, the average weight of their eggs may be considered about one ounce and a half, usually of a light cream colour, but the black silkies or Negroes produce clear white eggs. They are excellent incubators and careful mothers, but should not be thus

engaged anterior to the months of May or June, nor later than July. The treatment requisite to be observed in rearing Bantam chicks is ample for their propagation, and the management required for keeping Bantam adults is sufficient for silky fowls. But however well they may thrive, we trust their introduction into this country will be but in limited numbers, and confined to the pens of the amateur. Black skin is not by any means a prepossessing envelop in the eyes of European epicures for a garnished fowl, and however fine the flavour of the flesh, few will be found to make a personal trial of its merits.



FRIZZLED OR FRIESLAND FOWLS.

(Gallus Pennis Revolutis, of Linnæus.—Gallus Crispus, of Brisson.—Phasianus Crispus, Lath.)

This fowl is found in Java, Sumatra, and the southern parts of Asia, and is said to exist in a wild state in Ceylon.

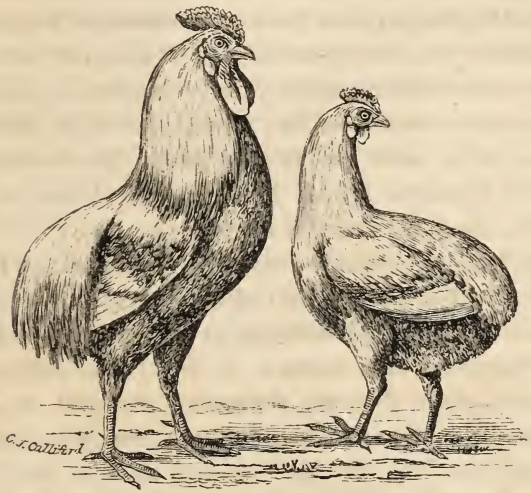
The peculiarities of its coat consist in the feathers curling the reverse way, and standing more or less erect in a ruffled form. It has been asserted that they possess the advantage of bringing their plumes close to their bodies in the event of a shower of rain overtaking them—such is a fact, but it is not peculiar to them, all fowls from Shanghae to Bantam possess the same power, and invariably adopt this instructive precaution when exposed to wet. The average weight of frizzled fowls' eggs is about two ounces. They are good layers and mothers, whilst the chicks are by no means delicate as is oft represented, neither do the adults require more care than is usually bestowed upon ordinary stock. The flesh is very fair for quality, but from the size of the bird, it is not so suitable for marketable purposes as many other varieties of fowl.

There are several differently coloured varieties, some smooth, some feather-legged. The average weight of the male is about five pounds, the hen four pounds; the former stands eighteen inches, and the latter fourteen inches in height.

The head of both sexes is neat and sharp; comb bright red and cupped, immediately behind which rise the curls of the neck-hackle; wattles red and of moderate size; ear-lobe whitish; beak well curved; legs blue; tail well sickled in the male.

A frizzled variety of Bantam exists (as in the varieties of the silky fowl) closely resembling the feathered Bantam in every particular save in the frizzled character of its plumage. We cannot regard either the silky or the frizzled plumage primary features, but believe them to have been acquired by exceptional specimens of a race after many generations of exposure to heat. Thus the hair of men becomes woolly, and moreover curls strongly. Not

only have the silky and the frizzled been bred together, but feathered poultry have in some instances been admixed both at home and abroad, producing thereby specimens such as frizzled Kaffirs and mongrels of singular appearance but worthless properties.



RUMPKINS OR TAIL-LESS FOWLS.

(Gallus Ecaudatus, Timmerick.—Gallina Candâ seu Wropygio Carens Linnæus.—Phasianus Ecaudatus, Lath.—Tail-less or Persian Cock of Buffon.

Aldrovandi, who wrote more than two centuries since, was well acquainted with this bird, and mentions it as the Persian cock of some authors, and destitute of the tail. Buffon imagined certain fowls sent from England to Virginia having lost their tails on the journey (and in connexion with the effects of heat), generated tail-less progeny, and so gave rise to the breed in question. We need not mention the unsoundness of this idea, as in other localities much

hotter fowls' tails flourish. The extraction of the tail feathers would not deprive the fowl of the last of the dorsal vertebræ of which the Rumpkin is deficient. The fact is this bird is not only tail-less but rump-less, the base of the tail being absent.

Timmerick asserts it is descended from the tail-less jungle fowl of Ceylon, but this has been contradicted by travelling naturalists who assert no tail-less fowls exist there, save imported specimens called frizzled Kaffirs, which, as we have already mentioned, are produced from the admixture of the silky with the frizzled fowl. They possess the frizzled plumage of the latter bird, and purple comb, wattles, skin, and bones of the former.

We have received the following communication from B. P. Brent, Esq., of Seven Oaks, relative to the rumpkin fowl, which may be interesting to our readers :—" I found the Rumpkin very common in the Rhine provinces of Prussia, where they are designated *Schottert* or *English Hühner* (i. e., Scotch or English fowls), simply because they are devoid of tail, for the Germans smile at the English for docking the tails of their horses, dogs, and sheep; also at the Scotch Highland dress, and the English boys in jackets. Whilst residing there I collected the following varieties, viz.—black, white, dun, buff, and speckled, but I consider the brown or mottled-breasted reds and fawn-coloured hens the purest variety, next to the black. The other varieties I discovered, occasionally produced chickens with tails.

" The true Rumpkin is a short-legged, compact, plump made fowl of medium size, and possessing a rose comb, the saddle feathers of the male drop over behind. My birds were excellent layers, and producers of larger eggs than ordinary fowl."

The white specimens usually possess yellow hackle and saddle, and the remainder of the body more or less marked with black. The comb is rose though sometimes single and serrated; gills large and full; ear-lobe white, but occasionally tinged with pink; head neat and sharp; legs white or pale blue; average weight of the male five pounds and a half, height eighteen inches. Hen four pounds and three quarters, height fifteen inches. They are fair layers, usually producing eggs of about two ounces and a half in weight, moreover their flesh is white and of good flavour. They are hardy, and the management bestowed upon other poultry is ample for the requirements of both the chicken and the adult.

BARN-DOOR OR DUNGHILL FOWLS.

SPECIMENS thus denominated comprise differences of size, shape, feather, and constitution. All heterogeneous breeds and exceptionables, not conforming to any one of our recognised classes, are designated as such. For instance—a farmer procures a male bird of the Malay breed and six or seven Dorking hens, with the issue in the ensuing breeding season he places a Spanish cock, and after the lapse of a few years of inter-breeding a Game fowl finds a walk among them. In the autumn amongst the produce may be observed specimens "taking after" the original Dorkings, others the Malay, and some the Spanish, whilst a few the bright plumes of the Game fowl. It occurs some semble the shape of the Malay, the colour of the Spanish, but spirit of the Game, whilst others the coat of the Dorking, shape of the Game, but demeanour of the Spanish. And yet these specimens thus varying are all of the same breed. Why then such differences?

It is a notorious fact that in a brood of chicks from the same mongrel bred parents, some assume the form of one progenitor, whilst others the appearance of another. Two specimens (male and female) are selected more resembling the original Spanish bird than any other progenitor, but it frequently occurs that amongst the offspring of these, none are to be found resembling them, but birds only

assuming the form and appearance of some anterior precursor or of an irregular combination. What, then, shall we call such? Where are they most frequently seen? Why near the barn-door, or in some mews in the vicinity or upon the summit of a dunghill. We, therefore, consider the name of dunghill or barn-door fowl no misnomer. Some dunghills are not thus heterogeneous in appearance; but, as we have already said, a fowl of many admixtures frequently generates a specimen which assumes the semblance of purity, but which is in reality equally heterogeneous as his brethren which are of mixed and irregular features.

Not only have the four varieties already alluded to been crossed upon ordinary stock, but the Shanghae, the Bantam, and all intermediate classes have assisted to render the pedigree of the Dunghill beyond the means of man to trace. It has been asserted that the productive powers of this breed are superior to the select classes, and its constitution more robust. Such, however, is at variance with facts. The purely bred Dorking and Spanish, for instance, far surpass Dunghill fowls both as flesh and egg producers, and the constitution of mongrels varies as much as the several varieties of our select classes.

FOWLS RECENTLY IMPORTED.

WITHOUT pretending to sanction or dispute the terms brought into requisition in the nomination of the following specimens, we briefly add the description of such as have been imported by the active exertions of Mr. Vivian, a devoted Polish amateur.

THE BRAZILIAN FOWL.

This bird much resembles the Malay both in shape and size, and in the glossiness of its feather, but possesses a a beard. The male weighs about seven pounds, and is usually of a dark plumage; and the female about five pounds and a half. Their shanks are clean and of a leaden hue, and their eggs of moderate size and of a deep buff tint.

THE NORMANDY FOWL

Is a long-bodied crested bird, with full comb and wattles, and possessing five white claws as in the Dorking, but a blue shank. The colour of the plumage of both sexes consists of speckles upon a dark ground, whilst the tail is fully plumed.

THE JERUSALEM FOWL

Is of medium size—the average weight of the male being about five pounds and a half; the hen four pounds and

three quarters. They are of good shape and elegant figure, but incline to run long on the leg. The plumage is usually of a speckled character including hackles, wings, and tail. The hen is of a lighter hue. The comb treble-fold towards the top but single at base, causing it to fall aside. In the hen it usually resembles the Malay's of the same sex. Beak and ear-lobes white, but sometimes tinged with pink; legs clean and of a pale blue colour.

THE CREVE CŒUR FOWL

Is a crested and bearded bird of which there are two varieties. The male of the first weighs about seven pounds, the hen five pounds—they are of compact form, and possess the spiked comb as in the spangled Polish, but much further developed. The ground of the male is black with yellow crest, hackle, and saddle; the hen usually quite black, whilst the legs are clean in both sexes.

The other variety is of slighter build, and an irregular combination of black and white.

BRUGES FOWL

Is a blue dun bird without topknot, possessing clean blue shanks and a small dull lead-coloured comb. The average weight of the male is seven pounds; hen six pounds and a quarter, whilst their eggs exceed the average in size.

THE BREDA FOWL

Is a tall slim bird of black plumage and feathered legs, full wattles, but devoid of comb. Average weight of the male six pounds, hen five pounds. Their eggs are above the average for weight, but frequently prove unprolific.

THE MALABAR FOWL

Is doubtless of Malay origin, and resembles that breed in size, carriage, and general conformation; the plumage and hardness of feather, for which it is so notorious, is, however, absent, whilst the head and breast also present considerable differences.

(MODERN) PADUAN FOWLS.

The fowls bearing this name are not in any way allied to the Paduans described by Aldrovandi, and considered the progenitors of the Polish family, neither do they resemble them in any feature. Why they should have obtained such an appellative we, therefore, cannot imagine. About twenty years since they were imported into this country, but from whence we are unable satisfactorily to discover. In shape they resemble small Dorkings, and possess single combs and white legs, though sometimes blue or olive. In plumage the male approaches the duckwing Game cock, with red saddle, but usually exhibits a brown breast. The tail is always ample and well sickled. They are very productive, and the quality of the flesh is exquisite, whilst as incubators they are peculiarly excellent.

THE PTARMIGAN OR GROUSE-FOOTED POLAND FOWL

Much resembles the Poland fowl, and possesses the top-knot and well sickled tail, but differs from it inasmuch as its shanks are heavily feathered and its comb cupped, which render it very remarkable. They are of different hues, but the white are of the greatest beauty and delicacy. Insect food is preferred to grain, still on the latter they thrive well. They are not very particularly hardy, but still very productive.

THE CEYLON FOWL

Much resembles a first-class Shanghae in shape of body, head, comb, beak, ear-lobe, in the fluffiness of its feather, and shortness of its wings, but the average weight of the male seldom exceeds four pounds and three quarters; nor the hen four pounds. Their legs are very short and yellow, and without feather; the tail is also short. Their plumage comprises various shades of brown or chestnut, whilst each feather of the hen is laced all round the exterior with white, and in the interior with a smaller parallel white mark, about the fifth of an inch from the outer lacing, rendering each plume doubly laced. They are of extreme beauty, and in some specimens the white gives place to black lacings. The male is considerably less marked than the hen, as in the Hamburgh family.

AMERICAN FOWLS.

Americans are notorious for their love of crossing and mongrelizing fowls, at least mongrelled birds are produced either for experiment, or are the natural product of careless breeding. For instance, Polands are matched with Spanish, and the issue with Game fowls, and if the produce appear sufficiently peculiar a name is simultaneously discovered, and they are subsequently regarded as a distinct breed. Dr. Bennett describes the pedigree of their Plymouth rock fowl thus:—"One-half Cochin China, one-fourth fawn coloured Dorking, one-eighth great Malay, and one-eighth wild Indian."

It is, moreover, evident that several of our fowls become recognised by different names when subject to American importation.

GENERATION.

THE male, from his salacious propensities, when subjected to domestication seldom lives beyond ten or eleven years, but in a wild state we think it probable he exceeds that age.

For breeding and sustaining stock four or five hens are ample for one male bird; but if eggs be the only object twenty may be allowed. Hens will indeed lay abundantly without his presence, for the eggs grow and increase naturally on the ovary without being fecundated, still his company is required for their protection. In France, as eggs are produced principally for exportation, twenty or more hens are usually allowed to accompany their polygamous mate.

One impregnation, if effective, injects the vital spark to the whole batch of eggs, so that if a hen be placed with her mate seven or eight days before laying, and removed from him after one egg is deposited in the nest, the whole of her first clutch proves prolific, even to the last, but the first and remainder of her second clutch unprolific. Between these two clutches from ten to fifteen days usually elapse. I consider any impregnation effected during the first clutch in no way effects the second, so that were the male removed one or two days previous to the deposit of the last egg of the first clutch, the second would prove unprolific. As a

general rule if the male be removed during the first clutch no egg of the second should be selected for incubation.

STRUCTURE OF EGGS AND OVARIUM.

All birds which conceive organic bodies, or eggs covered with a hard porous texture or shell, are termed oviparous animals, whilst such as produce completely formed progeny in a state of active exercise are designated viviparous. We annex Mr. Dickson's description of the structure of eggs in a concise form :—" Upon opening the body of a laying hen rudiments of eggs may be observed from twenty to one hundred or more, from the size of a pin's head to that of a horse chestnut. This egg cluster is termed the ovarium, and the rudimental eggs ova, the latter have no shell or white which are acquired in an after stage, but consist wholly of yolk, on whose surface the germ of the future chick lies; both the yolk and the germ being wrapped round with a very thin membrane. When the rudimental egg, still attached to the ovarium, becomes larger and larger and arrives at a certain size, it becomes detached and falls into a funnel leading to the oviduct. Here the yoke, hitherto imperfectly formed puts on its mature appearance of a thick yellow fluid, whilst the embryo is white. The white of the egg now becomes diffused around the yoke, but is prevented from mixing with it, and the embryo chick by the thin membrane which surrounds them. A second membrane enveloping the yoke and the germ of the chick is thickest at the two ends, having bulgings and ligaments attached which pass through the white at each side, and being embedded in the white, keep the enclosed yolk and germ in a fixed position, and prevent them from rolling within the egg when moved. The white of the egg being thus formed, a double membrane much stronger than either of the first

two is formed around it, and becomes attached to the ligaments of the second membrane, which keeps all the parts in their relative positions. During the progress of these

EGG CLUSTER OR OVARIUM

formations the egg advances about half-way along the oviduct. It is still destitute of the shell which begins to be formed as soon as the outer layer of the third membrane has been completed. When the shell is fully formed the egg continues to advance along the oviduct till the hen goes to her nest and lays it. From ill health or accident eggs are sometimes excluded from the oviduct before the shell is formed, and in this state they are termed *oon* or wind eggs. Reckoning from the shell inward there are six

different envelopes. 1. The shell. 2. The external layer of the membrane, lining the shell. 3. The internal layer of the same lining. 4. The white, composed of a thinner liquid on the outside, and a thicker and more yellowish liquid on the inside. 5. The chalaziferous membrane. 6. The proper membrane.

One important part of the egg is the air bag which is placed at the larger end, between the shell and its lining membranes. It is about the size of the eye of a small bird in new-laid eggs, but increases as much as ten times in the process of incubation. This bag is of such great importance to the development of the chick, that if the blunt end of the egg be pierced with the point of the smallest needle it cannot be hatched. Instead of one rudimental egg falling from the ovarium two may be detached, and will be enclosed in the same shell, when it becomes double-yoked. The shell chiefly consists of carbonate of lime similar to chalk, with a small quantity of phosphate of lime and animal mucus. The white of an egg is composed of eighty parts of water, fifteen of albumen, and four of mucus, besides giving traces of soda, benzoic acid, and sulphuretted hydrogen gas. It is a very feeble conductor of heat, retarding its escape and preventing its entrance to the yolk, averting thereby the fatal chills which might occur in hatching, when the hen leaves her eggs from time to time in search of food.

PRESERVATION OF EGGS.

The shell of the egg being porous, a greater escape of moisture from the interior is effected during warm than cold weather; eggs may, therefore, be preserved a much longer period during the latter than the former season. To prevent this evaporation various means have been devised,

such as the application of oil or varnish to the shell. Those varnished by M. Réaumur are said to have kept sound for more than twelve months. A convenient and excellent method is to anoint them thoroughly with lard (a small piece of the size of a bean will be found ample for half a dozen), when they may be packed in a dry barrel of salt, or in very thick lime water.

Eggs intended for incubation should not receive any preparation whatever upon their shells, but be imbedded in sweet bran, in the same position as left in the hen's nest (*i. e.*, upon their sides), and gently turned each day, so that the uppermost part one day be the lowest the next. They should be as fresh as possible, and all exceeding twenty-one days' old excluded. They should never be placed in actual contact with any earthenware or glass vessel, nor be allowed to rest one upon the other.

It is a well known fact that the produce of hens which have been deprived of the company of the male retain their sweetness double and even treble the time of ordinary eggs, and this is not overlooked by exporters in the present day.

When exposed to jolting they should be placed with the blunt end upwards, as in that position the tissue of the yolk is not so likely to become displaced. If a fresh egg be held between the candle and the eye with the blunt end uppermost, the vacuum or air bag will be observed at the top, of about the size of a pea. Each day this becomes larger, and at the end of fourteen days, if it be compared with that of a fresh egg, a considerable difference will be perceived.

INCUBATION.

After laying from thirteen to eighteen eggs the natural instinct of the hen induces her to officiate in her maternal

capacity, but the deprivation of man in removing her produce as laid, causes her to generate more than would be otherwise the case were they left in the nest, and therefore to postpone this instinctive desire until her last is conceived.

A hen by accident sometimes breaks an egg and thereupon consumes it, and finding it agreeable to her palate becomes prone to attack all that come before her. By placing her in confinement for twenty-four hours upon half rations, with a supply of three or four well made marble or chalk eggs, a cure has oft been effected—for, after innumerable attacks upon them, she is compelled to desist, and seldom resumes her unnatural habit. Previous to her release she should be well supplied with soft food, or hunger may tempt her into a like error. But the best method is to boil an egg for about twenty minutes, peel off the shell in several places, and present the former to her entire. Her vicious propensity leads her immediately to the attack, and a severely burnt throat is the result, after which she seldom if ever commits the same offence. We are supposing her to be a valuable hen and worth this trouble, but if she be merely of ordinary quality she cannot too soon be handed over to the cook.

The sitting hen is soon known by her irritable demeanour, the bristling of her feathers, drooping of her wings, her peculiar and continuous clucking note, and by the determination which she manifests to occupy any position where she discovers eggs, or even the empty nest. To revert this desire many means have been devised (see page 46). The hen selected for incubation should not be a pullet, but a two-year old hen, full bodied, short legged, and having full compass of wing. She should be allowed to remain in the nest for two or three days, after which time, if she still sits

closely, from eleven to thirteen eggs may be given, according to her size (for particulars respecting the preparation of nest, &c., see page 48).

After the eggs are deposited beneath the hen, they should not be disturbed or peeped at during their term of durance, which is twenty-one days. Fresh eggs are usually hatched on the twentieth day, whilst such as are stale occupy the full period of twenty-one, and sometimes a few hours in addition. The hen vacates her nest once in twenty-four hours for about fifteen to twenty minutes when she replenishes exhausted nature, whilst in winter or cold weather her stay seldom exceeds ten minutes. If by any means the eggs become thoroughly cold after the fourth day they prove unprolific, but when once blood circulates within and the chicks possess life, warmth is retained for a considerable period. Upon one occasion, on the eighteenth day of incubation, a hen belonging to the author was by accident excluded from her nest for nearly two hours, but upon the arrival of the twenty-first morning a full brood was discovered beneath her wings. Such, however, is a dangerous method of incubation.

The embryo chick is deposited beneath the membrane which surrounds the yoke, and as incubation advances so its organic structure is developed, but immediately the heart beats, animal life is imparted. The white of the egg is first absorbed as nourishment for the bird, and afterwards the yolk.

At the end of the 1st day the head and spine partially unite.

2nd day, the first apophysis of the vertebræ and the heart appear; in 8 hours more two vesicles of blood.

3rd day, the brain, bill, neck, and breast exhibit the process of organization.

4th day, the heart becomes more complete, and pulsation is perceptible; the eyes are in formation, and the wings increase.

5th day, the liver and the flesh exhibit some consistence.

6th day, the stomach, loins, and intestines appear; in 10 hours more the spinal marrow and the outer skin.

7th day, the brain expands, and the bill becomes more perfectly formed.

8th day, the bill opens and shuts, and two ventricles of the heart appear.

9th day, the lungs are observable.

10th day, the breast bone, ribs, and organization is approaching completion, but the bones are still gelatinous.

11th day, size further developed, and the feathers shoot.

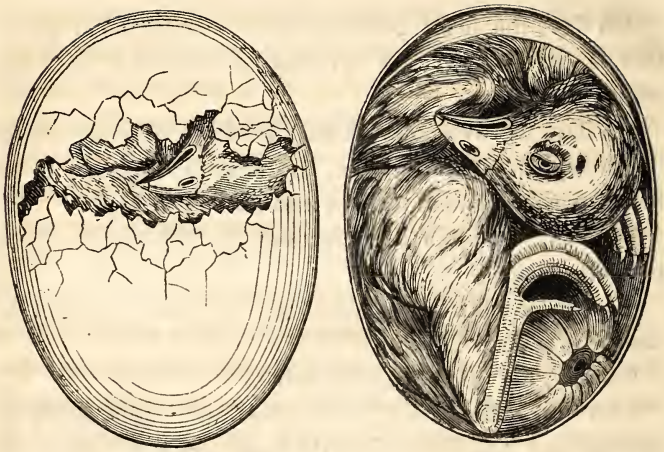
12th day, the ribs are now more solid, and the first animal motion is observed, all the arteries now unite to the heart, and development of the whole organization is in gradual progress. Upon holding an egg which has been subjected to twelve days' incubation between the eye and the candle in a dark apartment, all such as are prolific are opaque and dark in the interior, whilst poor or addled eggs are transparent.

14th day, the lungs and chest are now fully developed.

15th day, the bones become much more solid, and the feathers shoot rapidly.

17th day, the yoke which has hitherto formed a separate body from the bird now enters the abdomen, when the chick becomes fully developed.

18th day, the first cry is heard; the bill and limbs move frequently; after this the chick acquires more and more strength until he is enabled to burst forth from his prison walls, which he usually effects at the end of the 20th day.



POSITION OF THE CHICK WITHIN THE SHELL PREVIOUS TO EXCLUSION.

The chick after repeatedly striking the shell with his beak produces a crack, which at length he breaks into an aperture, when a few struggling motions divide it into two parts, and he is excluded, without any assistance whatever from the hen. (See page 113.) Some are more robust than others, and break their way through in a much shorter period. The difference in the texture of the shell also renders it more or less difficult, but a vigorous bird never requires assistance.

As before stated, we much disapprove interfering with the natural process of incubation, but there are times when the chick, unable to make progress in his cell, requires assistance before he can escape. If the crack or aperture made with the beak do not increase, but remain the same for twelve hours together, a few small pieces of the shell around may be gently removed with the nail. If at length he be excluded with a few pieces upon his back, it is best to allow them to remain, as in a few days they usually fall off without the application of means; if not a little

warm water will dissolve the substance which detains them. But thus to assist the chick from confinement necessitates a peep beneath the hen. Now this is decidedly objectionable, and in nine cases out of ten far more mischief occurs from disturbing her, than is compensated for by the escape of the weakly bird, which, in our opinion, had far better expire within the shell than a few days after his exclusion.

ARTIFICIAL INCUBATION.

This art has long been practised in China and Egypt; in the former country immense quantities of eggs are still annually hatched for the supply of the table, but in the latter the number is greatly on the decrease. (M. Réaumur signalized himself by the success of his experiments, and appears to have made considerable progress in the art.) In 1496 Charles the VIII. of France possessed a hatching oven at Amboise, and about the same period the English became acquainted with the scientific method of incubation, although its application was seldom resorted to. M. Réaumur's method has been much improved by several experimentalists, whose endeavours have been to follow more closely the natural process. The principle of M. Cantelo's hydro-incubator is indeed far superior to any hitherto in use. The degree of heat to which the eggs are subjected is 106°, that being ascertained to be the blood head of the sitting hen, and not 96° or 98° as formerly supposed. To the performance of this process the most important feature lies in sustaining an unvarying temperature. In former experiments the heat was generated from below the eggs, but to follow more closely the natural process, M. Cantelo's method provides heat above by means of hot water which is placed over the egg trays, glass being the only separation, whilst air is admitted from beneath.

Be it remembered the hen departs from her nest once in twenty-four hours, for the space of about fifteen or twenty minutes, for the purpose of supplying nature's requirements, when the eggs are exposed to a free circulation of air. The eggs are, therefore, removed from the incubator for a similar period, and turned three times each day. By this process, out of every hundred eggs, seventy-five chicks upon an average are excluded.

Some have supposed malformed chicks are more frequently produced by artificial than by natural incubation, and that by the former process the instinct of incubation is not transmitted to the birds. But the fact is, where hundreds of chicks are continually hatching, as at Leicester Square, it would be strange were no malformed birds generated. But private individuals producing annually but two or three broods seldom see such irregularities, for obvious reasons. If the process were not sufficiently complete to produce perfect specimens it would not produce living ones. (Malformations are the result of a totally different cause, see page 316.)

It must be allowed mothers are required for the little orphans as soon as hatched, and many skilful methods have been devised for producing artificial nurses, but in this branch, art can never equal nature. The scratching of the hen, the exercise thus called into play, and the change of scene and diet thereby procured cannot be equalled. The best method is, therefore, to transfer them to the care of the natural rearing agent, and allow them to run beneath her protecting wings. But in this country, from reasons previously stated, no mother can properly provide for more than twelve or thirteen chicks, and if fancy birds, that number must be considerably reduced. (See page 110.) But we ask, why should she not also hatch them? and where are there a sufficiency of mothers to rear the chicks

produced by a large circulation of incubators? We are compelled to say that the sanguine hopes entertained by some that artificial incubation would ensure means for rendering poultry procurable by the multitude at a cheaper rate—if not like counting chickens before they are hatched, is most certainly counting fowls before they are reared.

COMPARATIVE VALUE OF DIVERS GRAIN, ETC., AS FOOD.

Since the varieties of grain differ as much from each other in their effects as substances of a totally distinct class, it becomes necessary to appropriate certain sorts for special purposes or for the use of peculiar seasons. For instance, wheat, barley, oatmeal, barley meal, and Indian corn produce flesh, though the last more frequently fat and warmth. Beans and peas also produce flesh, but are very heating to the blood. All starchy substances impart warmth. Bran, coarse middlings, and the husk of most grain generate bone and muscle, and are cooling to the blood, whilst vegetables are still more cooling, but relaxing.

Wheat contains 17 lbs. per cent. of flesh-producing substance.
56 „ „ starch.
4 „ „ oil.

Is less nutritious that oatmeal, whilst its price renders it without the circumference of poultry economy.

Barley contains 14 lbs. per cent. of flesh.
60 „ „ „ starch.
$2\frac{1}{2}$ „ „ „ oil.

Is always relished by poultry, and forms (with other diet) the cheapest grain in the long run.

Oats contain 19 lbs. per cent. of flesh.
60 „ „ „ starch.
7 „ „ „ oil.

Oats, as a change, prove very beneficial, but are usually

neglected by fowls where barley can be obtained. Oatmeal, on the contrary, is eagerly devoured, and is extremely nutritious, whilst groats, as food for young chickens, we cannot too strongly recommend.

Rye is seldom cared for after a few days, neither can we commend it as food for poultry.

Indian corn contains 12 lbs. per cent. of flesh.*
70 „ „ „ starch.
8 „ „ „ oil.

We much disapprove of this substance, more fat than flesh being produced by its usage.

Rice contains 7 lbs. per cent. of flesh.
85 „ „ „ starch.
0¼ „ „ „ oil.

Is not by any means a nourishing diet for fowls, but for chicks it forms a beneficial change, especially when relaxed. (For preparing, &c., see page 50.)

Beans and peas contain large quantities of flesh producing substance, but are heating to the system, and thereby induce many diseases. (See page 61.)

Hempseed is very injurious if given in large quantities, producing excessive production for a time, but gradual decline. (See also page 122.)

Coarse middlings, pollard, and bran, are extremely useful when given in suitable proportions. One meal a day of the following will be found very beneficial:—One peck of coarse middlings to half a peck of barleymeal, with as much boiling water or pot liquor as will render the whole a thick crumbling mass, or instead of middlings the same weight of pollard or bran may be used.

Steamed potatoes, as a change, are much relished, and when cheap prove very useful.

* Liebig.

For fowls that live in close confinement steamed grain may be given with advantage, but the plain raw material is a far more natural and suitable diet for birds at liberty, unless they be intended for culinary purposes.

It becomes requisite to observe the many maladies that are induced into the poultry yard, either by the injudicious use of appropriate substances as food, or by the supply of improper diet. Many persons resort to troughs or boxes for supplying their pets, but by this method the fowl swallows the grain too rapidly, and in a few minutes the crop becomes full; thus, in a short space of time, is devoured that which should have occupied one or two hours. Not only so, the fowl that eats so quickly requires the more food, for he is not satisfied with so short a "play at peck." In a wild state the grains first found have swollen long before the crop becomes full, but by the mode of feeding here alluded to he becomes replete with dry grain in a few minutes, which, when swollen, causes much uneasiness, and induces him to mope about. Thus he is exposed to internal inflammation, and external cold and cramp, he becomes useless as a mate, and valueless as a guardian. The hens thus fed become fat, and at length rheumatic and unproductive. Therefore instead of filling boxes with grain it should be scattered as far as possible all round, amongst rubbish, grass, hay, straw, or stubble, and thus furnish amusement for hours.

The use of greaves and butchers' scraps, resorted to by many to induce production, is very improper as regular food, granivorous animals not being supplied with digestive organs for such a commodity. (See page 121 and 122.) The use of flesh, moreover, induces pugnacity, more especially during the moulting season.

If by any accident a fowl has been kept fasting a few hours beyond the usual time, instead of endeavouring to

make up for neglect by giving an extra allowance, it becomes necessary either to divide his meal into three or four parts and allow one portion each ensuing hour, or to provide him with a moderate allowance of soft food. (For general feeding see pages 102 and 103.)

ORGANS OF DIGESTION.

Fowls having but little taste, distinguish their food mainly by the eye and the organs of scent. Their diet is swallowed whole, and conveyed by the gullet to the crop or craw immediately below the breast bone, which performs the same functions as the first stomach of the ox. By means of a mucous matter separated from the glands it becomes macerated, and passes into a cavity analogous to the second stomach of that animal, and becomes partly dissolved by means of a diluting fluid. It then passes into the gizzard which compensates for the absence of teeth. This organ is composed of very firm and dense muscles, lined with a rough fibrous membrane, which increases in strength and roughness with age; it forms a grinding apparatus and presents two surfaces which work upon one another, the food being between. A number of rough stones, which are invariably swallowed by fowls when at liberty, are deposited in the gizzard and promote trituration. Although when deprived of the opportunity of obtaining them they are capable of digesting their food, still it is found that hard grain is less perfectly dissolved than is the case with those birds which have the full liberty of procuring these stony substances. It is, therefore, requisite that they be supplied with gravel. The cavity of the gizzard is small, here the food is reduced to a pulp, and becomes further diluted by the gastric juice. It then passes into the first, and then into the small intestines, where the chyle or nutri-

tious parts are absorbed by minute cavities or vein mouths, and the refuse is discharged into the vent gut. The urine of fowls passes into the same channel direct from the kidneys, and becomes ejected with the dung.

CAPONIZING.

We may be censured by some (perhaps too delicate) for favouring this practice, upon the ground that it is no less useless than inhuman. We trust a few words will suffice to show that the former is at variance with accuracy, whilst, if the latter supposition be correct, it becomes indisputably evident that the operation performed upon the bull and the ram is equally cruel, although acknowledged imperative. If the object be the production of flesh at a great diminution in expenditure, and the most humane expedients known are resorted to, whilst a great probability of accomplishing the object is evident, such line of action cannot be condemned as an infringement of the dictates of rational humanity. Some have supposed the introduction of the Shanghae into the poultry-yard, sufficient to render the process unnecessary. But it strikes us forcibly, if a well fed Shanghae and a Dorking capon were served up to table, the former would be deserted, and our worthy friends we imagine would not be the last to turn tail to their creed.

The art of caponizing has been pursued by the Chinese for an unknown period, and in France most successfully for many years, whilst in England its practice is limited to three or four counties. The effects of castration upon both sexes are prodigious, rendering the male tame, peaceful, contented, and averse to the society of the hens. He grows and takes flesh rapidly, and attains an enormous size, whilst his flesh becomes white, succulent, and juicy. He never acquires a powerful voice, but appears to delight

only in eating, drinking, and sleeping. In France the operation is usually performed by the farmers' wives, when the birds have reached the age of three months, but as much before July as possible; it is very simple, and requires no other instrument than a sharp penknife and a pair of scissors. Birds which are naturally large are usually selected for the purpose. Dorkings, for instance, are admirably adapted.

The bird is placed upon his back with his head in a downward inclination, and tail towards operator. The feathers should then be removed from the place of operation described below. In the middle of the flank, between the vent and the end of the breastbone, an incision is made with a sharp penknife, about one inch and a half in length, the skin and muscles are thereby cut through, but the intestines carefully avoided. The forefingers are then introduced, having been previously anointed with fresh butter, and the intestines gently pushed aside, when the testicles are carefully extracted by clipping with a pair of scissors the cord that detains them. Little or no blood flows externally from the wound, but the incision is immediately anointed with fresh butter, and stitched up with a silken thread. The bird is then introduced into a warm and dry compartment without perch, and fed upon soft food, and in a few days if he appears well, which is usually the case if the operation has been skilfully performed, he is turned into the common walk.

Be it remembered it is far better to procure the assistance of an experienced hand, than run the risk of killing or even causing the bird any unnecessary pain. One practical lesson being ample for the guidance of any person of moderate capabilities.

We need scarcely add, that Columellus was in error in

supposing that the truncation of the spurs, and the application of a hot iron and fullers' earth to the injured parts, were sufficient to destroy the generative powers.

Capons are occasionally employed in bringing up chickens, which, after considerable discipline, they effect with wonderful care and success. The feathers are plucked from their breasts, and the latter stung with nettles; chickens are then placed beneath them for the purpose of rendering a partial relief by comforting the irritated parts, thus engendering feelings of cordiality on the part of the capon. But so many accidents occur—so many chicks are killed by blows or trampling before the bird is subdued and taught his duty—whilst the means employed are so cruel that we are unable to enter more minutely into the subject.

EXPENSES AND RETURNS WITH STATISTICAL ACCOUNTS.

So much depends upon the circumstances under which poultry are domiciled that it would be useless entering into minute details upon such an ever varying result; nevertheless, one remark may yet be made. If fowls be kept where they are capable of procuring half their sustenance abroad, or where the family scraps furnish a considerable portion, they may be made to answer well. If, on the other hand, they be domiciled in close quarters and entirely dependant upon hand supplies, the profits will be considerably less; still, by judicious management and economy, no trifling addition to the little comforts of the cottager will yet result from the careful keeping of a few good birds. Whilst if purely fancy specimens be kept, the owner must consider the pleasure resulting from his occasional survey, in addition to their moderate returns, amply remunerative. But if negligence in the poultry yard be permitted—if specimens valueless as fancy or farm stock be detained, and interbreed-

ing continue, he must not be surprised at a loss. (See pages 39 to 44, 55 and 56, 73, and 74.)

The returns of exports and imports present a striking aspect of the importance of the egg trade, and exhibit the wonderful effects produced by a just regard being bestowed upon small things.

A statement furnished by the Secretary to the City of Dublin Steam-packet Company, is to the following effect:—"The number of eggs shipped by that company for London, during the year 1844-5, was 11,536,200. About the same number was shipped by the British and Irish Company—making 23,072,400; to Liverpool 25,566,500, making a total from Dublin alone to the two ports of London and Liverpool, of 48,638,900, the value of which, at the rate of 5*s.* 6*d.* per every 124, gives a sum amounting to about £107,900; and since this return the export of eggs has enormously increased. Assuming the export of Dublin to be equal to one-fourth of all Ireland, we have £431,600 as the value of this branch of commerce to Ireland—showing also an increase of *four-fold* since 1835. The same returns show that in 1848 the export of eggs was nearly a MILLION STERLING.

No return has been kept of the number or value of the *poultry* that have, living or dead, been exported from Ireland; but it has been ascertained, beyond all possibility of doubt, that this branch of commerce has been, of late years, greatly on the increase—a natural consequence of the introduction of the superior foreign varieties of fowl—a circumstance due in its turn to the patronage of the valuable and highly praiseworthy societies for the improvement of poultry."

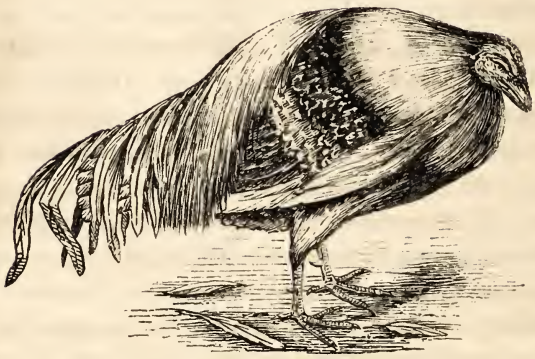
The following returns of Mr. Legrand are worthy of regard:—"In 1813, the number of eggs exported from

France was 1,754,140. Between 1816 and 1822, the number exported rose rapidly from 8,733,000 to 55,717,500; and in 1834, the number had increased to 90,441,600. In 1835, 76,190,120 were exported to England; 60,800 for Belgium; 49,696 for the United States; 49,260 for Switzerland; 34,800 for Spain; and 306,304 to other parts of the world. The total amount of the exportations for that year was 3,828,284 francs. The consumption in Paris is calculated at 115⅝ eggs per head, or 101,012,400. The consumption in other parts of France may be reckoned at double this rate, as, in many parts of the country, dishes composed of eggs and milk are the principal items in all the meals. The consumption of eggs for the whole of France, including the capital, is estimated at 7,231,160,000. Add to this number those exported, and those necessary for reproduction, and it will result that 7,380,925,000 eggs were produced in France during the year 1835."

In the Board of Trade returns of imports for the months ending September 5th, the number of eggs stated to be imported, are 8,819,859 for 1848; 8,434,831 for 1849; and 9,108,438 for 1850; while for the eight months ending September 5th, 1850, they number 81,081,745.

As Mr. Nolan justly remarks—"The question is, should we sit down quietly with these facts before us, and permit France to put into her pocket £150,000 annually which might be returned to Great Britain, if her gentry would but promote and encourage the breeding and rearing of poultry among her cottagers at home?" We trust and confidently predict that the harmonious working of contemporary poultry associations will effect this desirable object, by extending the domain of poultry in general, and by improving the quality.

DISEASES OF POULTRY.



A DISEASED FOWL.

ALTHOUGH we have in various parts of this work described with considerable minuteness the symptoms of those diseases to which domestic fowls are liable, and pointed out the remedies which have been found the most efficacious in curing them, still it is deemed advisable, before we conclude, to give, in a connected form, a succint physiological and pathological view of those maladies, in order to prove that the mode of treating them here prescribed is rational. All diseases are traceable to irregularities in the circulation of the blood; and, since this is peculiarly vigorous in the feathered tribes, it is obvious that anything which tends to subvert or disturb its equable distribution through the various tissues and organs of the body, affects them with corresponding severity.

One of the most fertile causes of disease in fowls consists in their being exposed to cold and moisture, because these influences tend to benumb the sentient extremities of the cutaneous nerves, and consequently to obstruct the blood in its passage through the minute arteries of the skin, the due action of which depends upon the normal condition of those nerves.

Confinement in dirty and badly ventilated coops is also very destructive of the health of fowls. Want of exercise slackens the action of the heart; and impure air, the necessary concomitant of dirt, exercises a depressing influence over the nervous system at large, which imparts a *malignant* character to disease that can never be wholly eradicated.

Dirt engenders disease not only by offering a material obstruction to the secretion of the skin, but also by the depressing influence of its morbid effluvia upon the fine system of nerves so abundantly distributed over the surface of the air passages and air cells of the lungs. The mucous membrane which lines the alimentary canal from the mouth to the vent, is often dangerously affected by the same causes, besides being specially liable to the injurious influence of improper diet. But it is not the lungs and digestive organs only that suffer from the effects of cold, moisture, dirt, and improper diet; the brain and spinal marrow are peculiarly liable to be affected by them; and the skin is subject to become diseased from the like causes.

The diseases of poultry may be most conveniently classed under the following heads:—

Diseases of the brain and nervous system.—Apoplexy, paralysis, vertigo or megrims or giddiness, lateral curvature of the tail.

Diseases of the lungs and air passages.—Catarrh, bronchitis, roup, gapes, pip, consumption or phthisis, asthma.

Diseases of the digestive organs.—Distended crop, gastritis or inflammation of the stomach, diarrhœa, dysentery, constipation.

Diseases of the ovarium and egg passage.—Inflammation of the egg passage—oon or soft eggs.

Diseases of the skin.—White speckled comb, inflammation of the rump gland, corns, vermin, moulting, hatching fever.

Diseases of the limbs, fractures, &c.—Cramp, rupture of the foot, rheumatism, gout, cankered mouth, mutilated gills and comb, broken beak, broken legs, starvation.

DISEASES OF THE BRAIN AND NERVOUS SYSTEM.

APOPLEXY.

Symptoms.—A bird in apparent health falls suddenly to the ground, and is found either dead or deprived of sensation and the power of motion.

The immediate cause of apoplexy consists in the bursting of a blood vessel in the brain. Its remote cause arises from whatever tends to obstruct the due circulation of the blood in other parts of the body. Over feeding, especially if the food be stimulating, is a frequent cause of apoplexy; for diet which is too stimulating quickens the heart's action, and a superabundance of it causes indigestion, and indigestion undoubtedly retards the return of the blood to the heart. Hence the vessels of the brain become gorged with blood; and this disease is the result of the breaking of some of the smaller ones.

The violent straining which sometimes accompanies the exclusion of the egg renders apoplexy most common in laying hens; for such efforts offer a mechanical obstruction to the circulation of the blood.

Treatment.—To afford a chance of recovery from an attack of apoplexy it is essential to lessen the quantity of blood in the head as soon as possible. For this purpose the application of a few leeches to the upper part of the neck has been recommended; but the opening of a vein near the head, or the large vein under the wing, affords a still better chance of succeeding. The operator should place his thumb upon the vein between a longitudinal opening made by a lancet or sharp penknife and the body of the fowl. The blood returning to the heart being thus obstructed will flow through the opening in the vein. Should the fowl recover it must be kept in quietude, and fed only upon light food. But, though bleeding has been found efficacious, it must not be supposed that a cure can be effected when any portion of the brain has been disorganized by the effusion of blood upon its delicate structure. It is only when the fit is caused by general turgescence of the veins, without the bursting of minute arteries, that hopes of recovery can be entertained. (See page 61.)

PARALYSIS.

Symptoms.—Want of sensation and the power of motion in the limbs.

This disease proceeds from the same cause as apoplexy, and only differs in degree. The same remedies should, therefore, be resorted to. (See also page 62.)

"VERTIGO" OR MEGRIMS OR GIDDINESS

Is another malady symptomatic of lesions of the brain and its membranes or coverings, and carries with it much interest.

In this disease, fowls are not, as in paralysis, deprived of the power of *moving* their limbs, but the capability of *con-*

trolling their motions is lost. They run round in a circle or in a zigzag course. Sometimes they move away from the object which they desire to reach—they go to the left when they wish to turn to the right, and to the right instead of the left. They sometimes go backwards instead of forwards. In others the movements are slow, indolent, and unsteady.

The brains of fowls affected in this manner have been examined by M. Flourens, the celebrated French physiologist.

In one that was slow in its movements, and whose legs instantly gave way when it endeavoured to stand erect, he found the sinus which receives the contents of the veins of the brain gorged with blood. The lobes of the cerebrum were of their natural colour, but the cerebellum was of a rose tint with a number of red spots on its surface as though occasioned by the prick of a pin.

In another, whose symptoms were more severe, M. Flourens found a quantity of clear water under the *dura mater*, or the investing membrane of the brain, while the cerebellum was yellowish, with rust-coloured streaks on its surface, and in the centre a mass of purulent coagulated matter as large as a horse bean, contained in a cavity, the sides of which were very thin and smooth.

It will be seen that the severity of the symptoms in this disease was in proportion to the deepseatedness of the lesion of the cerebellum. The morbid appearances observed in these cases were obviously the result of inflammation, since those occurring in apoplexy arise from congestion. The deprivation of sense and voluntary motion in apoplexy takes place because the delicate nervous structure is *suddenly* injured, whilst in the diseases just described it becomes, in some degree, habituated to the *gradual* incursion of inflammation.

Treatment.—Bleeding, aperient medicines, and light food are frequently efficacious when resorted to at an *early* period of the disease.

Young fowls are sometimes affected by weakness of the legs. They sink upon their hocks after standing for a short time, and occasionally are unable to rise; but care must be taken that this affection be not confounded with paralysis. Since the appetite becomes impaired by want of proper exercise some tonics might be given with great advantage. The administration of from three to five grains of citrate of iron daily may be recommended, together with a due supply of nutritious food, such as oatmeal or barleymeal, and a little chopped meat.

LATERAL CURVATURE OF THE TAIL.

At page 64 the causes of this affection with its remedy have been noticed. Here it may be added that the spinal marrow has probably been strained at its lower extremity, and paralysis of the muscles of one side of the tail is the result.

DISEASES OF THE LUNGS AND AIR PASSAGES.

CATARRH.

Symptoms.—A watery or *viscid* discharge from the nostrils, and swelling of the eyelids, caused by exposure to cold and moisture.

Remedy.—Removal to a dry, warm situation, and a supply of food that is nutritious and sligthly aperient, but not stimulating.

BRONCHITIS.

Symptoms.—A rattling in the throat, caused by an accumulation of mucous, which the fowl partially removes by coughing.

Treatment.—Removal to a warm and dry apartment, with diet which tends to subdue inflammatory action.

ROUP.

Symptoms.—In its first stage it resembles severe catarrh; but the discharge, which is at first clear, soon becomes purulent and peculiarly fetid. Froth appears at the inner corner of the eyes, the lids swell and become glued together, the nostrils are closed by the drying of the secreted matter around them, and the sides of the face swell to a remarkable degree. There is wheezing, gaping, and shaking of the head, looseness of the bowels, drooping of the wings, and rapid emaciation; there is difficulty of breathing, loss of appetite, and great craving for water.

The immediate seat of roup is certainly the lining membrane of the nasal passages, and the lachrymal duct; but as the disease advances the mucous membrane of the lungs, and also that of the digestive organs, become disordered.

Before venturing to propose a remedy for this most fatal malady, it may be well to say a few words upon the causes of it. Like catarrh, it is, at first, a disease of the lining membrane of the nostrils and lachrymal duct, caused by exposure to cold and moisture. But it is of great importance that it be not confounded in its early stages with simple catarrh or cold.

When catarrh shows itself in fowls that are properly fed and kept in clean and dry roosting places, there need be no fear of its degenerating into roup, if early attention be given to those simple means of cure that have been already proposed.

But when it makes its appearance in poultry crowded together in narrow, unclean, and ill ventilated coops, it would be a mistake, we venture to presume, to look upon

it as being indicative of a disease that is merely local; for the effect of such influences upon the nervous system is to induce general debility, accompanied, in some cases, by febrile action of a low typhoid kind.

Treatment.—Fowls thus circumstanced should, on the first appearence of the disease, be treated as we have recommended at page 143 of this work. The thorough cleansing of the face and nostrils, morning and evening, enables the sufferers to breathe more freely; and the removal of the fetid matter is of vital importance, for this morbific secretion being imbibed by the absorbent vessels is conveyed back into the veins, and thus contaminates the blood.

Roup is analogous to glanders in horses, and like glanders has never yet been thoroughly cured; for though fowls have, under judicious management, shaken off the symptoms of this malady, and acquired a perfectly healthy appearance, they are very liable to its recurrence. Indeed, we imagine that the seeds of this disease can never be completely rooted out of the constitution. (See page 144.)

It would be superfluous to recapitulate the method of treatment that has been found most efficacious in alleviating the worst features of this disorder; nevertheless it may be proper to say something here of medicaments.

Although the remedy prescribed at page 144 causes an alleviation of the distressing symptoms of roup, yet we have never supposed it to be a specific in the treatment of this disorder, vegetable *tonics* not being sufficiently energetic, whilst tonics from the mineral kingdom are frequently applied with very little or no better success. But this much is certain, *that the treatment should be local and constitutional.*

When the discharge from the nostrils becomes fetid a solution of chloride of lime will probably be found the most

efficacious remedy. When the fetor is removed the parts should be washed with some stimulating lotion—a solution of nitric acid in the proportion of one part of the acid to eight of water might be applied with advantage, but, should the fetor return, recourse should be again had to the chloride of lime.

The Constitutional Treatment.—To alter morbid secretions and to restore them to a healthy condition, preparations of mercury, combined with tonics, have been found more efficacious than any other kind of medicine. But, since it appears to have failed in this disease when given in the form of calomel, the bi-chloride (corrosive sublimate) might be used in doses of a tenth of a grain daily. Its effects should be carefully watched, and if ptyalism occur it should be immediately discontinued. As a tonic, sulphate of iron will be found most effective. It may be dissolved in the water which is provided for the fowl's ordinary drink, or one quarter of a grain may be given in a pill two or three times a day, combined with some aromatic stomachic.

Roup being a highly infectious complaint it is absolutely necessary to separate fowls affected by it from their companions. They should be kept in a dry, warm, and well ventilated apartment, while the cure is being attempted. After all, it is clear that it is only when they are very valuable such trouble should be taken; and, even then, it might be wiser to kill them at once, and thus free the poultry-yard from so contaminating an influence as is ever presented by the harbouring of roupy fowls.

GAPES.

Symptoms.—The immediate seat of this disorder is in the windpipe, which causes the fowl or chicken to gape excessively.

This malady, which often causes great mortality in the poultry-yard, is said to arise from the presence of parasitic worms in the trachea or windpipe. They are found imbedded in mucous, which, being more abundant than natural, obstructs respiration.

Treatment.—The removal of the offending matter from the trachea is obviously of the first importance. To accomplish this a neatly trimmed feather should be passed into the windpipe, turned round, and then withdrawn. By this operation the offending matter is, in a great degree, removed. But it is not likely that this affection can be cured by such partial means. The internal use of spirits of turpentine is considered an infallible remedy. Half a teaspoonful of this spirit, mixed with a handful of grain, is said to have effected a certain cure in a few days. This quantity, repeated daily, will be found sufficient for seven or eight chickens.

In the expulsion of worms from the alimentary canal in man, turpentine has been invariably found to be the most effectual remedy, and will of course be equally efficacious when applied to the mucous membrane of birds; but its power of influencing the windpipe must be less direct. Nevertheless it is a remedy well worthy of trial.

One grain of calomel, or two or three of Plummer's pill, given with a pinch of meal, may be administered; after which, flour of sulphur and ginger mixed with barley-meal. It is, perhaps, doubtful whether the pathology of this disease be understood. Are the objects found embedded in the mucous of the trachea, worms, or do they consist of coagulated lymph, resembling what is found in children who die of croup, or acute inflammation of the windpipe? If such be the case, preparations of mercury, in conjunction with aperients, will be found most useful.

PIP.

Symptoms.—Thickening of the mucous membrane of the tongue and palate, which causes difficulty of respiration, and gasping for breath. The appetite entirely fails, and the fowl at length dies of wasting fever and starvation.

Treatment.—To remove the excrescence from the tongue has been the aim of most practitioners, and its removal is essential. But, since we are persuaded that the thickening of the lining membrane of the mouth is symptomatic of a disordered alimentary canal, that alone cannot be looked upon as an effectual remedy. A teaspoonful of castor oil should be given, and food of the least stimulating kind.

Fresh vegetables, mixed with mashed potatoes and a little oatmeal, will answer the purpose best, together with an abundance of pure water. Instead of scraping and nipping the excrescence from the tongue we recommend a little *borax,* dissolved in tincture of myrrh and water, to be applied two or three times a day by means of a camel's hair pencil.

CONSUMPTION OR PHTHISIS.

Symptoms.—Wasting, cough, and expectoration of purulent matter, are the marks of this disease in its advanced stage. These are caused by tubercles in the lungs and other parts of the body which are scrofulous, and, when thus far advanced, it is incurable; but, at an early period of the disease cod-liver oil may be used with advantage. This disease is hereditary; but it is often induced by bad feeding and confinement in dirty, damp, and dark places.

ASTHMA.

Symptoms.—A wheezing or rattling sound on inspiration, with difficulty of breathing.

In asthma the mucous membrane of the trachea is thickened, and the air cells are sometimes broken. It is doubtful whether it be curable, although small doses of ipecacuanha as an expectorant have been found very useful.

DISEASES OF THE DIGESTIVE ORGANS.

DISTENDED CROP.

The crop which receives the food as it is swallowed, and retains it until it is sufficiently softened for the stomach, sometimes becomes so overloaded as to be incapable of transmitting its contents to that organ.

Treatment.—The extraction of the mass through an incision in the lower part of the crop (which should be immediately after sown up) is a speedy and effectual remedy; after which soft food should be administered for a few days. A desertspoonful of gin has been found very useful; but if the mass be caused by the accumulation of substances around some foreign body which the bird has swallowed, an operation is indispensable.

GASTRITIS OR INFLAMMATION OF THE STOMACH.

Symptoms.—Gradual pining with a disregard for grain, and a seeking for soft food are indications of this malady. In the organ which lies between the crop and the gizzard is secreted the gastric juice which converts the food into chyle. Diet that is too stimulating disturbs the healthy action of the lining membrane of the stomach to such an extent that it becomes inflamed. The gastric juice is no longer secreted, and digestion is consequently suspended, the stomach becomes greatly enlarged, and inflammation sets in.

Treatment.—Food that is the least stimulating should be given cooked, and in moderate quantities. Purgative drugs

are inadmissible, but a grain of calomel given as an alterative is sometimes found useful.

DIARRHŒA.

Symptoms.—Evacuations more frequent and limpid than natural.

Treatment.—Dry housing, exercise, and change of diet will generally effect a cure; but, if it be neglected too long, the malady may assume the form of dysentery. (See pages 50 and 145.)

DYSENTERY.

Symptoms.—Purging accompanied by painful straining. When the motion becomes tinged with blood the appetite fails, and the bird sinks into a febrile state.

In this disease the mucous membrane of the bowels is in a highly irritable state, and ultimately becomes inflamed.

Treatment.—First, castor oil should be given to clear the alimentary canal, but from the excited state of the mucous membrane two or three drops of laudanum should be added to the dose. Hydrargyrum cum creta, with rhubarb and laudanum, has been recommended. A grain of Dover's powder, given three times a day, will be found a valuable remedy.

CONSTIPATION.

Symptoms.—Its name is sufficiently indicative of this affection.

Treatment.—A teaspoonful of castor oil, green vegetables, and soft food, should be administered.

A fowl in this state should be immediately attended to, lest the blood, the free circulation of which through the veins of the intestines is impeded, should be too copiously

distributed upon the centres of the nervous system, thereby causing apoplexy, paralysis, or vertigo, and other distressing symptoms.

DISEASES OF THE OVARIUM AND EGG PASSAGE.

The ovary is seldom found diseased, but the oviduct or egg passage is subject to become inflamed.

Symptoms.—When the egg is layed without the shell it is certain that the lower part of the egg passage is affected, because it is there that the shell is secreted; and, when the naked yoke is dropped, the upper portion of the tube is not in a healthy condition, because the membrane and white of the egg are there produced.

Inflammation of the lining membrane of the oviduct is the cause of these symptoms.

Treatment.—Whatever tends to lessen inflammatory action should be resorted to, but it is not necessary to recapitulate what has been already suggested in other parts of this work with respect to the cure of this disease. (See pages 72, 84, and 311.)

DISEASES OF THE SKIN.

WHITE SPECKLED COMB.

Symptoms.—Small white spots scattered in patches on the surface of the comb; and as the disease advances, a dropping of the feathers. This is undoubtedly a constitutional disorder, and should be treated accordingly. A full description of it may be seen at pages 59 and 60.

INFLAMMATION OF THE RUMP GLAND.

Symptoms.—Pain and swelling of the part which sometimes involves the entire rump.

Treatment.—The tumour should be opened with a lancet, and frequently fomented with warm water. A teaspoonful of castor oil must be given as an aperient; and oatmeal and green vegetables should constitute the diet. Care should, moreover, be taken that the roosting house be clean and well ventilated.

CORNS.

Symptoms.—Thickening and hardening of the cuticle in the sole of the foot, which is sometimes ulcerated. Corns are caused by jumping from high perches or by walking constantly upon hard stones.

Treatment.—The corn should be extracted, but, when ulcerated, the application of a poultice becomes necessary. (See page 145.)

VERMIN

Are the torment of poultry; young chickens as well as adults, if not domiciled in clean roosting houses, become seriously injured by them. A good supply of fine dry sand and ashes to roll in will invariably enable poultry to get rid of these troublesome visitors. But, if from weakness a fowl be unable thus to free himself, he should be removed from the poultry-yard. Flour of sulphur, applied between the feathers, has been found a valuable remedy in severe cases. It may be as well to remark that these insects make their way to the outer surface of the feathers after the death of the bird, and may be seen there in numberless lifeless forms. (See pages 30 and 101.)

MOULTING.

This cannot properly be termed a disease. It consists of the falling off of old feathers in order to make way for new; still it may be attended by febrile symptoms. In the

moulting season fowls should be protected from cold and moisture, and provided with nutritious food. (See page 82.)

THE HATCHING FEVER.

Though the heat of the body is sometimes many degrees above the natural standard, yet the absence of a characteristic symptom of fever, namely—loss of appetite, renders it doubtful whether this affection should be classed among febrile diseases. Nevertheless the hen is in a very distressed condition, and if not allowed the privilege of following her instinctive desires should be removed from the nest, and cooped where she cannot form one. (See page 46.)

DISEASES OF THE LIMBS.

CRAMP.

Symptoms.—Contraction of the toes, and disinclination or inability to move the limbs. Chickens allowed to roam in damp grass are frequently affected by it; but cramp is not always a strictly local disorder, it is often the result of constitutional derangement.

Treatment.—They should be kept in a warm and dry situation, and be well supplied with nutritious food. The state of the digestive organs should also be attended to. (Leg weakness, see paralysis and megrims.)

RUPTURE OF THE FOOT.

This affection is fully noticed at pages 64, 65, 66, and 145.

RHEUMATISM.

Symptoms.—Lassitude, and disinclination or inability to move the limbs.

Treatment.—Removal to a warm place; food that is nourishing but not stimulating; and the administration of an aperient, seeing fowls often die of rheumatism of the heart. Dover's powder or colchicum are found more useful than any other medicine.

GOUT.

Symptoms.—Swelling of the joints of the feet, attended by inflammation.

Treatment.—Colchicum is a valuable remedy, but since gout occurs only in old birds, it is not to be expected that an effectual cure will be gained by its use.

CANKERED MOUTH.

See page 266.

MUTILATED GILLS AND COMB.

If the gills or comb of a bird become mutilated from the effects of an affray, they should be well bathed with warm salt water or chamberlie, and thus thoroughly cleansed from every particle of dirt; the bird must also be removed from his mates until restored, otherwise such parts may attract their attention. Should air distend the gills the application of the point of a sharp needle through one side of them, accompanied by gentle pressure, will effect its removal.

BROKEN BEAK.

The upper beak may likewise become broken from a like cause, rendering the bird unable to collect his food. The only method of assisting him lies in filing or cutting off the extreme end of the lower beak with a sharp penknife until it meets the upper, whilst if the lower be broken, a small portion of the upper must be removed.

BROKEN LEGS.

Broken thighs and shanks are not uncommon among poultry, and it is really astonishing with what rapidity they become set, and how little they appear to suffer from such fractures, either in health or appetite. After the bones have been carefully placed together a flat slip of cane or whalebone should be placed each side, and a layer of linen over, when the whole may be bound round firmly, but not too tightly, with twine.

STARVATION.

Wounds, external bruises, and even broken limbs, as we have stated, if unaccompanied by internal disease, affect the health of fowls but little, but the results of omission in exposing them to a lengthened fast involve consequences of the most serious character, and therefore require the attention of the *exhibitor*. (See page 347.)

SUMMARY.

In thus describing the diseases of poultry we have deemed it superfluous to enlarge upon many, not on account of their unimportance, but because the best means of both curing and preventing their accession have been already amply discussed in various parts of this work. Nevertheless, we have deemed it interesting to dwell at some length upon roup, not because we entertain sanguine hopes of ever being able to eradicate the seeds of this fatal and highly infectious malady, when once they have taken deep root in the constitution, but with the view of giving a correct idea of its pathology, and of throwing out suggestions as to the medicines which are likely to exercise the most salutary influence over it. In our notice of gapes we have ventured to hint that the objects found in the windpipe were not worms, but

shreds of coagulated lymph, the result of acute inflammation of the mucous membrane of that organ. In treating of apoplexy we have attempted to give a correct account of the causes, progress, and effects of the disease, in order that persons having the care of poultry may, by knowing its history and pathology, learn to ward off the predisposing causes of it; for, when once its stroke approaches, there is little hope of averting it.

In conclusion we repeat that, since disease is the result of a disturbance of the equable circulation of the blood, whatever tends to preserve its equipoise is conducive to the maintaining of health. The best preservatives are wholesome food—fresh water—pure air and exercise—quietude—roomy habitations—cleanliness—and freedom from cold and moisture.

The most careful observance of these preventive measures, however, will be found comparatively unavailing if we allow poultry to degenerate through want of attention to the laws of propagation; but so much has been already said upon that subject in the course of this work that it is unnecessary to dilate upon it here; suffice it, therefore, to say that the stock should be healthy and its vigour sustained by admixture—that the healthiest specimens should be chosen for breeding—and the number of hens limited according to the power of the class. (See page 334.)

Should these rules be strictly observed there will be but little necessity for resorting to remedial measures.

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INDEX.

It may not be amiss to remark that the origin and history of poultry are described at the commencement of this volume, whilst the origin of the respective classes is mentioned with the description of those classes. For instance, the Polish at page 149, the Bantam's at 290. In like manner, in pursuing this work, it became necessary to describe several other subjects that were more especially connected with certain varieties, with those varieties.

LIST OF COLOURED LITHOGRAPHIC ILLUSTRATIONS.

WOOD ENGRAVINGS.

ERRATA.

At page 3, line 22; for "In the forests of Guinea fowls have" read "In the forests of Guinea, fowls have"

At page 284, line 4; for "cum multis *allus*" read "cum multis *alüs*"

At pages 304 and 305; for "Golden and Silver-*pencilled* Bantams" read "Golden and Silver-*laced* Bantams."

At page 326, line 26; for "the purest variety *next to* the black" read "the purest variety *and next* the black."