it is ready to cut, and yields about thirty-fold. The ripe gram is well tasted, nutritious, and is considered wholesome.

P. Mar., Kala Moog of the natives, and black Gram of the English, is like the former, but distinguished by its black seeds, and is, like it, found in a cultivated state: it takes about the same time to ripen, and yields nearly the same produce.

P. radiatus, called by the natives Mash and Oorud, is, like the two former, found in a cultivated state, and is the most esteemed of all the Indian leguminous plants. Besides using it as an article of diet, the natives make bread of the meal for some of their religious ceremonies.

P. aureus, or Sona Moog of the Bengalees, is found in a cultivated state in the Bengal presidency, but is not known on the Coromandel Coast. It is sown, like the others, about the end of October or beginning of November, and reaped in February on the beginning of March.

P. acontifolius, Moth of the natives, is cultivated in the north-western provinces, and used for feeding cattle.

PHASES OF THE MOON. [MOON.]

PHASIANE'LLA. [TROCHIDÆ.]

PHASIA'NIDÆ. [PAVONIDÆ; PHEASANTS.]

PHASIS (*Φᾶσις*), the principal river in antient Colchis, and called at present the Faz, and sometimes the Rion, rises in Armenia, according to Strabo (xv. 498), and among the Moschi, according to Pliny (*Hist. Nat.*, vi. 4). It flows in a westerly direction into the Black Sea. It was navigable in antient times for large ships for thirty-eight miles from the coast, and for smaller vessels as far as the fort of Sarapana (*Sharapan*), on the boundaries of Colchis and Iberia, from which place goods were conveyed by waggons in four days to the river Cyrus. (Strabo, xv. 498; Plin., *Hist. Nat.*, vi. 4.) There are no antient remains at Sharapan. The Phasis was sometimes considered as the boundary between Asia and Europe (Herod., iv. 45), and was regarded in the time of Augustus as the northern boundary of the Roman dominions in that part of Asia. (Strabo, vi. 288.) The Phasis received many affluents, of which the principal were the Glaucus and the Rion, by the latter of which names the Phasis itself is sometimes called. The Glaucus appears to be the modern Quirilla, which comes from Elburz. From the junction of the Rion and Quirilla the river is navigable for boats at all seasons, has no obstructions, and is from twenty to thirty feet deep, with a current of about two miles and a half an hour. It flows through a level country, which is lower than the banks of the river. There is a bar at the mouth of the Phasis, with only six feet water, the only circumstance that prevents the river being entered by the largest vessels. The navigation of the Phasis is now entirely in the possession of the Russians. At Poti, near the mouth of the Phasis, the Russians have a station or castle. Kootais on the Rion is the seat of the Russian government of Imirétia.

In antient times there were one hundred and twenty bridges over the Phasis (Strabo, xv. 500; Plin., *Hist. Nat.*, vi. 4), and many towns upon it, of which the most important were Æa, the old capital of the Æetes, which is celebrated in the legends of the Argonautic expedition [ARGONAUTS], and Phasis (*Poti*), situated at its mouth. There are no remains of antiquity on the Phasis. On the banks of the river there were in antient times, as is also the case at the present day, great numbers of pheasants, which are said by Martial (*Epig.*, xiii. 72) to have been brought into Greece by the Argonauts, and to have been called Phasiani, from this river.

The Phasis was noted in antient times for the excellence and purity of its waters. Arrian, in his 'Periplus of the Euxine Sea,' informs us that water taken from it will preserve its goodness for ten years; and though this is doubtless an exaggeration, it serves to show in what high estimation its waters were held at that time. [GEORGIA, p. 176.] (*London Geog. Journal*, vol. iii., p. 33, &c.)

PHAVORI'NUS VARINUS, a native of Favera, a place near Camerinum in Italy, whence he called himself Favorinus, in Greek Phavorinus (*Φαβωρῖνος*). His family name was Guarino, which he turned into Varinus (*Βαρῖνος*). He is also called Camers, from the town of Camerinum. The precise time of his birth is unknown, but it was probably some years after the middle of the fifteenth century. He is represented, about 1490, as a pupil of Angelo Poliziano, and as exquisitely skilled in Greek and Latin. He devoted himself to the service of the church, and joined the order of the Benedictines. In 1512 he became librarian to Giovanni de' Medici, afterwards pope Leo X.; and in 1514 he was made bishop of Nuceria, over which diocese he presided twenty-three years. He died in 1537.

Phavorinus, assisted by two other eminent scholars, Charles Antenoreus and Aldus Manutius, edited, in 1523, 'Cornu Copiæ et Horti Adonidis,' consisting of seventeen grammatical tracts in Greek, selected from thirty-four antient grammarians. In 1517 he published a collection of apophthegms from Stobæus, which he dedicated to Leo X. But the work by which he is chiefly known is his Greek Lexicon, which, after the labour of many years, he completed in the lifetime of Leo X. It was published at Rome in 1523, fol., and reprinted at Basle in 1538, fol., under the direction of Joachim Camerarius, with several improvements. The last edition, still further improved, was printed at Venice, in 1712, by Antony Bortoli, in a neat type and in a handsome form. The first edition is beautifully printed and the paper is excellent; but the edition of 1712 is by far the best for all the purposes for which a lexicon is consulted. This very useful lexicon is compiled from the various preceding lexicons, grammars, &c., or, as the title expresses, 'from many and different books.' The words are given in alphabetical order, and all the definitions and explanations are in Greek, which Phavorinus is said to have spoken and written as well as a native Greek. Henry Stephens appears to have been greatly indebted to the work of Phavorinus in the compilation of his Greek Lexicon, though he now and then acknowledges his obligation.

(Fabricius, *Bibliotheca Græca;* Roscoe, *Life of Leo X.*; *Quarterly Review*, vol. xxii.)

PHEASANTS. If we owe to America that useful and sapid bird the Turkey, we are indebted to Asia for those equally desirable additions to our homesteads, preserves, and farm-yards, the *Peacocks*, the *Pheasants*, and our common *Poultry*.

The views of Mr. Vigors and some other ornithologists with regard to the *Phasianidæ* are sketched in the article PAVONIDÆ.

Mr. G. R. Gray arranges the *Phasianidæ* as the second family of *Rasores*, *Cracidæ* being the first; and he divides the *Phasianidæ* into the subfamilies *Pavoninæ*, *Phasianinæ*, *Gallinæ*, and *Meleagrinæ*. The *Pavoninæ* and *Meleagrinæ* are noticed in the article PAVONIDÆ. The *Phasianinæ* consist of the genera *Argus*, *Phasianus*, *Syrmaticus*, *Thaumalea*, and *Gennæus*. The *Gallinæ* comprehend the genera *Euplocamus*, *Monaulus*, *Lophophorus*, *Gallus*, and *Tragopan*.

Phasianus. (Linn.)

Generic Character.—*Bill* of mean length, strong; upper mandible convex, naked at the base, and with the tip bent downwards. *Nostrils* basal, lateral, covered with a cartilaginous scale; cheeks and region of the eyes destitute of feathers, and covered with verrucose red skin. *Wings* short, the first quills equally narrowed towards their tips, the fourth and fifth the longest. *Tail* long, regularly wedge-shaped, and composed of eighteen feathers. *Feet* having the three anterior toes united by a membrane as far as the first joint, and the hind toe articulated upon the tarsus, which, in the male birds, is furnished with a horny cone-shaped sharp spur. (Gould.)

The type of this genus is generally considered to be the *Common Pheasant*, *Phasianus Colchicus*, Linn., a bird which, though not originally British, is completely naturalised in our islands, and indeed appears to adapt itself with great facility to most countries where ordinary care is taken to preserve it and the temperature is not too low for its constitution. The species is too well known to need description, but an account of its introduction into Europe generally and into our own country particularly, together with a summary of its habits, will be expected, and we shall endeavour to lay before the readers some information on these points.

If we are to listen to the tales which form that period of history which borders upon fable, we owe this ornament to our preserves and tables to Jason and his companions, who brought it from Colchis, in the good ship Argo. Martial thus notices its introduction into Europe (lib. xiii., ep. 72): *Phasianus loquitur*—

> Argivâ primum sum transportata carinâ;
> Ante mihi notum nil nisi Phasis erat.'

In Greece it soon became known under the name of *φασιανός* (Phasianus) and *φασιανικὸς ὄρνις* (Phasian bird). (Aristoph., *Clouds*, 110; *Birds*, 68.) Indeed it had become sufficiently celebrated in the time of Aristophanes to form a proverb,—'Not if you would give me the pheasants which

Leogoras feeds,' says Strepsiades, in the *Clouds* (109, 110). Aristotle writes succinctly but clearly of the habits of the pheasant as a well-known bird (*Hist. Anim.*, v. 31; vi. 2); nor is Athenæus silent concerning so delicate a dish, which appears to have become more common as luxury waxed strong, nor regarding the royal conduct of Ptolemy, who, though he kept them and provided them with hens (τριάκας ὄρνιθας) for multiplication, being aware of their excellence for the table, appears not to have tasted them. From the same author it would appear that the antients, contrary to the opinion of modern epicures, thought the cock birds the best. (*Deipn.*, xiv., lxix., p. 654.) It is the *Phasianus* of the antient Italians (Pliny, *Nat. Hist.*, x., xlviii.; xi., xxxvii.), but seems to have only been within reach of the wealthy. Thus Martial (xiii., xlv., *Pulli gallinacei*),—

'Si Libycæ nobis volucres et Phasides essent,
Acciperes: at nunc accipe cortis aves.'

and again, in the epigram addressed to Bassus (iii. 58), which gives so pretty a picture of a genuine rural Roman villa, and so agreeably fills the imagination with country sights and sounds,

'Vagatur omnis turba sordidæ cortis,
Anguis anser, gemmeique pavones,
Nomenque debet quæ* rubentibus pennis,
Et picta perdix, Numidicæque guttatæ,
Et impiorum phasiana Colchorum.
Rhodias superbi fœminas premunt galli
Sonantque turres plausibus columbarum.
Gemit hinc palumbus, inde cœrens turtur.'

The pheasant has now been spread over the whole of temperate Europe, and the greater part of the old Continent; and it is probable that it will be introduced with success wherever the face of the country and the supply of food are congenial to it, and the temperature does not vary too much from that of its native river, the modern Rion, along whose banks Mingrelia, formerly Colchis, extends, and lies between 42° and 43° N. lat., and 41° 19′ and 42° 19′ E. long. [GEORGIA, vol. xi., p. 176; PHASIS.] It is even said to be common in Siberia, a much colder climate, which would prove the facility with which it adapts itself to temperature; and an attempt has, we believe, been made to introduce it into North America, a locality well suited to its habits.

The south of Europe owed the pheasant, in all probability, partially to the Greeks, and more proximately to the Romans; it is the *Fasiano* of the modern Italians, and *Faisan* of the French. More doubt hangs about its introduction into Great Britain, and the time of that introduction. We are told that the price of one was fourpence in the time of our first Edward (A.D. 1299). In 'The Forme of Cury,' which is stated to have been compiled by the chief master-cook of King Richard II., we find a receipt 'for to boile Fesant, Ptruch (partridges), Capons, and Curlew,' which carries us back to 1381. We read of the

'Fawkon and the Fesaunt both,'

in the old ballad of the 'Battle of Otterbourne.' At the 'Intronazation of George Nevell,' archbishop of York, in the reign of our fourth Edward, we find among the goodly provision, 'Fessauntes, 200.' In the 'Northumberland Household-Book,' begun in 1512, 'Fesauntes' are valued at twelve pence each. In the charges of Sir John Nevile, of Chete, at Lammas Assizes, in the twentieth year of the reign of King Henry VIII., we find twelve pheasants charged twenty shillings; and they seem to have rapidly increased in price, as, among the expenses of the same Sir John Nevile, for, as he writes it, 'the marriage of my son-in-law, Roger Rockley, and my daughter Elizabeth Nevile, the 14th of January, in the seventeenth year of the reigne of our soveraigne lord King Henry VIII.,' is the following: 'Item in Pheasants 18, 24 shillings.' We trace the birds in 'A. C. Mery Talys,'† printed by John Rastell, where we read of 'Mayster Skelton, a poyet lauryat, that broughte the bysshop of Norwiche ii. fesauntys.' Rastell began to print as early as 1517, and ceased in 1533. In Turbervile's 'Booke of Falconrie' the 'Fezant' and 'Feasants'—for, with the licence of the time, it is spelled both ways—are mentioned as the subjects of hawking, and so the bird may be traced as a dish for the table, or the object of field sports, down to the present time.

Habits, Reproduction, &c.—Hen pheasants in this country begin to lay in April, and deposit from eight or ten to fourteen olive-brown eggs, in a rough nest on the ground. Sometimes two will lay in the same nest. The young make their appearance towards the end of May or beginning of June.

Where the country is favourable, it is easy to get up a head of pheasants, with the aid of good keepers; but it is more difficult to keep them at home, for they are wandering birds, and will often leave the place where they are bred, in search of food more agreeable to them and localities more congenial to their habits. Warm covers and water are absolutely necessary; and if they are plentifully supplied with grateful food, but few of them will become vagrants. Jerusalem artichokes, potatoes, and buckwheat, as well as barley, are favourites. Small stacks of the latter grain in the straw are frequently placed about the preserves, and there the pheasants may be seen scratching at their feeding-time; but this mode of supply is objectionable, as the poacher soon finds out the several points of attraction, and avails himself of them accordingly. Mr. Yarrell states that one good mode of inducing them to stop at home is to sow, in summer, beans, peas, and buckwheat mixed together, leaving the whole crop standing on the ground. The strong and tall stalks of the beans carry up and sustain the other two, and all three together afford, for a long time, food and cover. (*Hist. of British Birds.*) The same author tells us that at the end of autumn he has found the crops of the birds distended with acorns, of so large a size that they could not have been swallowed without great difficulty. In December, 1834, we saw eight ripe acorns and a ripe hazel-nut taken out of the crop of a hen pheasant from Sussex. The acorns had begun to germinate with the heat and moisture of the crop, and they were sent up to the gardens of the Zoological Society in the Regent's Park, and there planted. For autumnal and winter home-feeding we have seen potatoes used with excellent effect, not only in keeping the birds from wandering, but in increasing their weight and fatness. Carts loaded with raw potatoes were, from time to time, driven into the covers, and the potatoes were scattered about by hand. The pheasants soon found them out and throve accordingly, without being collected together at particular spots, as they too often are to their destruction. They are very general feeders; neither blackberries, sloes, nor haws come amiss to them, and grain, seeds, and tender leaves find their way into the pheasant's crop as well as insects. Mr. Selby observed that these birds sought after the root of the acrid bulbous crowfoot (*Ranunculus bulbosus, Common Buttercup*) in May and June, and a friend informed Mr. Yarrell that they also feed on the Pilewort Crowfoot (*Ranunculus ficaria*). Mr. Selby further states that the bulb of the garden tulip is an article of diet which the pheasant omits no opportunity of obtaining, and which, however deeply buried, the bird is almost certain to reach by means of its bill and feet. The size to which these birds attain when well fed is considerable. In the catalogue of Norfolk and Suffolk birds, by the Rev. Revett Sheppard and the Rev. William Whitear (*Linn. Trans.*, vol. xv.), the weight of a cock pheasant killed at Campsey Ash, where the birds were well fed with potatoes, buckwheat, and barley, is stated at four pounds and a half. 'Some winters since,' says Mr. Yarrell, 'my friend Mr. Louis Jaquier, then of the Clarendon, produced a brace of cock pheasants which weighed together above nine pounds. The lighter bird of the two just turned the scale against four pounds and a half; the other bird took the scale down at once. The weights were accurately ascertained, in the presence of several friends, to decide a wager, of which I was myself the loser.'

Among the diseases and disorders to which the pheasant, in common with other gallinaceous birds, is subject, the fatal *gapes* holds a prominent place. The cause of this disease is an intestinal worm, which adheres to the internal surface of the trachea, and causes death by suffocation, sometimes arising from inflammation of the part, and not unfrequently by actual obstruction. This *entozoon* is *Syngamus trachealis* (*Distoma lineare* of Rudolphi, *Fasciola Trachea* of Montagu), and a most curious animal it is. The bifurcation of the anterior extremity was taken by earlier observers for a double head, and thence probably came the name *Distoma* (double-mouth); but this bifid termination is in reality due to the two sexes. The female is long; and the short male is affixed to her for life by means of an integument which holds him to her, but which, if cut open, exhibits an otherwise free and distinct animal. In the museum of the Royal College of Surgeons, Nos. 199, 200, 201 (*Preparations of Natural History in Spirit*), exhibit

* The Flamingo.
† Alluded to in Shakspere's 'Much Ado about Nothing.

this destructive worm. The first shows several specimens from the trachea of a chicken; the second consists of a small portion of the trachea of a bird laid open, and exhibiting one of this species which has lost its original pink colour and became blanched in the spirit; and in the third is to be seen the trachea of a partridge completely choked up by them. Mr. Selby observes that many recipes for the cure of this fatal malady (which is provincially called the *Nar* in Northumberland) have been suggested, but that none of them seem to be effectual, except the one recommended by Montagu, namely, fumigating by tobacco, found to be an infallible specific when administered with due care and attention. The mode of administering this remedy is by putting the young pheasants, turkeys, chickens, or partridges affected into a common wooden box, into which the fumes are blown by means of a tobacco-pipe. That this often succeeds is true, but we cannot confirm its infallibility in all cases: a pinch of common salt, put far back into the mouth of the patient so as to reach the upper part of the trachea, is a neater and less operose method of cure. With reference to this, it has occurred to us that we never heard of any pigeons being affected with the gapes, and the fondness of these birds for salt is well known. We have heard of a sparrow being attacked by this *entozoon*, but we did not see the case.

The assumption of the plumage of the cock pheasant by the female, when, through old age or organic defect, she is no longer capable of reproducing the species, is by no means uncommon, not more rare indeed, if so much, as it is in the peafowls [PAVONIDÆ, vol. xvii., p. 334], common poultry, &c.; indeed John Hunter (*Animal Economy*) remarks that this change has been principally observed in the common pheasant. 'It has been observed,' says Hunter, 'by those who are conversant with this bird when wild, that there every now and then appears a hen pheasant with the feathers of a cock; all however that they have described on the subject is, that this animal does not breed, and that its spurs do not grow. Some years ago one of these was sent to the late Dr. William Hunter, which I examined, and found it to have all the parts peculiar to the female of that bird. This specimen is still preserved in Dr. Hunter's museum. Dr. Pitcairn having received a pheasant of this kind from Sir Thomas Harris, showed it as a curiosity to Sir Joseph Banks and Dr. Solander. I, happening to be then present, was desired to examine the bird, and the following was the result of my examination:—I found the parts of generation to be truly female, they being as perfect as in any hen pheasant that is not in the least prepared for laying eggs, and having both the ovary and oviduct. As the observations hitherto made have been principally upon birds found wild, little of their history can be known; but from what took place in a hen pheasant in the possession of a friend of Sir Joseph Banks, it appears probable that this change of character takes place at an advanced period of the animal's life, and does not grow up with it from the beginning. This lady, who had for some time bred pheasants, and paid particular attention to them, observed that one of the hens, after having produced several broods, moulted, when the succeeding feathers were those of a cock, and that this animal was never afterwards impregnated. Hence it is most probable that all the hen pheasants found wild, having the feathers of a cock, were formerly perfect hens, but have been changed by age, or perhaps by certain constitutional circumstances. Having bought some pheasants from a dealer in birds, among which were several hens, I perceived, the year after, that one of the hens did not lay, and that she began to change her feathers. The year following she had nearly the plumage of the cock, but less brilliant, especially on the head; and it is more than probable that this was an old hen, nearly under circumstances similar to those before described.' The alternative above alluded to has been proved (*Phil. Trans.*, 1827) by Mr. Yarrell, whose dissections demonstrate this change and its causes, and whose observations show that it is not uncommon. He states that certain constitutional circumstances producing this change may and do occur at any period during the life of the fowl, and that they can be produced by artificial means. The same author, in his excellent 'History of British Birds,' now in course of publication, observes that these cock-plumed hens are usually called by sportsmen and gamekeepers 'Mule Pheasants,' a designation which he considers to be correct, since some of our dictionaries show that the term *Mule* is derived from a word which signifies barren, and such hen pheasants are incapable of producing eggs, from derangement of the generative organs; sometimes an original internal defect, sometimes from subsequent disease, and sometimes from old age. He adds that he has seen this disorganisation and its effects among birds in the Gold, Silver, and Common Pheasants; in the Partridge, the Peafowl, the Common Fowl, the Crowned Pigeon, the Kingfisher, and the Common Duck: in the latter species he states that the change, in two instances, went on even to the assumption of the two curled feathers above the tail.

But we must not forget that Blumenbach, in his interesting paper 'De anomalis et vitiosis quibusdam nisus formativi aberrationibus commentatio,' read before the Göttingen Royal Society, in July, 1812, has entered fully and particularly into this subject. The species in which he had known the change of plumage to be observed were *Columba Œnas*, *Phasianus Gallus*, *Colchicus*, and *pictus*, *Pavo cristatus*, *Otis tarda*, *Emberiza paradisea* and *longicauda*, *Pipra rupicola*, and *Anas Boschas*. Alluding to the eggs which have been sold as *Cock's Eggs*, he observes, that to him it seems most probable that such specimens have been laid by hens which had either assumed the plumage of cocks from their youth up, or upon whom the change had come in their old age. Though such phenomena are usually gallinaceous, they are not confined to that family; for he relates that Professor Erhard sent to him an egg laid by a Canary Bird, that sang loudly and excellently, having all the appearance of a cock bird. The egg was one-half less than the usual size, but of the ordinary form and colour. Our limits will not allow us to quote this important memoir further; but we would particularly recommend to the attention of the reader who is studying this branch of physiology, the second, third, and fourth sections, respectively entitled *Fabricæ androgynæ phænomena—Generatio hybridi—Animalia in varietates sic dictas degenerantia.*—(*Commentationes Societatis Regiæ Scientiarum Gottingensis Recentiores, Classis Physicæ*, tom. ii.)

That hen pheasants which have begun to put on the livery of the male are not always incapable of producing eggs, is a fact for which we are indebted to Sir Philip Grey Egerton, Bart., well known for the acuteness of his observations in many departments of natural history. Sir Philip informs us that about four years ago a hen pheasant at Oulton Park, Cheshire, which had nearly assumed the plumage of the cock, laid a nest full of eggs, from which she was driven by the curiosity of persons who came to gaze at so strange a sight. She then laid another nest full of eggs, sat upon them, and hatched them; but the young all died soon after they were excluded. This is a very curious case, and seems to show that though the capacity of producing eggs still remained, the organic defect was sufficient to prevent the production of a healthy offspring.

Varieties.—White and Pied: the Ring-necked and Bohemian Pheasants appear to be considered as varieties by Mr. Yarrell; Temminck and Sir W. Jardine consider the former to be completely distinct. The English reader will find the reasons for the latter opinion stated at length in that useful work 'The Naturalist's Library' (*Ornithology*, vol. iii.

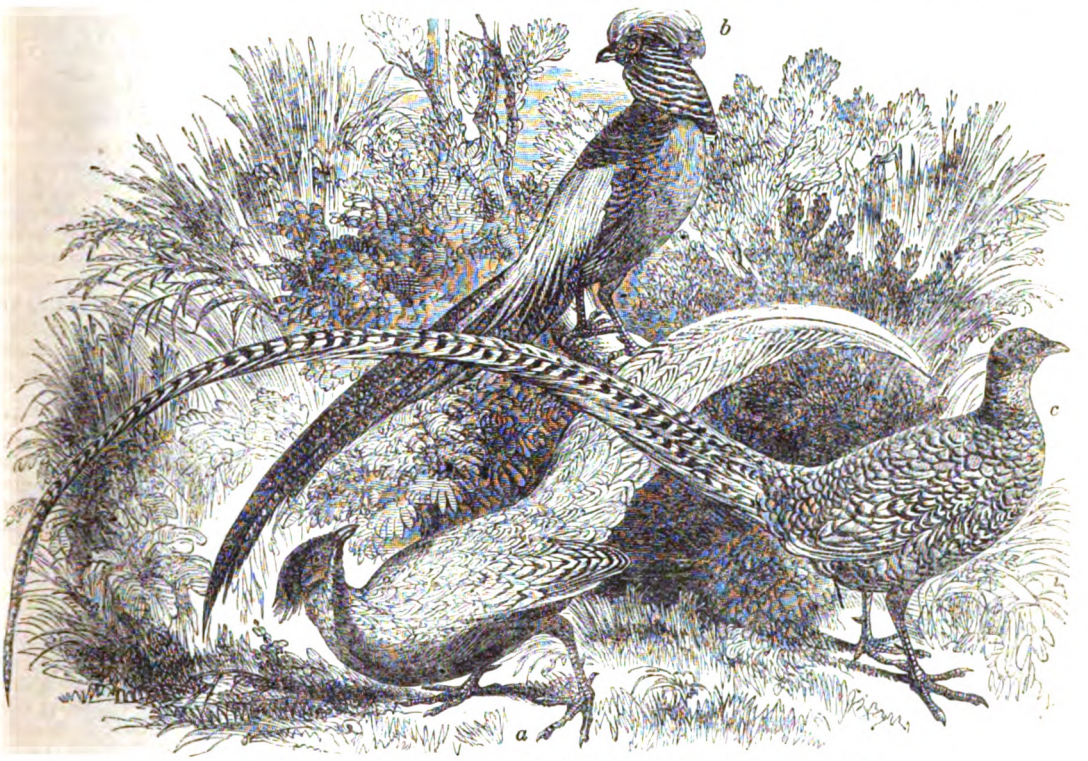
HYBRIDS.

Various instances of the common Pheasant breeding with other gallinaceous birds are on record. Edwards has figured a bird supposed to have been produced between a pheasant and a turkey. Three or four of these were discovered in the woods near the house of Henry Seymour, Esq., of Handford, Dorsetshire, and he shot one in October, 1759, the bird which he sent to Edwards. Mr. Yarrell (*British Birds*) observes that he has twice been shown birds that were said to be the produce of the Pheasant and the Guinea Fowl, and the evidence of the plumage was in favour of the statement. We have seen such a bird, and its feathers corroborated the allegation that it had been so produced. In the article BLACK COCK will be found accounts of hybrids between the Cock Pheasant and the Grey Hen. Mr. Eyton, in his valuable work on the *Rarer British Birds*, adds to the account of the hybrid shot near Merrington, figured in that work, and noticed in our article, that the brood to which it belonged consisted of five: one remained in the possession of J. A. Lloyd, Esq., of Leaton Knolls; the other three, with the old Grey Hen, fell victims to a farmer's gun, and were destined to the table. Mr. Eyton further states that he had also seen another specimen killed near Corwen in Merionethshire, then in the collec

tion of Sir Rowland Hill, Bart. Mr. Thompson of Belfast describes (*Magazine of Zoology and Botany*) another hybrid shot at Lochnaw, Wigtonshire, where it had been seen several times on the wing by persons who supposed it to be a wild turkey. In the surrounding plantations Pheasants and Black Grouse were numerous; but this individual, which was preserved for Sir Andrew Agnew, Bart., M.P., was the only one of the kind observed. Mr. John Leadbeater, in 1837, exhibited a hybrid between the Pheasant and Black Grouse, shot near Alnwick, at a meeting of the Zoological Society. This the Duke of Northumberland presented to the British Museum. Dr. Edward Moore (*Magazine of Natural History*, 1837) notices another hybrid of this kind shot near Plymouth by the Rev. Mr. Morshead, and Mr. Yarrell (*British Birds*) records his obligation to the Rev. W. S. Hore, of Stoke near Devonport, for the knowledge of two other specimens killed in Devonshire: one a fine male, in his own collection; the other believed to be at this time in the collection of Dr. Rodd, of Trebartha Hall in Cornwall. To conclude this part of the subject in the words of Mr. Yarrell:—'The last of thirteen examples of hybrids between the Pheasant and Black Grouse here recorded was killed in Northumberland, for a knowledge of which I am indebted to Mr. Selby, of Twizell House. This bird was shot early in December, 1839, by Lord Howick, in a large wood belonging to Earl Grey, a few miles to the east of Felton, and, having been sent to Twizell, I was not only immediately made acquainted with the occurrence, but Mr. Selby has since supplied me with a coloured drawing of the bird, from which the representation at p. 311 was executed.' (*History of British Birds*, May, 1840.)

The union between the common hen and the cock pheasant is by no means rare, as is well known to those whose homesteads border upon pheasant preserves: the produce of this union is called a *Pero*. Many of these, some of them very fine birds, have been kept together in the Gardens of the Zoological Society in the Regent's Park, but they never, as far as we have been able to learn, exhibited any inclination to breed. They are generally considered, as Mr. Yarrell observes, to be unproductive among themselves, all being half-bred; but the case is different when they are paired either with the true pheasant or the common fowl. Edward Fuller, Esq., of Carleton Hall near Saxmundham, has recorded that his gamekeeper had succeeded in rearing two birds from a barn-door hen, having a cross from a pheasant, and a pheasant cock, which he presented to the Zoological Society. On the same evening when these three-quarter-bred pheasants were noticed, hybrids between the Pheasant and Common Fowl, the Common Pheasant and the Silver Pheasant, and the Common Pheasant with the Gold Pheasant, were placed on the Society's table for exhibition. (*Zool. Proc.*, 1836.)

Before we leave the True Pheasants, we must notice some of the magnificent Indian species, which exhibit such a prodigality of splendour and beauty in their plumage as almost realises the birds which we read of in fairy tales. Such are the well-known gorgeous *Gold Pheasant* (*Phasianus pictus*, Linn.—Genus *Thaumalea*, Wagler, *Chrysolophus*, J. E. Gray, *Nycthemerus*, Sw.), the equally well-known delicately pencilled *Silver Pheasant* (*Phasianus Nycthemerus*, Linn.—Genus *Gennæus*, Wagler, *Nycthemerus*, Sw., *Euplocomus*, J. E. Gray), and the noble *Reeves's Pheasant* (*Phasianus veneratus*, Temm.—Genus *Syrmaticus*, Wagler). Of these forms we have endeavoured to give some representation as far as our means will permit.



a, Silver Pheasant; *b*, Gold Pheasant; *c*, Reeves's Pheasant (Syrmaticus Reevesii)—males.

The two first of these (natives of China) are common in almost every aviary, and there is no reason why they should not thrive well if turned out in our preserves; the second species has, we believe, been so turned out with success: the last is also found in China, but, as it would seem, on the very confines of the empire. It is very rare in Pekin. Dr. Latham's description was taken from Sir John Anstruther's drawings, and from some writing under them in the Persian language it appeared that the bird was called *Doomdurour*, or Long-tail, and it was found on the snowy mountains of Surinagur.

To Mr. Reeves we are indebted for the first individual ever brought alive to Europe. It was a male, and continued to live for some time in the Garden in the Regent's Park. Tail-feathers from it were exhibited to the Society in 1831, measuring each about five feet six inches in length. A second male specimen was also sent to their menagerie by the same liberal donor in 1834. Hybrids were obtained, one of which is, we believe, still alive at the Garden, from one of these birds and the common Pheasant.

Then there are the beautiful *Diard's Pheasant* (*Phasianus versicolor*, Vieill.), which haunts the Japanese woods, and exhibits the manners and habits of our common Pheasant; the rare and elegant *Soemmering's Pheasant* (*Phasianus Soemmeringii*, Temm.), also a native of Japan: but our limits warn us, and we shall proceed to notice some

observations of Mr. Vigors, which appear to us to be valuable as conducting the reader to the next form which we shall have to lay before him.

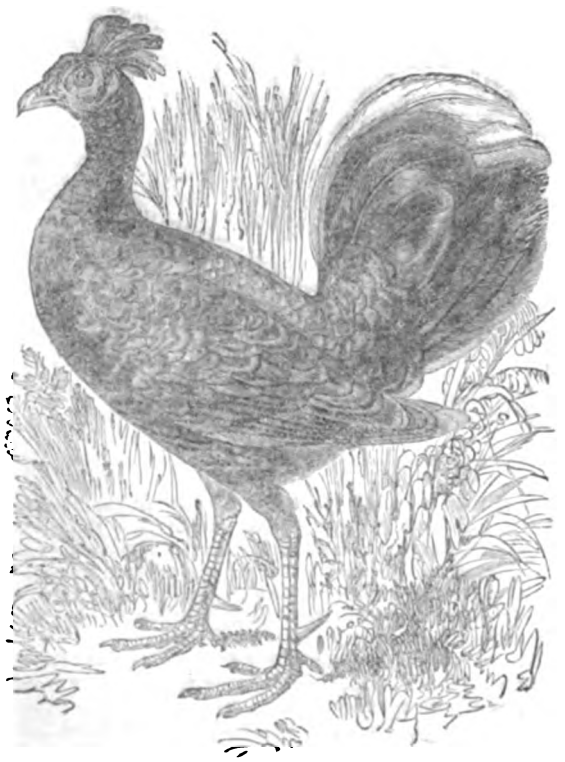
At a meeting of the Zoological Society in 1832, a male and female pheasant were exhibited from the collection, which appeared to be *Phasianus leucomelanos* of Dr. Latham. Mr. Vigors pointed out the difference between this species and *Phasianus albo-cristatus*, which he had described in the first part of the *Proceedings*, and he added that these two species, together with the *Phasianus lineatus* of Dr. Latham, exhibited to the Committee in 1831, and described in the *Proceedings* of that date, as well as the *Fire-backed Pheasant* (*Phasianus ignitus*, Lath.), formed a group among the *Pheasants*, which appeared intermediate between the typical birds of that family and the genus *Gallus*, or *Jungle Fowl*. This group, he observed, distinguished by their crests and by their tails partaking equally of the elevated character of that of the *Jungle Fowl* and the recumbent character of that of the *Pheasant*, had been set apart by MM. Temminck and Cuvier under the name of *Houppifères*, and by the former naturalist under the scientific name of *Euplocamus*.

Euplocamus. (Temm.)

Example, *Euplocamus ignitus*.

Sir George Staunton, in his 'Embassy to China,' first made this highly interesting form known to European zoologists. His host at Batavia had, it appears, a very curious collection in the several departments of natural history. He made presents to his guests of several specimens, and among them was this beautiful pheasant, which was sent to England and described by Dr. Shaw. The tail was mutilated, for which reason the representation in the plate, No. 13 (*Atlas* to Sir George's work), was so conducted as purposely to leave the form of the tail undetermined.

Description.—Length of adult *male* about 2 feet. Skin of the nostrils stretching backwards over the sides of the head behind the eyes and bluish purple. A crest upon the crown of the head composed of naked-shafted feathers expanding at their tips into slender spreading barbs. Head, neck, breast, belly, and upper part of the back, deep chalybean or steel-blueshot black; lower part of the back fiery orange red or flame colour, varying in intensity according to the incidence of the light, and passing like a zone round the body, though more obscure on the abdomen; rump and tail-coverts broad and truncated, brilliant bluish green with a paler bar at the tip. Tail when erect folded in some degree like that of a hen; the middle feathers white, and the outside ones black with green reflections. Legs and feet vermillion, spurred.



Euplocamus ignitus (male)

Euplocamus ignitus (female).

Female, length about 20 inches. Plumage almost entirely rich cinnamon brown; feathers of the upper parts slightly mottled with black; throat white; lower parts of a paler tint than those above, and having the feathers bordered with white. Elongated head-feathers capable of being erected into a crest, but not equal to that of the male. Tail folded. Legs spurless.

Locality. Sumatra.

This is the *Fire-backed Pheasant of Java* ('Atlas' to Staunton's *Account of Lord Macartney's Embassy to China*), *The Macartney Cock* of English authors, *Phasianus ignitus* of Latham.

Gallus. (Brisson.)

Generic Character.—*Bill* moderate, strong, convex above, curved towards the point, naked at the base, and furnished with two pendant and compressed caruncles or wattles. *Head* surmounted with a fleshy crest or comb. *Tarsi* (in the male) furnished with a long and recurved spur: the hind toe only resting on the ground at its tip. *Wings* short and graduated. The fourteen tail-feathers forming two vertical planes with the backs of the feathers towards each other, and so making what may be called a folded tail, the middle feathers longest and recurved.

The ancestors from which our domestic poultry have descended were undoubtedly natives of Asia; but some doubt still hangs over the questions of the precise breed from which they came, and the exact locality where they were found. That fowls were domesticated at a very early period there is no doubt, and both historians and poets speak of the high antiquity of the race. Thus Peisthetærus relates why the cock is called Περσικὸς ὄρνις (the Persian Bird), and how it reigned over that country before Darius and Megabazus. (Aristoph., *Birds*, 483 et seq.)

To the forests and jungles of India we must look for the race in a state of nature; and though the denizens of our farm-yards may be the result of a mixture of many of the species which there inhabit, zoologists in general agree with M. Temminck in thinking that to the *Malay Gigantic Cock* or *Fowl* (*Gallus giganteus*, Temm.) and the *Bankiva Cock* (*Gallus Bankiva*, Temm.) we are chiefly if not entirely indebted for our common poultry.

The domestic cock and hen are the ἀλεκτρυών (Alectryon) and ἀλεκτορὶς (Alectoris) of the Greeks; *Gallus* and *Gallina* of the antient Italians; *Gallo* and *Gallina* of the modern Italians; *Haus Hahn* and *Haus Henne* of the Germans; and *Coq* (*Gau*, *Geau*, *Gal*, *Gog*), *Gelline*, and *Poule* of the French.

Bold, ardent, and vigilant, the cock has been always considered the emblem of watchful courage, whilst the hen ha-

been considered a patern of maternal solicitude. In this and other polygamous species, the object to be attained is the effective impregnation of the greatest numbers of females by the most vigorous male. In the cock accordingly the spurs are developed as the sexual organs are matured; and it is principally with these weapons of combat that the battle which is to leave the field in the possession of the strongest is decided. The conqueror in his turn, as the weakness of age comes upon him, yields to a younger and more powerful rival; and thus a numerous, healthy, and stout progeny is secured.

How the domestic cock and hen were introduced into Greece and the south of Europe is not known: upon such occasions of doubt the Phœnicians are usually resorted to; but we are ignorant of proof which can bring home the benefaction to them more than others. We find it early on the Greek and Roman coinage, and upon gems; and it figured in the public shows of those nations. It was dedicated to Apollo, to Mercury, to Æsculapius, and to Mars. Socrates, in his dying moments, reminded his disciples that he 'owed a cock to Æsculapius.' The Rhodian fowls (Martial, iii. 58, above quoted) and those from the Isle of Delos were celebrated for their superiority in fight and their delicacy for the table. The luxurious Roman had his hens fed, perhaps crammed, with meal in the dark. Thus Martial (xiii. 62, 'Gallina Altilis'):—

'Pascitur et dulci facilis gallina farina,
Pascitur et tenebris: ingeniosa gula est.'

Nor was the same gastronomer ignorant of the value of the capon. (Martial, xiii. 63.)

The bird appears to have been in Britain before the invasion of Julius Cæsar, who tells us that the Britons abstained from tasting the hare, the hen, and the goose; though they bred them for their pleasure. This abstinence seems to have originated in superstitious feeling: 'Leporem et gallinam et anserem gustare fas non putant: hæc tamen alunt, animi voluptatisque causa.' (*De Bello Gallico*, lib. v.) The race is now spread all over the civilised world.

M. Lesson asks if it is not remarkable to find the domestic hen, differing in nothing from that of our countries, in all the islands of the South Sea, and among people with whom Europeans have certainly never communicated? Cocks and hens, he tells us, were very common at Oualan for example, and the natives were ignorant that these birds were good to eat. They were found among the Papuans, and among others there was a white variety with all the feathers frizzled.

We now proceed to lay before our readers a sketch of the wild breeds; and first of the *Gigantic Cock*.

This, the *Kulm Cock* of Europeans, often stands considerably more than two feet from the crown of the head to the ground. The comb extends backwards in a line with the eyes, it is thick, a little elevated, rounded upon the top, and has almost the appearance of having been cut off. The wattles of the under mandibles are comparatively small, and the throat is bare. Pale golden-reddish hackles ornament the head, neck, and upper part of the back, and some of these spring before the bare part of the throat. Middle of the back and lesser wing-coverts deep chestnut, the webs of the feathers disunited; pale reddish-yellow long drooping hackles cover the rump and base of the tail, which last is very ample and entirely of a glossy green, of which colour are the wing-coverts; the secondaries and quills are pale reddish-yellow on their outer webs. All the under parts deep glossy blackish green with high reflections; the deep chestnut of the base of the feathers appears occasionally, and gives a mottled and interrupted appearance to those parts. (Jardine principally.)

Lieut.-Col. Sykes, in his memoir on the birds found in the Dukhun (Deccan), states that it is only there met with as a domestic bird, and that he has reason to believe that it is not a native of India, but has been introduced by the Mussulmans from Sumatra or Java. The iris, he says, of the real game bird should be whitish or straw-yellow. The colonel landed two cocks and a hen in England in June, 1831; and they bore the winter well. The hen laid freely, and in September, 1832, had reared two broods of chickens. The cock had not the shrill clear pipe of the domestic bird, and his scale of notes appeared to be more limited. A cock in the colonel's possession stood 26 inches to the crown of the head, but they attain a greater height. The length from the tip of the bill to the insertion of the tail, 23 inches. Hen one-third smaller than the male. (*Zool. Proc.*, 1832.)

Bankiva Cock.

Description.—Space round the eyes and throat bare, comb much developed, deeply lobated along the upper ridge, wattles of the lower mandible rather large; long, clear, brilliant, golden orange hackles cover the head, sides of the neck, back, and rump. Upper part of the back below the hackles bluish-black, the middle and lesser wing-coverts rich deep chestnut, with the webs of the feathers disunited; greater coverts steel-blue, secondaries the same, with a broad chestnut border; quills brownish-black, edged with pale reddish-yellow. Tail black, richly glossed with green and blue. Under parts black.

This is the *Coq et Poule Bankiva* of Temminck; *Gallus Bankiva* and *Ayam utan* or *Brooga* (*Linn. Trans.*, xiii.); *Javan Cock* of Latham; and many Bantams resemble it very closely.

Sir W. Jardine states that he has seen three or four specimens of another bird very closely allied to *Gallus Bankiva*, but rather larger, and certainly distinct: they were all from the continent of India.

Gallus Bankiva.

We have also to notice the *Bronzed Cock* (*Gallus æneus*), figured by M. Temminck from a specimen sent from the interior of Sumatra by M. Diard. This is somewhat larger than the *Bankiva Cock*, and its large comb is without dentilations; indeed the edge is quite unbroken; the feathers of the head, neck, and upper part of the back are rather elongated, but not hackles. The *Fork-tailed Cock* (*Gallus furcatus*, Temm.; *Gallus Javanicus*, Horf) has the comb also entire, and the throat is adorned with a single large wattle springing from the centre. The head, neck, and upper part of the back are covered with feathers, which are not hackles, shorter and more rounded than those in the *Bronzed Cock*.

But the species which bears the name of Sonnerat is, in the judgment of that traveller, the probable stock from which our poultry are derived. The general opinion of naturalists is however adverse to that of Sonnerat; and indeed the great difference in the structure of a part of the plumage militates against it; not that it is to be concluded that the bird would not breed with our domestic hen, and produce fertile progeny; on the contrary, there is good reason for believing that such offspring would be capable of continuin the species.

Gallus Sonneratii.

Description. (*Male.*)—Size nearly equal to that of a domestic cock; but the bird is altogether lighter, more graceful, and has a higher bred look about it; comb large, and with an unequal margin, but though this margin is jagged, it is not deeply dentilated; wattles double, depending from the base of the lower mandibles; hackles of the neck and

of the wing and tail-coverts dark greyish, with bright golden orange shafts dilating in the centre and towards the tip into a flat horny plate. In some of these feathers the shaft takes an elliptical or oar-like shape; in others it puts on the appearance of a long inverted cone, from the centre of the base of which a battledore-like process arises. The substance and appearance of these plates have been not inaptly compared with the wax-like plates which ornament the wings and tail of the Bohemian Chatterer. [BOMBYCILLA.] The effect produced by this modification of the shafts is singular and beautiful. Feathers of the middle of the back, breast, belly, and thighs deep rich grey, with paler shafts and edges; tail generally rich deep green; the feathers which immediately succeed the hackles are rich purple, with a pale yellow edge; those next in succession are golden-green, with grey edges, and all are glossed with brilliant metallic reflections. Bill, legs, and feet yellow. The living bird presents altogether a rich and striking object, especially when the sun shines on the plumage.

Female less than the cock by about a third, without comb or wattles, but a trace of nakedness round the eye. The plumage (generally) is without the horny structure which distinguishes that of the male. Upper parts uniform brown; neck feathers with dark edges, those of the back and wing-coverts with a pale streak along the shaft, and those of the wings, tail-coverts, and tail waved and mottled with darker pencillings; throat and front of the neck white; feathers of the rest of the lower parts greyish-white, edged with dark brown, which predominates towards the vent. Legs and feet bluish-grey

This is the *Coq sauvage* of Sonnerat; *Coq et Poule Sonnerat* of Temminck; *Sonnerat's Wild Cock* of Latham; *Rahn Komrah* of the Mahrattas; *Jungle Cock* of the English sportsmen in India.

Col. Sykes, in his valuable catalogue, notes this noble bird as being very abundant in the woods of the Western Ghauts, where (and this is well worthy the attention of ornithologists) he says there are either two species or two very strongly marked varieties. In the valleys, at 2000 feet above the sea, he tells us *Sonnerat's* species is found slender, standing high upon the legs, *and with the yellow cartilaginous spots on the feathers, even in the female.* In the belts of wood on the sides of the mountains, at 4000 feet above the sea, there is a short-legged variety. The male has a great deal of red in the plumage, which *Sonnerat's* has not; the female is of a reddish-brown colour, and is without cartilaginous spots at all: 'in fact,' continues the Colonel, 'the female of this variety is the *Gallus Stanleyi* of Mr. Gray's *Illustrations*.' Eggs exactly like those of the domestic fowl in form and colour, but less in size. Col. Sykes shot a hen upon her nest, wherein there were three eggs only, in which the process of incubation had evidently been going on for some days, whence it is concluded that the wild hen sits upon a less number of eggs—*quære tamen.* In the craw and stomach of many birds Col. Sykes found nothing whatever, excepting the seeds of a stone-like hardness called *Job's tears* (*Coix barbata*). The irides are stated by Colonel Sykes to be brownish deep orange, and he says that the crow or call of this species is like that of the *Bantam Cock.* (*Zool. Proc.*, 1832.)

Dr. Latham remarks that this jungle-fowl is by far the boldest and strongest for its size, and that it is anxiously sought after by cock-fighters in Hindustan, who rely on it for victory when pitted against larger game-cocks.

Individuals of this species have been exhibited alive in the garden of the Zoological Society in the Regent's Park.

But whatever may have been the source or sources from which our domestic poultry sprang, and the probability is that more than one wild race have contributed to improve it, the varieties in a reclaimed state are almost infinite. The Spanish breed, entirely black, grows to a considerable size, and the eggs are remarkable for their volume. The Dorking poultry have long been celebrated, and they are known, principally, by having supernumerary toes. The true Dorkings are purely white, and are much esteemed for the table. Dr. Latham mentions one of this breed that weighed nearly fourteen pounds. Some of the Sussex fowls are very fine.

The fancy breeds are very numerous: among them the Dutch and Polish top-knotted and pencilled breed, of two sorts, known as Gold Spangles and Silver Spangles, are much prized by some amateurs if clean-feathered, and make a very handsome appearance in the poultry-yard. Sir John Sebright brought a dwarf Bantam breed, with unfeathered legs, no top-knots, and gold-spangled and silver-spangled plumage to great perfection, as he did the breeds of most animals in which he took an interest. These clean-legged bantams were further remarkable, when true-bred, for having the tail in the cocks folded like that of a hen, and without the usual recurved drooping feathers: whence they were called hen-cocks. But though without these feathers, which are the usual indications of the common cock, no birds could possess higher courage or a more gallant carriage: we have seen one of these cocks bear himself so haughtily that the back of his head nearly touched the two almost upright feathers of his tail; and both cocks and hens without one foul feather about them. The ordinary bantams have feathered legs and the recurved sickle-like tail-feathers. Colonel Sykes remarks that the supposed species *Gallus Morio* very frequently occurs accidentally in the Dukhun (Deccan), and that, though unsightly, this fowl is very sweet eating. The periosteum of its bones is black, and the comb, wattles, and skin dull purple. *Gallus crispus*, according to Colonel Sykes, occurs accidentally in the Deccan, like the last-mentioned variety. This, generally known as the *Friesland* or

Gallus Sonneratii (cock).

Gallus Sonneratii (hen).

Crested Cock, has all the feathers frizzled, or curled, as it were, the wrong way. It occurs also in a domesticated state in Java and Sumatra. The general colour of the plumage is white. Then there is the *Silk-fowl* (*Gallus lanatus*), which M. Temminck is inclined to consider distinct, and which comes from Japan and China. This bird is rather small in size, and the webs of the white feathers, which are silky to the sight and touch, are disunited. The comb and wattles are of a lake-purple colour. The periosteum and skin of this kind are also dark; but the flesh is very white. These silk-fowls make very good nurses, and are easily crossed with the common poultry. The *Rumpless* or *Persian Cock*, or 'Rumkin,' as it was formerly termed, is tailless. Colonel Sykes states that the *domestic fowl* (*Gallus domesticus*, Ray, *Phasianus Gallus cristatus*, Linn.) is so abundant in Deccan, that in parts of the country not much frequented by Europeans he has bought from eight to twelve full-grown fowls for two shillings. Many of the hens, particularly of the villages in the Ghauts, are not, he says, to be distinguished from the wild bird, excepting only in the want of the cartilaginous spot on the wing-coverts.

For an account of the *Hybrids*, see above (p. 60).

The common hen is subject to the assumption of the plumage of the cock, under certain circumstances, as we have already noticed above (p. 60).* Whilst on this point we would observe that the pea-hen noticed by John Hunter [PAVONIDÆ, vol. xvii.] is preserved stuffed in the Museum of the College of Surgeons, as well as the internal parts.

The proper mode of rearing poultry and hatching chickens, both naturally and by artificial heat (hotbeds, steam, &c.), together with the mode of constructing an artificial mother for the young which are so produced, and the method of ordering a poultry-yard generally, will be more properly treated of under the article POULTRY, as well as the diseases to which the birds are subject. Of the gapes we have already spoken (ante, p. 59).

Tragopan. (Cuv.)

This is the genus *Ceriornis* of Swainson.

Generic Character.—*Head* crested on the crown, partly naked (on the cheeks and round the eyes), the naked parts terminating in horn-like caruncles behind the eyes; under the lower mandible and on the forepart of the throat a subpendent composite carunculated wattle. *Tarsi* armed with a blunt spur in the male; unarmed in the female.

Mr. Gould (*Century of Birds from the Himalaya Mountains*) remarks that the genus *Tragopan* appears to take an intermediate station between that of *Meleagris* and the more typical *Phasianidæ*, forming one of the links of a chain connecting these groups of the Rasorial order. The affinity of this genus, he observes, to that of *Meleagris*, is evident in many characters; nor are some wanting which indicate a relationship to *Numida*, and even to *Francolinus*.

Tragopan Satyrus appears to have been the only species originally known. Mr. Gould, in his 'Century,' describes another species, *Tragopan Hastingsii*, and refers to another, which Mr. Gray, of the British Museum, has dedicated to M. Temminck. (*Indian Zoology.*)

Example, *Tragopan Hastingsii*.

Description.—Head of the *adult male* covered with a pendent crest of feathers, which, as well as the ear-coverts and throat, are black; the neck and shoulders are rich maroon; the chest rich glossy orange red; the naked skin around the eyes is red; the fleshy horns and wattles mingled blue and purple; the upper parts exhibit a mixture of zigzag lines and marks of dark and light brown, with numerous and distinct spots of white; each of the upper tail-coverts ends in a large white eye, bordered on the sides with brown, and tipped with black; the tail deepens till it ends in uniform black; the feathers of the under surface are maroon, largely tipped with black, in the centre of which is a large white spot; the beak is black, the tarsi brown.

In the *young male* the plumage is much less brilliant, the wattles being of a pale flesh-colour, and little developed, as is also the naked skin of the face.

The plumage of the *female* consists of a uniform brown, mottled and barred with mingled lines and dots of various tints, the feathers of the back and chest having a central dash of a lighter colour; the head is crested, with short rounded feathers; the sides of the cheeks are clothed, and there are neither fleshy horns nor wattles. (Gould.)

Mr. Gould observes, that although this species and *T. Satyrus* are closely allied to each other, and doubtless possess similar habits and manners, he is led to believe that their local distribution is somewhat different; at least, he generally receives but one species in a collection from the same quarter; *Tragopan Satyrus* being transmitted from the Nepaulese Hills, while *T. Hastingsii* is sent from the more northern range of the Himalaya. He further well observes that the changes of plumage which birds of this genus, especially *T. Hastingsii*, undergo in passing from youth to maturity (and this is well illustrated in Mr. Gould's beautiful plates), are such as to have caused an apparently erroneous multiplication of species.

Tragopan Satyrus, according to the same author, is an exclusive inhabitant of the colder regions of the mountains, in conjunction with the *Lophophorus*, its proximate relative, feeding on grains and roots, the larvæ of ants, and other insects. [PAVONIDÆ.]

Tragopan Hastingsii (male).

Tragopan Hastingsii (female).

In conclusion we have to call the reader's attention to the beautiful *Phasianus Staceii* (figured and described by Mr. Gould in his 'Century') as one of the true pheasants; and to *Phasianus Pucrasia* and *Phasianus albo-cristatus*, also there figured. *Phas. Pucrasia* appears to us to lead the way from the true pheasants to the *Lophophori*; and *Ph. albo-cristatus* to be an *Euplocamus*, which, even

* See also Dr. Hutter's paper, 'Memoirs of the Wernerian Society,' vol. iii.

more immediately than *Euplocamus ignitus*, forms a transition from the genus *Phasianus* to the genus *Gallus*.

We cannot forbear to add that the *Argus Pheasant* [PAVONIDÆ, vol. xvii., p. 338, et seq.] has been brought alive to this country by that indefatigable collector Hugh Cuming, Esq. It was obtained from Malacca, and is now (June 11, 1840) in good health at the garden of the Zoological Society of London in the Regent's Park. We are not aware of any other instance of a living specimen of this noble bird having been brought home.

PHEIDON, the supreme ruler of Argos, lived in the eighth century before the Christian æra. The Parian marble (No. 31), and several ancient writers make him contemporary with Iphitus and Lycurgus; but the statement of Pausanias (vi. 22, § 2), that he celebrated the eighth Olympic games, placed him in B.C. 748, which date is also supported by the testimony of Ephorus (apud Strab., viii., p. 358), that he was in the tenth generation from Temenus. Pheidon is usually called tyrant of Argos, but he was in fact the hereditary king. He appears to have obtained the name of tyrant on account of having made himself absolute. (Aristot., *Rep.*, v. 8, § 4.) Pheidon was an active and enterprising prince; and while Sparta was weakened by her wars with the Messenians, he greatly extended the dominions of Argos, and appears to have acquired possession of the whole eastern coast of Laconica as far as Cape Malea, and of the island of Cythera, which, as we learn from Herodotus (i. 82), once belonged to Argos. He attacked the towns which were said to have been taken by Hercules, and claimed the right of presiding over all the festivals which Hercules had instituted. On this ground he deprived the Eleans of their presidency of the Olympic games, which he presided over in conjunction with the Pisæans. (Strabo, viii. 358; Paus., vi. 22, § 2.) But his usurpation united the Eleans and Lacedæmonians against him, and thus led to his overthrow.

Pheidon is said to have invented weights and measures, which bore his name (Strabo, viii. 376; Plin., *Hist. Nat.*, vii. 56; Pollux, x. 179), and is also stated by most antient writers to have been the first person to coin silver money, though, according to Herodotus (i. 94), the Lydians were the first people who put a stamp upon gold and silver.

(Clinton, *Fasti Hellenici*, vol. i., appendix 1; Müller, *Æginetica*, p. 51-63; *Dorians*, vol. i., p. 177-180, translation.)

PHE'NE, Savigny's generic name for the *Lämmergeyer* (*Gypaëtus barbatus* of Storr). Savigny's name is a restoration from Aristotle and the Greek writers on natural history; but the form is known to zoologists under the title attached to it by Ray, viz. *Gypaëtus*. [VULTURIDÆ.]

PHERE'CRATES (Φερεκράτης), a writer of the old comedy, was contemporary with Plato, Aristophanes, Phrynichus, and Eupolis. (Suidas, *Plato.*) His play, called the 'Countrymen' (Ἄγριοι), was represented B.C. 420. (Athen., v., p. 218, d; Plato, *Protag.*, c. 47, p. 327 d.) He wrote seventeen comedies (Suidas, *Pherecrates*), of which a few fragments remain, which have been published, together with those of Eupolis, by Runkel, Leip., 1829. Pherecrates is only mentioned once by Aristophanes (*Lysist.*, 158). He invented a particular kind of metre, which has been called from him the Pherecratic.

PHERECY'DES (Φερεκύδης). There were two Greek writers of this name, the philosopher and the historian, who are frequently confounded, as in Lucian, *Macrob.*, c. 22; Clem., *Strom.*, v., p. 567, c.; Euseb., *Chron. ad Olymp.*, 59, 4.

PHERECYDES, the philosopher, was a native of Syros. His father's name was Babis, and he was born, according to Suidas (*Pherecydes*), in the 45th Olympiad, that is, about B.C. 600. Diogenes Laertius informs us (i. 121) that he flourished in the 59th Olympiad, that is, about B.C. 544; which date agrees with the account of Cicero, who says (*Tusc.*, i. 16) that he was contemporary with Servius Tullius. He is said by some writers to have obtained his knowledge from the sacred books of the Phœnicians or from Egypt, and by others to have been a disciple of Pittacus. (Diog. Laert., i. 116.) He taught Pythagoras (Suidas; Cic., *Tusc.*, i. 16; *De Div.*, i. 50), and appears to have had a considerable acquaintance with natural science. (Diog. Laert., i. 116.) He is said by Cicero (*Tusc.*, i. 16) to have taught the immortality of the soul. According to Suidas, one of his works was entitled 'Ἑπτάμυχος, or the 'Seven Secrets,' and another Θεολογία, which gave an account of the generation and succession of the gods. Theopompus says (ap. Diog. Laert., i. 116) that Pherecydes was the first amongst the Greeks who wrote on the nature of the gods.

There are no particulars of the life of Pherecydes worth recording. His death is variously related: some writers say that he died in the territory of Magnesia in Asia Minor; some, that he threw himself down from the Corycian rock above Delphi; and others, that he died in Delos.

PHERECYDES, the historian, was contemporary with Herodotus, and flourished between B.C. 480 and 407. Suidas mentions two historians of this name, and says that one was born at Athens and the other at Leros; but Vossius (*De Hist. Gr.*, iv. 4) has shown that they are the same person. It appears probable that Pherecydes was born at Leros, and afterwards settled at Athens, whence the mistake of Suidas arose. The work of Pherecydes, which is often quoted by the Scholiasts and by Apollodorus, was a mythological history in ten or twelve books; but it also included events subsequent to the mythological period, as the Scythian invasion of Darius (Clem., *Strom.*, v., p. 557, c.) and the Ionic migration led by the sons of Cadmus (Strab., xiv., p. 632). Compare Clinton's *Fast. Hell.*, vol. i., p. 372.

The fragments of Pherecydes have been published by Sturz under the title of 'Pherecydis Fragmenta, e variis scriptoribus collegit, emendavit, commentationem de Pherecyde utroque, et historico et philosopho præmisit, &c. Gerae, 1787; 2nd edition, Lip., 1824.

PHERU'SA, Dr. Leach's name for a genus of the Amphipodous order of *Edriophthalmian Crustaceans*. [EDRIOPHTHALMA.]

The genus *Amphithöe*, which generally precedes *Phe-* in the systems, has the four anterior feet nearly identical in both sexes, and their penultimate joint, or hand, is ovate; in *Pherusa* the hand is filiform.

Example, *Pherusa fucicola*.

Description.—Yellowish ash-colour, or grey-ash tinged with red.

Locality.—Coasts of England, where it is rare, and lives among the sea-weed.

PHERUSA, a Lamarckian genus of Zoophyta. [PLANARIA MEMBRANACEA.]

PHIAL, LEYDEN. [ELECTRICITY.]

PHIBALU'RA, M. Vieillot's name for a genus of *Ampelidæ* (*Fruit-eaters* or *Chatterers*), placed both by Mr. Swainson and Mr. G. R. Gray in the subfamily of *Bombycillinæ*, the *Swallow-Chatterers* of the former zoologist. The genera included by both in the subfamily are the same, Mr. Swainson's genera being *Phibalura*, *Bombycilla* [BOMBYCILLA], and *Procnias*, and those of Mr. Gray *Phibalura*, *Bombycilla*, and *Tersa*, Vieill., the latter being the *Procnias* of Illiger and others.

Generic Character.—*Bill* remarkably short, but rather strong; culmen arched; *Nostrils* concealed; *Gape* enormous; the sides smooth. *Feet* pale; anterior scales transverse; lateral scales minute, reticulate. Tail lengthened, deeply forked. (Sw.)

Example, *Phibalura cristata*.

Description.—Total length 9 inches, of which the tail occupies 4½ inches. Bill whitish and remarkably short, measuring only 3 lines from the nostrils to the tip, or three-quarters of an inch from the angle of the mouth which opens just under the eye. Plumage singularly variegated. Crown of the head furnished with a crest, which when not elevated, is scarcely seen, and appears a deep glossy black mixed with grey and rufous; but, when erected is very conspicuous, all the feathers being bright rufous tipped more or less with black; upper sides of the head grey, the lower part and ears deep black; the neck above grey, white, with blackish transverse lines: the back, scapulars, rump, and tail-covers varied transversely with olive, shining black, and bright yellow, each feather olive at the base, black in the middle, and yellow at the tip. Beneath, the feathers of the chin and part of the throat are somewhat lengthened, semi-setaceous, and of a bright yellow; the neck and breast white, with two transverse lines of deep black on each feather; these lines diminish, and are broken into spots on the body, and nearly disappear on the vent: the edges of the feathers are tipped with yellow, and this colour increases downwards on the vent and tail-covers, which latter are entirely [illegible]. The wings, 4 inches long, a uniform deep [illegible] gloss, much pointed, and calculated [illegible] the same colour, the exte-