A description of more than three hundred animals, including quadrupeds, birds, fishes, serpents, and insects, forming a compendium of natural history confirmed by actual and personal observations : with original remarks, and interesting quotations from ancient and modern authors to which is subjoined a new and curious appendix upon allegorical and fabulous animals.

Contributors

M'Quin, A. D. 1756-1823.

Publication/Creation

London : Printed for B. and R. Crosby, and Co. ... and sold by all the booksellers in the United Kingdom, 1812.

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DESCRIPTION

OF MORE THAN

THREE HUNDRED ANIMALS,

INCLUDING

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And

Interesting Quotations from Ancient and Modern Authors;

To which is subjoined a new and curious

APPENDIX,

UPON ALLEGORICAL AND FABULOUS ANIMALS.

The whole illustrated by ELEGANT AND APPROPRIATE FIGURES, Copied from Nature, and engraved on Wood with Taste and Accuracy.

A New Edition, Carefully Revised, Corrected, and considerably Augmented BY A. D. M. H.F.S.A.

LONDON:

PRINTED FOR B. AND R. CROSBY, AND CO. STATIONERS-COURT, LUDGATE STREET, And Sold by all the Booksellers in the United Kingdom.

1812.



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 ${f T}_{
m HIS}$ book was originally intended for the amusement and instruction of children, and for the use of seminaries and boarding-schools. It was purposely calculated to impart a superficial, yet sufficient knowledge of the animal creation, in order to raise the mind towards its Divine Author; but it seems that, in the hurry of compilation, the writer had unwittingly admitted several subjects and observations which have been since properly deemed objectionable, if not obnoxious; that erroneous opinions, which, though apparently consecrated by the authority of ancient authors, and adopted by modern writers, could not be maintained, had crept into the publication; and that fabulous animals, which never existed but in the fanciful imagination of poets and romancers, had usurped a place among real beings. In justice to the compilers and revisers

of the work, we must openly declare that, though the means were not sufficiently well-chosen, and the result imperfect, yet the intention was good, and the numerous editions through which the book has run, with the approbation, and under the patronage of the public, stand as undeniable proofs of its real utility.

Publications upon Natural History are in general too voluminous, and, consequently, too expensive to be put in common use; and besides, we must confess that the necessary details and investigations into which the Naturalist is obliged to enter, in order to lift up, as much as possible, the thick veil which Providence, in her wisdom, has dropped between us and the origin of things, are not fit to be laid under the eyes of all readers indiscriminately; yet that natural bent, which leads every one towards knowledge, the dread of ignorance, and the pruriency of investigating, called aloud for a substitute; and in that view the description of at least three hundred animals, as it has been entitled from the beginning, was offered to the public. Its utility was soon and generally felt; the book was adopted and patronized by private families, and chiefly in those useful seminaries where youth is educated; and the editions succeeded each other with astonishing

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rapidity. In this we have spared neither trouble nor expenses, to render it worthy of every enlightened reader; instructive to the ignorant, amusing to the idle, and consentaneous with the ideas and pursuits of the religious of all persuasions. With the pruning knife of delicacy in our hands, we have lopped off every thing which might have given the least uneasiness to the strictest sense of modesty, or the slightest offence to the lovers of truth; and we are confident that it may assume the following French line for its motto:

" La mere en prescrira la lecture a sa fille :" Mothers will bid their daughters to peruse it.

After these preliminaries, it is needless to observe that nearly every one of the articles has been entirely re-composed. Numerous additions upon interesting animals, have been introduced, and *personal* observations upon the works of nature, made with unbiassed and zealous curiosity, will contribute to the general and lively interest which the perusal of the book cannot fail to excite in a sensible mind. Whatever blind superstition, vulgar belief, or improbable traditions, had subreptitiously ushered into the former editions, has been dismissed, without either partiality or mercy; and the whole can fairly boast, we make

among us as a com 2 A sal, or become a menial

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bold to say, of a well-founded claim to implicit confidence.

Acquainted with the different classifications adopted by numerous writers upon Natural History in all countries in the world, we were enabled to find out the fallacy of some of their principles, and the insurmountable difficulties inseparable of every system of nomenclature. The teeth of the quadrupeds; the beaks and feet of the birds, and the fins of fishes have generally been interrogated to answer what species the individual did belong to; but as they were not responsive in all cases, the observers of Nature were left in the dark; systems rose upon systems; every nomenclator laughed at his predecessors, and was laughed at, in rotation, by his followers. The fact is, in one word, that the admirable chain, which unites Classes, Orders, Genera and Species in nature, is composed of links, so intricately and so closely assimilated to each other, that it is impossible to follow the ramifications to which they give origin. Is the bat, for instance, a quadruped, or a bird? Is the coral an animal, or a plant? Would the flying fish become an inhabitant of the atmosphere if his lungs or gills could admit the atmospheric air? And, could the ape articulate his sensations, would he sit down among us as a commensal, or become a menial servant?

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Nature is like an immense circle, the circumference of which seems to be composed of an infinite number of arcs which are themselves parts of other circles: so that the whole forms a general maze, the windings and meanders of which the mind of man is too narrow, too confined, to comprehend and unravel. Extremities touch extremities, and, all points becoming central on account of the impossibility of defining the external boundaries, we cannot decide with strictness between families so numerous and so closely allied.

Considering that the difficulty of settling these points could not properly find place in our publication, we have avoided every thing which would appear to have a pedantic tendency to classification, and contented ourselves with the general division of Quadrupeds, Birds, Fishes, Serpents, and Insects. The amphibious of doubtful nature, the worms, and others, we have placed, without pretension to any systematic arrangement, wherever we thought them nearly allied to the preceding or following subjects; but yet desirous to satisfy those who want to dive a little deeper into the secrets of Nature, we have inserted here a general view of one of the most modern classifications.

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x	-	INTRODUCTION.
	Quadrupeds.	primatesman, ape, bat &c.belluæhorse, pig, &c.Brutaelephant, Rhinoceros, &c.ferædog, cat, mole, &c.glireshare, castor, rat, squirrel, &c.pecoraCow, sheep, goat, &c.cetewhale, dolphin, shark, &c.
and and hor shi	Birds.	accipitresvulture, falcon, eagle, &c.picæwren, hoopoe, parrot, &c.anseresduck, goose, swan, &c-Grallæheron, woodcock, &c.gallinæostrich, cock, pintado, &c.passeressparrow, finch, lark, &c.
ls.	Fishes.	apodes eel, sword-fish, &c. jugulares gadus, uranoscopus, &c. thoracici doree, scorpion, gurnard, &c. abdominales salmon, herring, carp, &c. branchiostegi sturgeon, centriscus, &c. chondropterygii skate, shark, &c.
Animals.	Amphibious.	reptiles tortoise, sea turtle, &c. lizard, crocodile, salamanders toad, frog, &c. snail, leech, &c. serpents anguis
		jntestina amphisbœna cœcilia testacca
	Worms.	Zoophyta infusoria
	Insects.	coleopterascarabees, stag-beetlehemipteragrasshopper, cricket, &c.lepidopterapapilio, sphinx, &c.neuropteralibella, ephemera, &c.hymenopterabutterfly, ant, bee, &c.dipterafly, gnat, &c.apteraflea, louse, scorpion, &c.

As we have hinted above, we did not consider this book as being exclusively calculated for the instruction of children. We have contrived, therefore, as much as we had it in our power, to raise its style and composition to a higher degree, without depriving it of that original simplicity which made it at first so popular, and has ensured to it the protection of the public. We have also interspersed the running prose, with poetical quotations, which we consider as amusing to the adult, as they will be useful to infancy, in order to help recollection. Memory has always found a good and helping friend in the Muses. The Greeks, whose lively imagination was so able to discover the nicest relations between the faculties of the human mind, and to describe them through the allegorical meanings of mythology, supposed that the nine sisters were daughters of Mnemosyne, the goddess of memory; and that, subservient to their mother, they assisted her in return. The boys or girls, more able to learn the measured lines of poetry by heart, than the loose periods of prose, will retain a few verses, which will easily bring back to their mind the article and its contents. enoire a more puise pointere de la transmission de la contente de la co

We have paid likewise a particular attention to the figures intended to represent the animals. In the A 4

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former editions, they were placed on prints, interbound with the letter-press, in such a way that the reader was obliged to interrupt his perusal to recur to the engraving. Now every animal, engraved on wood, under the direction of the editor, and many after his own designs, stand at the head of the description as a voucher for the truth and correctness of what the article contains; and we hope that the graphic execution will do credit to both the engraver and the work.

We do not intend to enter here into a scientific dissertation upon the works of Providence; we will only remark, that the study of nature produces in the mind a high sense of gratitude, accompanied with veneration and awe for the Author of all things; and it is in this sense that the fear God is called the first step towards wisdom; Initium sapientiæ timor Domini; "the fear of the Lord is the beginning of wisdom." It is beyond doubt that the study of nature, and a contemplation of the mysterious wonders which surround us, are the basis of religion; and, indeed that awful sensation arising from a serious meditation upon the circumstanding objects which offer themselves to our senses, has always produced a due acknowledgment of the littleness of our intelligence compared with the incomprehensible extent of the

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power of God. In unenlightened minds, it miscarried its effects into the monstrous tenets of superstition. Let us consider a traveller, who enters for the first time the principal theatre of a populouscity, upon which all that the skill and judgment of the Machinist can create, is displayed. Surrounded with a croud of people, with whom he has but a few hours to spend, he converses slightly with some of them, contracts short and temporary acquaintances, and enquires about the wonders which strike his eyes; for he hears the rumbling noise of thunder, and sees, with tremor, the forked lightnings rent the clouds in the middle of winter; he sees the sun rise at night; the snow fall in the heat of summer; ghosts jump out of their tombs, and thousands of metamorphoses cause his astonishment ;-lost in admiration, he wishes to know the hidden springs which put all these marvels into motion; he interrogates every one about him, and receives no answer, they are all as ignorant as himself, and he leaves the house as wise as he came. Such is the melancholy condition of man upon earth. Encompassed with the wonders of the creation, he looks about, and seeks for one who can lead him into the secret; but he learns merely enough to be conscious of his want of knowledge. His own existence is a problem to him, and his sole consolation is, that after death

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he may steal behind the sceneries of this wonderful stage; and, in the bosom of the Almighty, enjoy for ever the universality of that knowledge, for the attainment of which he pants and labours here in vain .---- But, is there no way of lessening the thickness of that cloud which is spread before our eyes; and, although we cannot come at the perfection of all sciences, and discover the secret springs and resorts which this universe obeys, is there no possibility, at least, to dive a little deeper than the surface of things? Yes; and it is the study of nature alone which can afford these enjoyments and advantages. The wisest of men, as he is called, Solomon, had made it a principal object for the occupation of his great mind. So did Socrates, and all the sages of antiquity; and since them, innumerable authors have consecrated part of their industrious lives to the investigation of the works of Nature.

Keeping constantly at equal distance from blind partiality for established systems, and the delusive aim at originality, we have adopted what we found unquestionable and instructive in others; and yet in many places, we have vindicated to ourselves the liberty of thinking and of proposing the result of our thoughts, not only as modest doubts, but also

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as useful suggestions, which in better hands, and aided by the light of experience, might eventually assume the shape of certainty. Our unceasing object has been to point out, wherever an opportunity occurred, the goodness and wisdom of Providence, or Nature; for, as we are intimately persuaded that nothing is ushered into existence or preserved alive, but by the will and special care of the supreme Intelligence who created all, the words Providence and Nature are synonymous with us, and therefore we use them indiscriminately. The votaries of modern Philosophy have, in several instances, inverted the order of things, and placed effects for causes in the universe. They have supposed and asserted, that the habits of animals were determined by the organs which they are possessed of, and contend, for instance, that the young duck seeks for the pond because his feet are palmated, and that the frog and lizard adopt an amphibious station because the ventricles of their hearts have a communication, which allows the blood to circulate without the help of respiration. We are told also that turbots, soles, flounders, and all the individuals belonging to the order of Pleuronectes, have their eyes on one side, from the progressive and long habit of lying flat on the ooze, at the bottom of the sea.----We differ entirely from

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those system-makers; and although such names as Buffon, La Cepede, and several others, stand conspicuous among them, we have combated that unfounded and dangerous doctrine, upon the double ground of its having an erroneous supposition for its principle, and, for its effect, a direct tendency to materialism. No; the habits of animals are not the result of their fortuit conformation. The bird does not fly in the air, because he has wings; the fish swim, because he has fins, and the quadruped walk because he has feet. These animals, antecedently destined by the God of Nature, the Omnipotent Creator, to keep their respective stations in the world, were intentionally provided with the requisites for that purpose. Sent from his plastic hands into the forests, the wolf obtained sharp teeth to devour his prey; and the stag was endowed with swiftness to shun his enemies; intended to people the deep recesses of the ocean, the fish received fins to cleave the opposing fluid; and the painted wings of the bird were granted him, because his destination was to inhabit and adorn the aerial empire. These arrangements must be considered a priori; and as originating in the will, wisdom, and power of God.

These attributes of the divine essence are so con-

spicuous in every part of the creation, that it is hardly necessary to point them out to any reader of intelligence and sense; yet we have lost no opportunity of placing them under a point of view still nearer to young minds that have not yet acquired the habit of reflecting. We have explained every where, as clearly as possible, the workings of Nature concealed from the vulgar eye, and from the sight of the unthinking; and have developed, as far as it lay in our power, that most admirable impartiality of Providence towards the creatures, in the bountiful repartition of her gifts. We have carefully shewn how a sort of intellect and spontaneity has been granted to those who were deprived of instinctive and involuntary endowments; how cunning and ingenuity were offered in compensation for want of strength and of bulk; how the oyster, deprived of loco-motion, and of means of attack or defence, has been stationed in a strong fortress; and why the horse and the dog, who nearly understand the whole language of their keepers, cannot make for themselves a bed, whilst the goldfinch and the linnet can evince such curious talents in the weaving of their nests. From the human-like intelligence of the elephant, to the instinct of the ant-lion; from the wings of the eagle, that carries him

through the immense regions of the air, to the rough and uncouth covering of the limpet, fixed at the side of a rock, in the profundities of the sea, the reader will find frequent occasions to admire, real cause to adore, and constant motive to love and praise the infinite goodness of the Creator; and this, being one of the principal points considered in this publication, will repay our anxieties, and reward our labours in the re-composition of the work.

We meet every where, in ancient and modern authors, either in poetry or in prose, allusions and references to animals, which never had any existence, and are entirely the offsprings of allegory misunderstood, or of mere imagination. Several of those beings have a meaning which is not obviously intelligible; and as the works in which their fanciful nature is explained, are not at hand for every body, we have thought that a clear and short Appendix, in which the subject should be treated briefly, but in a new point of light, and explained by ideas as well founded as they may appear original, would not fail to be pleasing to the public, and we have placed it at the end of the work.

A defect, which is observable in all publications

telligence of the elephnut, to the instinct of the

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upon Natural History, is the want of proportion between the different figures of animals : but there is no remedy; for after several experiments, it has been found utterly impossible to adopt, within the short limits of a 12mo. or Svo. page, a standard of size, or comparative scale, which might have answered the purpose; and all our predecessors, in the interesting task of delineating the generality and individuals of the brute creation, have been obliged to submit to the tyranny of necessity. The striking difference which exists between the bulk of the elephant and the evanescent body of the hardlyperceptible mite; between the hugeness of the whale and the smallest cockle-shell lost in the sand of the ocean, admits of no proportionable admeasurement, in works adorned with plates or cuts of common sizes; and we have provided that the printed description, under the engravings, should supply and rectify whatever may be either wanting or incorrect in the figures.

We have added, in this new edition, alphabetical indexes to the different sections of the work; and have given the names of the animals, in English, in Latin, and in French, in order to lead the reader, who may wish still for a more extensive history of

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them, to a more ample source of knowledge. In fact, we have neglected no part of our task; and we trust that our zeal and liberal intention will effectually produce the double object we have in view—intellectual amusement, and useful instruction.

July 19th, 1812.

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We have added, in this new edition, alphabetical indexes to the different sections of the work; and have given the sames of the animals, in English, in Latin, and in French, in order to lead the reader, who may wish still for a more extensive history of

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Sheep	Trumpet fish · · · · · · · 28 Turbot · · · · · · 287
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Smalt	Sil Unicorn, Sea
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Snake, Rattle	Wagtail
Snipe 199	Wallachian-ram 28
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Sole ····· 3	Water-rat 50
Sow 41	8 Wasp
Sparrow	3 Weasel
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Saching fish	
Sun-fish	7
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DESCRIPTION

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OF

BEASTS.

BOOK I.

OF QUADRUPEDS, OR FOUR-FOOTED BEASTS.



THE LION.

" Fierce as they stalk, on Zaara's torrid plains, The stately Lions shake their shaggy manes; Upon their flanks their lashing tails rebound, And dreadful roarings rend the air around."

Z.

THE LION, justly styled, by all writers, the King of beasts, is generally of a tawny colour, with a tail from three feet and a half to five feet in length: his head is large and strong; his nose thick; his mouth wide, and armed with numerous and strong teeth;

A DESCRIPTION OF

his eyes are red, fiery, quick, and hollow: each of his fore feet has five distinct claws, and the hinder ones, apparently, but four, as the fifth is placed higher up in the tarsus, or foot; they are of a whitish colour, about an inch and a quarter in length, crooked, moveable, sharp, and exceedingly hard. His roaring is so terrible, that, when other wild beasts hear the noise, their hearts pant with fear; although he is not himself, at times, without his dread of other creatures,—such as the tiger, the elephant, and some mighty snakes, which often give him battle.—Lions are hunted with dogs, but oftener taken in pits, nets, and snares.

The generosity of the Lion has been much extolled; and he has been known to forgive, or disdain, the insults of smaller creatures, that had teazed him with their inconsiderate petulance. His gratitude was exemplified in the well-known anecdote of the slave Androclus, who had extracted, in the deserts of Africa, a thorn from a Lion's foot; and who, being by chance exposed to his fury in the Roman amphitheatre, was spared by him, as his benefactor : The Lion publicly licked the hand that had cured him. We read, also, in an author of great respectability, that, in the sixteenth century, a Lion, having escaped from the menagerie of the Archduke, walked through the streets of Florence: whilst the terrified citizens ran, on all sides, from his sight, a woman, in her hurry, dropped on the pavement an infant, which she held at her breast: the furious animal picked it up by the garments, and was going away; the frantic mother, unmindful of danger for herself, falls on her knees before the Lion, and, with loud exclamations, supplicates him, either to give up the child, or to tear her in pieces; the no-

QUADRUPEDS.

ble animal stops, looks at her, drops gently the babe on the ground, and walks stately off.

As the Lion belongs to the feline kind, his eyes are incapable of bearing a strong light; therefore it is in the night that he prowls and roams for prey. His strength is so great, that he carries away a young heifer with the same facility that a cat does a mouse .-- Lions have been known to live upwards of seventy years, as did Pompey, the large male lion that died, in 1760, in the Tower of London .--The Lion is the constant companion of Britannia, as a national symbol of strength, courage, and generosity. In ancient gems, in paintings, and statuary, the Lion's skin is the attribute of Hercules. In scriptural compositions, he is painted at the side of the evangelist St. Mark; and holds the fifth place among the signs of the zodiac, answering to the months of July and August.



THE LIONESS,

THE female of the same kind, participates the same nature and qualities. She has no mane, which is proper to the male only, and to whose shoulders and neck it is a great ornament. She goes five

A DESCRIPTION OF

months with young, and produces them in the spring; has a fresh brood every year, and four or five whelps at a litter, which she rears up with jealous fierceness, being most outrageous when any man or animal dares to approach her den. In domesticity, she brings only two; which, adhering generally to the same teats, made some anthors infer that she never has but two cubs at one time.



THE JACKALL,

COMMONLY called *the lion's provider*, is not much bigger than the fox, whom he resembles in the appearance of the fore part of his body. His skin is of a bright yellow colour.—The Jackalls often unite to attack their prey, and make a most hideous noise, which, rousing the king of the forests from his slumbers, brings him to the place of food and plunder: at his arrival, the petty thieves, awed by the greater strength of their new messmate, retire to a distance; and hence the fabulous story of their attendance on the lion, to provide for his food.—These animals are always seen in large flocks to the number of two hundred; and hunt, like hounds, in full cry, from evening till morning. In want of prey, they dig the dead out of their tombs, and feed greedily

QUADRUPEDS.

on the putrid corpses. They are common in Cilicia, and other parts of Asia Minor.



THE PANTHER

Is in shape somewhat like the leopard, with which he has been often confounded by naturalists. His hair is short, sleek, and mossy, and of a bright yellow, beautifully marked with round, annular, black spots. He is fierce. greedy of blood, swift in the chase, and catches his prey by leaping from some lurking place, where he squats himself in the manner and shape of a cat, which he resembles in many points. His tongue, in licking, grates like a file.



THE LEOPARD

DIFFERS but little from the panther. The spots of his skin are composed of four or five black dots B 3 A DESCRIPTION OF

arranged in a circle, and not imperfectly representing the vestige left by the animal's foot upon the sand.



THE ONCE

Is a most cruel beast, about as big as a mastiff-dog, and resembling a cat; to which species several authors have referred him, as well as the precedent ones. His teeth are so sharp, that he can bite wood asunder with them, and he fights with his claws, which are possessed of very great sharpness and strength. The colour of the upper part of his body is that of whitish oak, the lower part of an ash-colour, all over sprinkled with black spots, which are larger, and in form of annulets, round his tail. This species inhabits Barbary, Persia, Hyrcania, and China; is used for the chase of antelopes and hares, and is as much under command as a setting-dog; returns at the call, and jumps up behind his master, being carried on the crupper on horseback. This animal, and the two preceding ones, were anciently consecrated to Bacchus, to whose triumphal car they used to be harnessed, in allusion to the effect of wine upon the mind of man, whom intoxication often renders ferocious. The beauty of his skin has made it valuable among furriers.

QUADRUPEDS.



THE TIGER

Is the largest of the animals belonging to the feline kind; for he exceeds the lion in size, and is of an unconquerable fierceness. His body is elegantly marked with longitudinal dark spots, or brown streaks, on a tawny ground. The Tiger is swift, and afraid of no beasts, which he attacks most furiously; yet he seems to be awed by the presence of man, as he never attacks him but when pressed by hunger, or the fear of losing his young. The cubs of the Royal Tiger are most elegant in their shape, and as playful as kittens. The marshy banks and swampy meadows of the Indus and Ganges harbour great numbers of these animals, whose stripes adorn the standard of the Mogul princes from time immemorial. The Tiger is perfectly untamable. Correction cannot terrify, nor indulgence reclaim him, from his ferocious propensities; and he is naturally so cruel, that when he attacks a flock or herd, he destroys all indiscriminately, and will hardly suspend his rage to satisfy his hunger.


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THE BUFFALO

Is, for the most part, like the bull, but smaller in size. His hair is deep and harsh, like that of a bear: his skull is so hard and thick, that the Scythians make of it breast-plates, which no dart can pierce through. He is a native of most parts of the torrid zone, and almost of all warm climates. In the tropical countries, he is perfectly domestic. and most useful for many purposes, being an animal of patience and great strength. When employed in the labours of agriculture, he has a brass ring put through his nose, by which means he is led at pleasure. The Buffaloes are common in Italy, where they were brought from India in the sixth century. He is mostly valued for his hide; whereof, in several countries, and especially in England, military belts, coats, and other implements of war are made.



THE BULL,

Is a very strong, fierce creature; his strength, in all his body, is very great, but particularly about the head and neck; his forehead seems to be made for fight, having short thick horns, with which he can toss up into the air a large dog and other weighty things: his voice is deep and loud, and, when furious, nothing can stop his devastations. The species is divided in several breeds; the two following specimens present, first, a Cow as they generally are in Essex and adjacent counties; and secondly, one of the Scotch breed. The Bull holds the second place among the signs of the Zodiac, as a mark of respect bestowed upon him by the ancient Egyptians for his usefulness in tilling the ground, whilst, on the contrary, he has been, and is still, the object of one of the most sanguinary amusements in Spain and other countries. The Bull does not live longer than sixteen or eighteen years. He is represented, in mythologic subjects, as the usurped form under which Jupiter deceived and stole away Europa; in scriptural paintings he is the attribute of St. Luke, the Evangelist.



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THE COW

Is the female of the animal above mentioned, and lives somewhat shorter than him. She has seldom more than one calf at once: and her time is about nine months. Alive, the Cow is a second mother to man; she yields her distended udders every morning and evening to feed us, and is generally soon deprived of her offspring in order, that, whilst it contrives to fill our markets, her milk may the longer pour in nectareous streams in our cups, be churned into butter, or pressed into cheese.



When dead, her flesh becomes our principal nourishment; her skin, being wrought into boots and shoes, defend us from the mud, and the rain; her hairs strengthen the plaster partitions of our

houses, and her horns and hoofs, being melted and dissolved, add to our pleasure and comfort in a multifarious sort of ways; her diseases even have of late proved beneficial to mankind, in the successful attempt of Vaccination. For a long lapse of centuries, the Hindoos, well impressed with the sense of gratitude that so useful an animal could not fail to excite, have paid divine honours to the Cow, and worship her to this moment.



THE OX

Is fattened, after the labours of his youth are over, to procure us an excellent food in his flesh As he seldom fights, being of a gentle nature, his horns grow at a great length and bend out laterally according to the kind to which he belongs. He has eight cutting teeth in the lower jaw and none in the upper; a wonderful contrivance which the whole species received from nature to nip the grass in the meadow. All animals of the Cow kind ruminate, and therefore are provided with three sorts of paunch or stomach; the honours aforesaid, paid to the Bull for his agricultural services, really belong to the Ox, who draws the plough and cart with the greatest

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steadiness and perseverance. The animal represented above is of the Herefordshire breed. The Bull, the Ox, and the Cow feed only upon herbage; and the meekness of the two last is such that a child is often left with the care of a whole drove of them. Speaking of a herd drinking, the poet of the Seasons says, with his usual elegance:

THOMSON'S SUMMER,



THE HORSE.

THE noblest conquest that man ever made on the brute creation was the taming of the Horse, and the engaging him to his service. He lessens the labours of man, adds to his pleasures, advances or flees, with ardor and swiftness, for attack or defence; shares, with equal docility and cheerfulness, the fatigues of hunting, the dangers of war, and draws with appropriate strength, rapidity or grace, the heavy ploughs and carts of the husbandman, the light vehicles of the

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rich, and the stately carriages of the great. The specimen above is that of a young Cart Horse; the following represents the War-Horse or Charger.



The Horse is bred now in most parts of the world: those of Arabia, Turkey and Persia are accounted as better proportioned than many others; but the English race may justly claim the precedence over all the European breed, and are not inferior to all the rest in point of strength and beauty.

The intelligence of the Horse is next to that of the Elephant, and he obeys his rider with so much punctuality and understanding that the Americans, who had never seen a man on horseback, thought, at first, that the Spaniards were a kind of centaurs, a monstrous race, half-men and half-horses. The Horse is allowed by nature but a short life, as he seldom lives longer than twenty years. We may suppose that in the savage state, he might attain the age of forty, and it is melancholy to think that our bad treatment has shortened the days of so useful a creature. The Mare, his female, is as elegant in her shape. She goes eleven months, and seldom foals double. From the teeth of the Horse his age is known, and his colour, which varies considerably from black to

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white, from the darkest brown to a light hazel tint, has been reckoned a good sign to judge of his strength and other qualities. The following figure represents the Hunter and Race-Horse.



The Horse feeds upon grass, either fresh or dry, and corn; is liable to many diseases, and often comes suddenly to his end. In the state of nature, he is a gregarious animal, and even in domesticity, his debased situation of slavery has not entirely erased his love of society and friendship, for horses have been known to pine at the loss of their masters, their stable fellows, and even at the death of a dog which had been bred near the manger. Virgil in his beautiful description of this noble animal, seems to have imitated Job:

> "The fiery courser, when he hears from far The sprightly trumpets, and the shouts of war Pricks up his ears, and trembling with delight Shifts place, and paws, and hopes the promis'd fight. On his right shoulder his thick mane reclin'd, Ruffles at speed, and dances in the wind. His horny hoofs are jetty black and round, His chine is double ; starting with a bound, He turns the turf and shakes the solid ground. Fire from his eyes, clouds from his nostrils flow ; He bears his rider headlong on the foe.

> > DRYDEN, GEO. III.



THE ASS

Is a beast of burden, undoubtedly much serviceable to mankind. Of greater strength comparatively than most animals of his size, he bears fatigues with patience, and hunger with apparent cheerfulness. A bundle of dried herbs, a thistle on the road, will suffice him for his daily meal, and he compensates with the clear and pure water of a neighbouring brook (on the choice of which he is particularly nice) the want of a better fare. Our treatment of this very useful animal is both wanton and cruel, and most ungrateful, considering the great services he renders us at a little expence. His ears, which are of an uncommon length, are generally mutilated, and he is thus deprived by man of that which nature had intended for ornament and use. He is generally of a dun colour, and wears the form of a cross on his back and shoulders. Antiquity had a great regard for this animal. Jacob in his prophecy, compares his son Issachar, and Homer, the great Ajax, to an Ass. Whether he is a degenerated species from the Zebra or some other wild creatures, whose original race has entirely disappeared from the sur-

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face of the globe, through the slavish habits of domesticity, remains still to be decided; he lives nearly to the same age as the horse; and his female's milk has often proved a good remedy against consumptions. We cannot deny, however, that he is often found very stupid, sluggish and obstinate.



THE MULE

Is of a mixed nature, resulting from the union of the Ass and the Mare, inheriting from his male parent the long ears and cross on the back, and small legs and elegance of shape from his mother. Sure and steady-footed, he walks the Alps and the Pyrenees, between tremendous precipices, to the great astonishment of his drivers, seems to be fond of being adorned with handsome trappings, and lives generally longer than either of the species he arises from. He is in general unfit to create offsprings, according to the law of nature, who recoils from the addition of any new animal to her established stock. The Mule surpasses the Ass in unaccountable obstinacy, as well as he does in strength.



THE BEAR

Is a well-known quadruped of the cat kind, who makes use of his tusks in seizing his prey, but embraces it with his paws and squeezes it to death against his breast. The Bear is found in several parts of the world; some of them live upon acorns, herbaceous food, and on honey; some others on fish, flesh, and even carrion. The brown Bear of the Alps and Switzerland, though illshaped and uncouth, is often dragged along our streets, and made an amusing shew to the gazing multitude. We have, however, to congratulate mankind that the stern and ferocious entertainment of bear-baiting is entirely become out of fashion. The Bear is a great sleeper, and passes the whole winter in his den without any particular food; but if we consider his being at rest, losing little by perspiration, and never retiring before he is properly fattened, his abstinence will cease to be so wonderful. The American Bear is of a glossy black. The frozen regions of Greenland, Iceland, &c. offer a white kind of the same animals, which are sometimes thirteen feet in length. They live entirely on fish, though they can eat flesh when it comes in their way. The female Bears

bring forth two or three young, and are very jealous of their offspring. This animal has given name to two of the most conspicuous constellations near the northern pole, from the fable of Calisto, a nymph of Diana, who was seduced by Jupiter. The fat of the Bear is reckoned very useful in rheumatic complaints, and for anointing the hair; his fur affords comfort to the inhabitants of cold countries, and ornaments to those of milder climates.



THE ANT-BEAR OR ANT-EATER,

Is nearly as big as a pretty large dog, with soft brown hair, a small mouth, a long cylindrical tongue, which is generally folded in the mouth, and supplies the want of teeth. The snout is, comparatively to the body, greater than in any other quadruped, measuring the third part of the whole length; he feeds on ants, and catches them by laying his glutinous tongue across the path, frequented by them, and drawing it back when a sufficient number has been entangled in its viscosity. The Ant-Eaters are naturally dull, slothful, and timid, and live in Africa, Asia, and America. There are several species of

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these animals distinguished by the names of great, middle-size, less, and striped Ant-Eaters, but the above stated character is common to all of them.



THE WOLF,

WHEN hungry, is an undaunted and most ferocious inhabitant of the woods, but a coward when the stimulus of appetite is no longer in action; he delights to roam in mountainous countries, and is a great enemy to sheep and goats; the watchfulness of dogs can hardly prevent his dilapidations, and he often dares to visit the haunts of men, howling at the gates of cities and towns. His head and neck are of a cinereous colour, and the rest of a pale yellowish brown. He commonly lives to the age of fifteen or twenty years, and possesses a most exquisite power of smelling his prey at a great distance. Wolfs are found nearly every where, except in England, where this noxious race has been entirely destroyed. 20



THE RHINOCEROS,

So called because of the horn on his nose, is bred in India and Africa; he is of a dark slate colour, and is inferior to no one but the elephant; he measures about twelve feet in length, but has short legs. His skin, which is not penetrable by any weapon, is folded upon his body in the manner represented in the figure above; his eyes are small and half closed, and the horn on his nose is so sharp, and of so hard a nature that it is said to pierce though iron and stone. He is perfectly indocile and untractable; a natural enemy to the elephant, to whom he often gives battle, and is said never to go out of his way, but that he will rather stop to destroy the obstacles which offer to retard his course, than to turn about; he lives on the grossest vegetables, and frequents the banks of rivers and marshy grounds; his hoofs are divided into four claws, and it is reported that he grunts like a hog, which he resembles in many points as to shape and habits. The female produces put one at a time, and during the first month, the young Rhinoceros is not bigger than a large dog.



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THE FOX

Is produced in most countries, and varies much in size and colour. In Muscovy some are white, some red, and others black. His abode is generally on the skirt of a wood, in a hole which some other animal has either voluntary left or been driven from. Nature, who endowed him with sagacity, craft, and cunning, has not, however, allotted him a long life; being classed by her among the dog kind, the duration of his existence does not exceed twelve or fifteen years. His bite is tenacious and dangerous, as the severest blows cannot make him quit his hold; his eye is most significant, and expressive of every passion, as love, fear, hatred, &c. The Fox is the greatest enemy to the poultry-yard, which he depopulates often in the course of one night. But when his choice food, the chicken flesh, is not accessible, then he devours animal food of all kinds, even serpents, lizards, frogs, toads; and if his habitation is near the water, he even contents himself with shell-fish. In France and Italy he does a great deal of damage in vineyards, being very fond of grapes, and spoiling many for the choice of one bunch: his stratagems are well known, and need not to be recorded here.

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THE STAG

Is generally famed for long life, but upon no cer-The naturalists agree, however, tain authority. upon this point, that his life may exceed forty years, but that his existence, as it has been asserted, reaches to three centuries, is not sufficiently proved to claim our belief; he comes to his full growth at five, soon after which his horns, which are yearly shed and renewed, grow from a narrower basis, and are less branching. He is the tallest of the deer kind. The Stag is called Hart after he has completed his fifth year. This creature is known in many countries; the female, called the Hind, is without horns. Every year, in the month of April, the male loses his antlers, and conscious of his temporary weakness, hides himself till his new ones are hardened. Little need be said of the pleasure taken in hunting the Stag, the Hart, and the Roe-buck,

it being a matter well known in this country, and in all parts of Europe. His flesh is accounted an excellent food, and even his horns, so useful to cutlers, when reduced to powder, are much esteemed in physic under the common name of *hartshorn*. The swiftness of the Stag is become proverbial, and the diversion of hunting this creature has, for ages, been looked upon as a royal amusement. When fatigued in the chace, he often throws himself in a pond of water, or crosses a river, and, when caught, he sheds tears like a child. Our great Bard, Shakespeare, gives us a beautiful description of this circumstance in "As you Like it," act II. scene I.

"To the which place a poor sequester'd Stag, That from the hunter's aim had ta'en a hurt, Did come to languish; and indeed, my lord, The wretched animal heav'd forth such groans That their discharge did stretch his leathern coat Almost to bursting: and the big round tears Cours'd one another down his innocent nose In piteous chase.



THE ROEBUCK

Is one of the least of the Deer kind known in these climates, being not above three feet in length,

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and two in height. His horns are about nine inches long, round, and divided into three small branches. His colour is of a brown shade on the back, his face partly black, and partly ash colour, the chest and belly yellow, and the rump white; his tail is short. The Roebuck is more graceful than the Stag, more active, more cunning, and comparatively swifter; his flesh is much esteemed, and his age does not exceed fifteen years. The only parts of Great Britain where he is found, are the Highlands of Scotland.



THE ELK

Is twice as big as a Hart, and bigger than a horse in Norway and Sweden. His horns spread into large broad palms, and he has an excressence under the throat, the use of which has not yet been explained. He lives in forests, upon branches and sprouts of trees, and is an inhabitant of Europe, Asia, and America.



THE REIN DEER

Is common in Russia and all hyperborean countries; he is easily tamed and harnessed to a chariot or sledge, which he draws with astonishing swiftness on snow and icy ground; his horns divide at the root, part of which ascends, the other part being depressed about the ears, which are long and sharp. Like all animals of the deer kind, he has eight teeth in the lower jaw and none above.

> "Swift as the trackless winds on frozen fields, Where hoary winter spreads his ermine robe, The rapid Rein-deers flee, and bear away The sliding sledges; whilst the Lapland dames, Well fenc'd with native fur, against the blast, Sit and direct their emulative flight Athwart the slipp'ry plains; with brighter rays The moon illumes the coursers' branching crests, And leaves a length'ning shade behind.

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THE SHEEP

Is universally known, his flesh being one of the chief for human food. His wool is of great use for cloathing. Although of a moderate size and well covered, he does not live more than nine or ten years. The Ram is strong and fierce. The Ewe goes with young about twenty weeks, and the lamb has always been an emblem of innocence.



This animal is one of the most useful that nature ever submitted to the empire of man; and in patriarchal life, the number of Sheep constituted the riches of kings and princes; in fact this animal was so much esteemed for his multifarious good qualities, that the Ram obtained the first place among the signs of the Zodiac, under the Latin name of Aries.

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THE GOAT,

AFTER the cow and the sheep, has been always reckoned, and mostly in ancient and patriarchal times, the most useful domestic animal; indeed the veneration they paid to this creature was supposed so well founded and so great, that they gave it a place in the Zodiac, under the name of Caper, and intrusted to the female the education of young Jupiter, as a proper nurse, under the appellation of Amalthea. What nectareous qualities must have they supposed to exist in her milk to feed with it the greatest and the best of their Gods? and to have fancied that a few drops falling on the sphere of heaven, were transformed into innumerable stars, called Galaxy, or Milky Way. The Goat's hair is very different from the wool of the sheep, and made use of in various ways. The Goat is more nimble, more alert than the sheep, and delights in mountainous and rocky countries. She is sober and mild; the kid's flesh was once reckoned a most delicate food, and even now feeds an immense quantity of people in the Alps, the Pyrenees and Wales. Her milk has saved many from a premature grave.



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THE IBEX

Is a Wild Goat, which inhabits the Pyrenean mountains and the Alps. He is of an admirable swiftness, although his head is armed with two long knotted horns, inclining backwards; his hair is rough, and of a deep brown colour. The male only has a beard, and the female is less than the male : this animal skips from rock to rock, and often, when pursued, jumps down enormous precipices without receiving any hurt from the fall.



THE WALLACHIAN RAM.

The singular conformation of the horns which adorn the head of this breed of foreign Sheep, has induced

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us to insert a figure of the animal in this work. The late Mr. Collinson, a Fellow of the Royal Society in London, sent a drawing of the Ram and one of the Ewe, to the Count de Buffon, who had them engraved in his first volume of quadrupeds. The horns of the Ewe are twisted also, but not so violently, as those of the Ram, which describe, near the head, a spiral line. The wool of this species seems to be much longer than that of the common Sheep, and to resemble that of the goat. Buffon deplores that the death of his friend, Mr. Collinson, had deprived him of a more particular description of this curious animal, which is sometimes called Strepsicoros, from the shape of his horns.



THE MOUFFLON, OR MUSMON,

Is of the Sheep kind, and in figure somewhat resembling a ram, but his wool is rather like the hair of a goat. A native of the mountains of Spain and Corsica, he feeds on grass and other kinds of vegetables; his horns are bent backwards, and his tail is short. Endowed with considerable strength, he can defend himself against his enemies in the forests, and his flesh is reckoned to be a very good food.



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THE LYNX.

THE perspicuity of this animal's eye has long been proverbial, but without any foundation; he belongs to the feline kind; is of a cinereous colour, tinged with red, and marked with dusky spots; and on both sides of his nose there are four of those spots set in order; his ears are upright and pointed like those of a cat; his skin is much esteemed for its beautiful fur, and the species, which is now very scarce in Europe, is still found in America, but of less size. Ancient poets have harnessed him to the car of Bacchus, with panthers and leopards. He moves with a great deal of swiftness, and, when tamed, shews tender marks of affection to his keeper.



THE RACOON

Is a native of America, and in Jamaica they are very numerous, and do incredible mischief to the

sugar-cane plantations. The Racoon less than a Fox in size, has a sharp-pointed nose. The colour of his body is grey, with two broad rims of black round the eyes, and a dusky line running down the middle of the face. Racoons are very easily domesticated, and then become very amusing and harmless animals.



THE WILD BOAR

INHABITS, for the most part, marshes and woods, and is of a black or brown colour; his flesh is very tender and good for food. The Wild Boar is the original of the hog kind, but more sagacious and cleanly; his tusks are sometimes near a foot in length, and have often proved dangerous to men as well as to dogs in the chace. His life is confined to about thirty years; his food consists of vegetables, but when pressed by hunger, he devours animal flesh. This creature is strong and fierce, and undauntedly turns against his pursuers. The Boar of Calydon killed by Atalanta is often mentioned in mythological poetry. The Boar has two tusks, but much

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less than those of the wild one; the Sow has none; from the back of the head to the tail, the chine is covered with long and hard bristles, of which great use is made in several trades. In forests they live upon acorns, and their flesh then is much preferable to that of the confined ones, who feed on any filthy things that are in their way. The Hog and Sow live about fifteen or twenty years. This species stands alone in nature, as it bears resemblance to no other.



THE SOW,

THE female of the Hog species, is bred in most parts of the world. The general colour varies considerably, as in all domestic animals; the snout is long, strong and broad, well calculated to cast up the earth for food. The fertility of the Sow is very great, as each litter generally amounts to between nine and fifteen pigs, sometimes twenty, and that twice or thrice in the course of the year.

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THE APE,

A numerous and well-known tribe of animals mostly resembling the human species in the shape of their ears, eyes, eyelids, lips, breasts, feet, hands, and in the general form of their bodies. This species is differenced from the monkey by their having no tail. They are of a pale mouse colour, and sometimes five feet tall. The largest is called Ourang Outang, or Wild Man of the Woods. He is bold and mischievous, and often attacks men and women. The negroes believe that these Apes could speak, but do not, lest they should be set to work. The Longarmed Ape, as well as the others, inhabits the torrid zone, and is remarkable for the length of his arms, as his hands can touch the ground when the creature is standing. The Pigmy Ape is about two feet in height, and lives in Africa. The fabulous history of the nation of Pigmies seems to have originated in the existence of these animals, and their diminutive resemblance to man.



MONKEYS

ARE bred in many countries, and are of various sorts and sizes. There are some in the East Indies most beautifully spotted. This tribe is less in stature than the apes and baboons, but do more mischief, as they generally unite in great numbers for the sake of devastating a plantation, or of attacking and annoying some fiercer creatures, which they force away from their haunts by teazing and pelting them in all ways imaginable. Their natural food is vegetables, likewise fruit of all sorts, corn, and even grass; but when domesticated, they learn to eat of all what is served on our tables. They are often seen in our streets, the unwelcome riders of the patient bear, and excite laughter by their cunning,

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and their tricks. It has been a folly to suppose that Apes and Monkeys were degenerated men; the least knowledge of anatomy, and the inspection of their inward frame, is sufficient to decide the point.

> "First rudiment of man, when Nature sat, And turn'd the plastic wheel and docile clay, In search of better shapes and fairer forms Worthy to stand proud Reason's noble shrine, The Ape, the lively Monkey, still approves In form, in shape and gestures quaint, a man In miniature,—but Reason dwells not there."

The Mona, Green, and Fair Monkeys, represented above, are small species of the same class, and have all a long grasping tail, very useful to them when playing and jumping from branch to branch in the plantations of canes and cocoa-trees.



THE STRIATED MONKEY

Is of a small size, not measuring more than seven inches; his tail near eleven; he weighs about six ounces; inhabits the Brazils, and, as others, lives entirely on vegetables. His face is almost naked,

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of a swarthy flesh colour, with a white spot above the nose; the tail is full of hair, and annulated with ash colour, and black rings alternately.



THE BABOON

Is commonly covered with black hair, a little intermixed with yellow. He has a canine face, the lower parts of which are of a bright vermillion; the snout resembles that of a hog, and the nails are flat, but sharp and very strong. The ancient Egyptians, whose superstition is so well ridiculed by Juvenal in one of his satires, held these creatures in great veneration, and kept them in their temples. We are told that he follows goats and sheep in order to drink their milk; partakes considerably of the human dexterity in getting the kernels out of nuts, and loves to be covered with garments; he stands upright, and imitates with ease many human actions.



THE GREAT-EARED MONKEY

HAS large, erect, square ears, and a swarthy fleshcoloured naked face; he is somewhat larger than the common squirrel, and his hair is soft, thick and shaggy, of a well temperated mixture of orange and black. The hands and feet are of a light orange shade, and his tail is double the length of his body. He possesses, as well as the rest of the Monkey tribe, very quick eyes, and beautiful white teeth; but like some others who, with him, are natives of America, he has no pouches in the mouth, and the hind part of his body is covered with hair as well as the rest.



THE HYÆNA

Is the most savage, fierce, cruel, and untractable of all quadrupeds; he appears as if always in a rage.

He is an animal of the dog kind, and resembles the wolf in his shape; he is covered with long, coarse, and rough ash-coloured hair, and marked with long black stripes, from the back downwards; the tail is very hairy. Like the jackall, he devours the flocks and herds, cares little for the watchfulness or strength of dogs, and when pressed with hunger, comes and howls at the gates of towns, and violates the repositories of the dead. He naturally inhabits Asia and Africa, but has sometimes been found in Europe.



THE ANTELOPE, OR GAZELL,

Is between the goat and the deer kind. Swiftness and elegance of shape this animal possesses to a considerable degree, and inhabits the temperate zone of Asia and Africa. He has horns like the deer, but like the goat he never sheds them; these horns are smooth, long, and annulated. The general colour is brown, and, in some species, of a beautiful yellow. Timid animals are of course inoffensive, and the Gazells, as other gregarious creatures, are fond of

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living together. The eyes are exceedingly bright, and to them, those of a beautiful nymph have often been compared by Persian and other poets. Enjoying an unbounded share of liberty, they range, in herds, through the deserts of Africa, and bounce from mountain to mountain with wonderful agility.



THE PORCUPINE

GROWS to the height of about two feet and a half, and his body is covered with hair and sharp quills, from ten to fourteen inches long, and bent backwards. When the animal is irritated, they stand erect, but it is a folly to believe and nonsense to repeat after ill-informed naturalists, that the Porcupine can shoot them at his enemies. The female goes seven months with young, and brings forth only one at a time. They are reported to live from twelve to fifteen years. The Porcupine is dull, fretful and inoffensive, feeds upon fruits, roots and vegetables of many sorts; and inhabits India, Per sia, Italy, and almost every part of Africa.

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THE HEDGE-HOG

Is somewhat like a porcupine in miniature, and, in shape, resembles the animal from which he derives his name; he is covered all over with strong and sharp spines or prickles, which he erects when irritated. He is no more than ten inches in length, and, by rolling himself in the shape of a ball, can resist the attack of his strongest enemies; among which are the cat, the weazle, the martin, and the dog. His common food is composed of apples, grapes and other fruits; and far from being a noxious animal in a garden, he soon destroys the worms and snails, which he feeds upon when he finds no windfall to devour. The Hedge Hogs inhabit most parts of Europe. Some are also found in Asia, but of a smaller size.



THE BADGER

INHABITS most parts of the world. The length of his body is about two feet six inches from the

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nose to the insertion of the tail, which is black like the throat, breast, and belly; the hair of the other part of the body is long and rough, of a yellowish white at the roots, black in the middle, and cinereous at the point. Being a solitary animal, he digs a hole for himself, at the bottom of which he remains in perfect security; he feeds upon young rabbits, birds and their eggs, and honey. The female brings for th every year, commonly three or four at a time.



THE CAMEL

Is a native of Asia, and is generally of a brown colour. He is one of the most useful quadrupeds in oriental countries; his docility and strength, his sobriety, and swiftness on the sands of Arabia Lybia and Egypt, make him a most valuable acquisition to the inhabitants of those places. Several fables have been handed about concerning this animal of burthen, which are so foolish that it would be abusing the patience of the reader if we were to repeat them. The principal characteristics of the Camels are these: They carry two large and hard bunches on their back, are destitute of horns; have

six cutting teeth in each of their lower jaws, and none in the upper; their upper lips are divided like those of hares; and their hoofs are small and undeciduous. A large Camel is capable of carrying a thousand, and sometimes twelve hundred weight. This animal, like the elephant, is tame, tractable, and strong; like the horse, he gives security to his rider; and, like the cow, he furnishes his owner with meat for his table, and milk for his drink. The flesh of the young Camel is esteemed a delicacy, and the milk of the females, diluted with water, is the common drink of the Arabians. The female goes one year with young, and produces but one at a time. The Camel kneels to receive his burden, and it is said that he refuses to rise if his master imposes upon him a weight above his native strength. Long inured to slavery, the result of domesticity, he wears on his knees the stigma of servitude, and sleeps promiscuously with the Arab, his wife and children, under the tent, in the parched and extensive sands of the Levant.



THE DROMEDARY,

An animal of the Camel kind, of less stature, but much swifter, having but one hard bunch on his

back; like the camel, he chews the cud. He is covered with soft, short hair, except on the head, throat and top of the neck, where it is longer. His upper lip is divided like that of the camel, and his feet are terminated by two sharp claws. The Camel and Dromedary produce with each other, and the race resulting from their union is reckoned the most valuable, adding the swiftness of the one to the greater strength of the other. It is said that this kind can travel one hundred miles a day, and carry fifteen hundred weight.



THE BISON, OR WILD OX,

Is bred chiefly in the northern parts of the world, viz. Muscovy, Scythia, &c. He is as big as a bull or ox, being maned about the back and neck, like a lion, and his hair hanging down under his chin, or nether lip, like a large beard. He has a rising, or little ridge, along his face from his forehead down to his nose, which is very hairy; his horns are large, very sharp, and turning towards his back, like those of a wild goat on the Alps. He is of such strength,
that he can, (if some writers may be believed) toss a horse and his rider; with his tongue, which is hard and rough, he can wound the flesh of man. His hair is red, yellow or black; his eyes very large and fierce. He exhales a smell somewhat like that of the muskcat, and his flesh being of a strong, disagreeable taste, is not fit for eating.



THE CAMELEOPARD, or GIRAFF.

HERE Nature seems to have forgotten her general rules of symmetry, in giving to this extraordinary quadruped, a small head with a large body, and fore feet much longer than the hinder ones, without letting us into the secret of her reasons for composing such a shape. This curious animal is found in the remotest part of Africa. His head, which resembles that of a horse, is armed with two small

horns, blunt, and of iron colour; the hair which covers the body is a beautiful brown, variegated with white spots; he feeds on vegetables entirely, and is obliged to spread his fore feet very wide in order to reach the ground. His timidity is equal to his strength, and an animal, that might fight a bull, may be led by a child with a small line or cord about his neck. It is said that the flesh of this animal is a pleasing and wholesome food.



THE HARE.

THIS small quadruped is well known on our table as affording a delicious meat to the palate. His swiftness cannot save him from the search of his enemies, among whom man is the most inveterate. Unarmed and fearful, the Hare sleeps with open eyes, if he sleeps at all, and against the ridge of a furrow, unsheltered by any thing, that he may hear or see his foe soon enough to flee from him. His hind legs are longer than his fore legs, to enable him to run up hills; his eyes are so prominently jutting out of his head, that they can encompass at once the whole horizon of the plain where he has chosen his form, and his ears so long that the least noise cannot

escape him. He seldom outlives his seventh year, and breeds plentifully. His flesh is dark, but of a delightful taste; naturally wild and timorous, he may, however, be tamed and taught several little tricks which are often the amusement of the vulgar. —The following lines are elegantly descriptive of what this innocent animal must feel when hunted in the plain:

" ______ and who can tell what pangs, What dreadful achs her throbbing bosom tear, When, at her heels, the yelping pack of hounds, Thro' brakes, thro' hedges, open lawns and dales, Presses on her th' insequent death!—She runs, She flies, and leaps, and bounces to deceive The scent-inhaling foes, who urge the chace And toil to catch a booty not their own. The dales, the lawns, she crosses back in vain, Till fainting—breathless—spent—at last she drops On some fresh verdant turf or thymy bank Once the fair scene of her nocturnal sports."

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THE RABBIT

Is not unlike the hare; his flesh is white, and good, but not so luscious; his head, ears, and tail are shorter than the hare's. The colour of the wild rabbit is constantly the same; but we have domestic ones of nearly every colour. The female begins to breed when she is about twelve months old, and bears at least seven times a year. The skin of the

Rabbit, like that of the hare, is much esteemed for several uses; and, although he is less timid than the hare, he will fly from man as soon as he sees him : the female is very careful in concealing her litter, lest the male should destroy it, which is generally the case when he finds it in his way. One of the dissenting points in the characteristics of these two animals, so like each other in many respects, is, that the hare lives above, and the Rabbit under, ground.



THE MOLE

Is about the bigness of a common rat; his snout resembles that of a hog, and his feet are somewhat like those of the bear, but turned backward, and armed with five strong toes that have sharp nails; the ears of the Mole are without outside shells, and consist in two small orifices. His eyes are so small that it has been long believed that this animal, living always under ground, was not provided with the organs of sight. The mole-hill, in which the female brings forth her young, is strewed with grass and dry leaves for their accommodation, and divides into several holes in different directions to the length of fourteen or fifteen feet, for the security of the family.



THE BLOODHOUND

Is larger than the beagle or any other huntingdog. He is of the colour of other hounds, being red and brown; he has long ears, and seldom barks except in hunting, and then will follow his game through woods and thickets, and never leaves until he catches and kills it. He is employed in chasing the hare, fox, hart, badger, &c.



THE SPANIEL

HAS received from nature a very keen smell, good understanding and uncommon docility. He may be taught several tricks, as fetching, carrying, diving, and the like. The Land Spaniel is used in setting for partridges, pheasants, quails, &c. His steadiness in the field, his patience in keeping the bird at bay till the fowler discharges his piece, are real objects of admiration.

"When milder autumn summer's heat succeeds, And in the new-shorn field the partridge feeds, Before his lord the ready Spaniel bounds; Panting with hope, he tries the furrow'd grounds; But when the tainted gales the game betray, Couch'd close he lies and meditates the prey; Secure they trust th' unfaithful field beset 'Till hov'ring o'er 'em sweeps the swelling net.

POPE'S WINDSOR FOREST.



THE WATER SPANIEL

Is excellent for hunting otters, wild ducks and other games, whose retreat is among the rushes and reeds which cover the banks of rivers, the fens, and the ponds. He is very sagacious, and perhaps the most docile and tractable of all the canine tribes. The Newfoundland Dogs are of this class, and the biggest of the family; their strength and their faithfulness to their masters are well known, and the concurrence of both has often proved most useful to people who were on the point of being drowned.

The lesser *Water Spaniels* partake of the qualities of the others; they fetch and carry whatever they are bid, and often dive to the bottom of a deep piece of water in search of a piece of money, which they bring up in their mouths and lay down at the feet of whoever sent them; the best breed has black curly hair and long ears.



THE MASTIFF DOG

Is the largest of the whole species; is a strong and fierce animal; has short pendant ears and a large head, great and thick lips hanging on each side, and a noble countenance; he is a faithful guardian, and a powerful defender of the house.

> Hark! hark! the trusty guardian of my home, The watchful Mastiff walks his nightly round Within the railings, at the beechen gate, And where secure my flocks sleep in the fold. Deep-mouth'd, he barks: his thund'ring voice resounds Across the lawn, the silent lake, the grove; And echo'd by the neighb'ring hills, appals The prowling caitiff.— Z.



THE BULL DOG

Is much less than the mastiff, but not inferior in fierceness. His short neck adds to his strength. Those of a brindled colour are accounted the best of the kind; they will run at and seize the fiercest bull without barking, making directly at his head, sometimes catch hold of his nose, pin the animal to the ground, and make him roar in a most tremendous manner, nor can they without difficulty be made to quit their hold. Two of these Dogs let loose at once will manage a bull; three are a match for a bear, but a lion will require four of them to be subdued.



THE GREYHOUND

HAS a long body, and is of an elegant shape; his head is neat and sharp, with a full eye, a good E 2

mouth, sharp and very white teeth; his tail is long and curls round above his hind part. He courses more by sight than by scent, and is said to outlive all kinds of dogs.



THE OTTER

Is an amphibious animal, and pursues his prey much swifter in the water than on land. He is less than a beaver, and resembles him in most parts, except the tail. He is of a brown chesnut colour; the tail is short and like that of some dogs. Though he lives, as we may say, in the water, yet he is forced to come often to the surface, to breathe. The fish is his prey; he catches them with great dexterity, and hoards them up in his den, on the banks of rivers, to such a quantity that the smell becomes soon very obnoxious, and often betrays the retirement of the owner. When the icy hand of winter has locked up the ponds and rivers, the Otter, reduced to famine, is obliged to change his diet, and feeds upon fruit, roots, and bark of trees. At the great banquet which Nature has spread on the surface of the globe, affluence alone creates superciliousness, and when it fails, hunger seasons every food; and, except a few classes, which are doomed to use of one particular nourishment, most of the brute creation know then how to supply the want of appropriate aliment.



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THE BEAVER

Is a most industrious creature, and well known for his skill in building timber apartments for him and his family, on the banks of narrow rivers, where he watches the passing fish, which he brings out of the water, to devour it at pleasure. Their work consists in cutting a tree that bends over the stream, and by its fall to create a mole or dyke, in order to keep the water at the same height; it is said that in the performance of these buildings every one knows his proper business and station; and that they set overseers to beat and punish the idle, and teach or direct the inexperienced young ones. The Beaver is about the size of the badger; his head short, his ears round and small, his two fore teeth long, sharp and strong, well calculated for the business which Nature has destined him to. The tail of this creature answers the double purpose of a wheelbarrow, to carry the mortar and clay, and of a trowel, to beat and shape it. It is of an oval form, and covered with a scaly skin. The Beaver is common in Canada, and in Languedoc; and may be reckoned among amphibious animals.



THE HIPPOPOTAMUS, OR RIVER-HORSE

LIVES as well on land as in water, and yields in size to none but the elephant; he weighs sometimes between fifteen and sixteen hundred pounds. His skin is very sleek, and covered with short and soft hair of a mouse colour. The head is flattish on the top, his lips are large, his mouth wide; and armed with strong teeth; he has broad ears and eyes, a thick neck, and a short tail, tapering like that of a hog. He grazes on shore, but retires to the water if pursued, and will sink down to the bottom, where he walks as on dry ground. He is supposed to be the Behemoth of the scripture. See Job. chap. 40.



THE MOUSE

Is a lively, active animal, and the most timid in nature, except the hare, and a few other defenceless species. Although timid, he eats in the trap as soon

as he is caught; yet he never can be thoroughly tamed, nor does he betray any affection for his assiduous keeper. He is beset by a number of enemies, among which are the cat, the hawk and owl, the snake and weasel, and the rat himself, though not unlike the Mouse in his habits and shape. The Mouse is one of the most fecund animals, and it is supposed that the life of this small inmate of our habitations, does not extend much farther than three years. This creature is known all over the world, and pullulates where ever it finds food and tranquillity. There are Mice of various colours, but the most common is of a dark, cinereous hue; white Mice are not uncommon, particularly in Savoy, and some parts of France.



THE RAT

Is about four times as big as a mouse, but of a dusky colour, with white under the belly; his head is longer, his neck shorter, and his eyes comparatively bigger. This animal is so attached to our common dwellings, that it is almost impossible to destroy the breed when they have once taken a liking to any particular place.

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THE WATER RAT

DIFFERS very little from the Land Rat, and inhabits the banks of rivers and ponds, where he digs holes always above the water mark, and feeds on fish, frogs and insects. The Norway Rat, which has now almost destroyed the aborigines ones, was first known in England about sixty years ago: they live near rivers and ponds in summer, and when winter approaches, they frequent the farm-house, burrow in the corn-fields, infest the mows and stakes, attack the poultry-yard, and commit vast depredations.



THE MUSK-RAT

Is a native of Canada, and resembles the beaver in many of the habits of life. He has a fine musky scent, and builds his holes in marshes, and by the

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water-side, with two or three ways to get in or go out, and several distinct apartments in the manner of the beaver. They live upon small fish and water insects.



THE CAT

MIGHT be called the domestic tiger or leopard; he looks as a species of those wild beasts, brought to and degraded by, domesticity; however tame a Cat may be individually, the race has not yet lost its original habits; and ferocity, cunning, and treachery, still characterize the Cat, even on the comfortable lap, or at the side of his fond mistress. The domestic Cat is of various colours, from white to black, and the tortoise-shell one is reckoned the handsomest, although males of that description are seldom, if ever, to be found. The Cat is a cleanly, neat, and very useful creature, but can never be cured of his thieving propensity. The tougue is uncommonly rough, and the claws, which are sheathed and brought out, as the animal pleases, exceedingly sharp. The Cat lives ten or twelve years, and brings five or six kittens at a litter, which the female educates and constantly drills in all fancyful tricks and useful exercise; far away from her

stern and saturnine mate, who would destroy them if they were at his reach. The author of the "Splendid Shilling" gives us the following description of this domestic animal:

> Grimalkin to domestic vermin sworn An everlasting foe, with watchful eye Lics nightly brooding o'er a chinky gap Protending her fell claws, to thoughtless mice Sure ruin.



THE CIVET CAT

Is found throughout India, Guinea, and the Philippine islands, and famous for producing the drug called *musk* or *civet*. He is kept for the sake of this perfume, and fed with pap, made of millet, with a little fish or flesh boiled with it. The musk scraped from the male is esteemed the best.

The Berbe is called by Europeans, Wine Bibber, because he is fond of palm wine; is much like a cat, only his snout is much sharper, and the body smaller. He is spotted like a civet cat.



THE GENNET CAT

Is in size between a cat and a fox. The skin is spotted and beautiful, of a reddish grey colour. He is meek and gentle, except when provoked, and is easily domesticated. In Constantinople he strays from house to house, as does our cat, and in his wild state inhabits marshy places and irriguous valleys.



THE POLE CAT

HAS SO STRONG and disagreeable a smell that it is become proverbial; his skin is stiff, hard, and rugged, and when well prepared, lasts long in garments. His tail is not above two hands long. The breast, tail and legs, are of a blackish colour, but the belly and sides yellowish. He keeps in secret corners at tops of houses, and is a disastrous pest to the poultry

yard. Some of them frequent the woods and destroy a great quantity of birds; and some others, forsaking the haunts of man, retire to the rocks and crevices of the cliffs on the sea shore, prefering a meagre and scanty diet with security, to the daintiness of chicken flesh and eggs, attended with trouble and fear. The *Pole-Cat* is the same with the *Fitch*, the hair of which is made into fine brushes and pencils for the use of painters.



THE ELEPHANT

Is reckoned the most intellectual animal in the creation after man. It has been supposed that in ancient times they lived nearer the poles then they now do; but however they are, at this time, confined nearly to the torrid zone. Nature, always impartial in the distribution of her gifts, has given this bulky quadruped a quick instinct nearly approaching to reason, in compensation for the uncouthness and ill-shapedness of his body. The Ceylon Elephant, the largest of all, is about thirteen feet high, and seven broad, and is much the largest of all animals. His skin is mouse colour, some-

times white, and sometimes black. His eyes are rather small for the size of his head, and chiefly of his ears, which are very expanded and of a peculiar shape, the concha hanging down, instead of standing up, as in most part of quadrupeds. The Elephant is a gregarious animal in his wild state, and in domesticity is susceptible of attachment, and gratitude, as well as of anger and revenge. Several anecdotes are related of his quick apprehension, and chiefly of the vindictive treatment he uses against those who have either scuffed at or abused him. His mouth is armed with broad and strong grinding teeth, and two large tusks, which measure sometimes nine or ten feet. From these tusks all what ivory could ever produce of fine and exquisite workmanship was made. The ivory from the tusks of the female is reckoned the best, as the tooth being smaller admits less porosity in the cellular part of the mass.

Apt to become tame under the mild treatment of a good master, the Elephant is not only a most useful servant, but is also of great help in taming the wild ones that have been lately caught in the toils. The Indostan superstition has paid great honours to the white race of this quadruped; and the island of Ceylon is supposed to breed the finest of the kind. The wisdom of nature prevented her placing this immense beast among the carnivorous animals, according to the proportion in which vegetable exceeds animal food on the face of the earth. She destined him to live on grass and tender sprouts of all sorts. This noble creature bears in state on his back the potentates of the East, and seems to delight in the pompous pageantry of the Indostan; in war, he carries a tower filled with archers, and in the

house lends his assistance to all who require it. The female is said to go a year with young; and to bring forth one at a time; the life of the Elephant is between 120 and 130.

The greatest wonder the Elephant presents to the admiration of the intelligent observer of nature, is his proboscis or trunk, composed of elastic rings to the extent of six or eight feet, and so flexible that he uses it as dexterously as man does his hand. It was erroneously said that the Elephant could receive nourishment through his trunk; this sort of pipe is nothing but a prolongation of the snout, for the purpose of breathing, in which the animal can, by the strength of his lungs, aspire a great quantity of water or other liquid, which he spouts again, or brings back to his mouth by inverting and shortening his proboscis for that purpose. It would be exceeding the rules we have adopted in the confection of this book, to say more upon a creature that has been so often, and so well described by other naturalists.



THE OPOSSUM

DESERVES the closest observation of the philosopher, and his acknowledgment for the variety of means which nature employs to preserve the pro-

pagating species. The young of the Opossum are brought forth, as it should seem, before their time, and the finishing of their formation is performed in a bag, which the mother has under her belly, in which the brood finds a place of security, and where the young ones retire at the approach of danger. This animal is about the size of a badger, with a long tail, and sits up easily on his hinder legs. He is an inhabitant of Virginia, and feeds upon fish.



THE SLUGGARD, SLOTH, OR POTTO

As he is called by the negroes, is the most idle and listless of all breathing creatures. He can hardly be said to have been endowed, by Providence, with any kind of loco-motion, as his crawling on the earth or climbing the trees, is not only long and slow, but also attended with difficulty and groanings. The faint sound Ai, which he utters when labouring along, has been the cause of his being called by that name.

The Unau is a branch of the same family. The flesh of both kinds is eaten by the inhabitants of South America and of the island of Ceylon, and has not a disagreeable taste.

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THE COATI MONDI

Is a native of Brazil, not unlike the Racoon in the general form of the body. His eyes are small, but full of life, and when domesticated, this creature is very playful and amusing to his master. A great peculiarity belonging to this animal is the length of his snout, which resembles in some particulars the trunk of the elephant, as it is moveable in every direction. The ears are round, and like 'those of a rat; the fore-feet have five toes each. The hair is short and rough on the back, and of a blackish colour; the rest is a mixture of black and red.



THE ARMADILLO.

NATURE seems to have been singularly careful in the preservation of this animal, for she has surrounded him with a coat of armour, to defend him from

his enemies. When closely pursued he turns himself and withdraws his head under the shell, and assumes the shape of a ball; if he be near a precipice, he rolls from one rock to another, and escapes without receiving any injury. The shell, which covers the whole of the body, is composed of several scales, very hard and of a square shape, united by a kind of a cartilaginous substance, which gives flexibility to the whole. The Manis, and Pangolin seem to approach the character of this genus, and all of them to be a link between the quadrupeds and the lizards. They live chiefly on ants and other small insects.



THE SQUIRREL.

ELEGANCE of shape, spiritedness, and agility to leap from bough to bough in the forest, are the principal features of this pretty animal, whose spreading tail helps the creature as the wings support a bird in the air, and seems to unite the quadrupeds to the feathered tribe. The Squirrel is of a deep reddish brown colour; his breast and belly white. He is lively, sagacious, docile, and nimble:

he lives upon nuts, and has been seen so tame as to dive and search into the pocket of his mistress, after an almond or a lump of sugar. His tail is to him as a parasol to defend him from the rays of the sun, as a parachute to secure him from dangerous falls when leaping from tree to tree, and as a sail in crossing the water, a voyage they sometimes perform in Lapland on a bit of ice or a piece of bark inverted in the manner of a boat.

The Palatouche, or Flying Squirrel, is a species of the same genus; his tail is much smaller, but in compensation he has a large membrane proceeding from the fore-feet to the hind legs, which answers the same purpose as the squirrel's tail.



THE WEASEL

HAS a long and thin body. There are some of this species of different colours, as red, brown, black, and some all white. There are two sorts, the domestic Weazel, living in houses, barns, &c. the other wild, living in the woods and mountains. In the northern parts of Europe they are very numerous. This little creature will destroy rats, mice, and moles, but they do not spare hens, chickens, eggs, &c. They exhale a very strong smell like the rest of the genus.



THE FERRET

Is a small, yet bold animal, enemy to all others but those of his own kind. He is made somewhat like a weasel, and breeds in all countries of Europe; where he is tamed and taught to hunt rabbits out of their holes. His eyes are remarkably fiery. The tame ones live on milk, bread, barley, &c. the wild ones on the blood of rabbits, hares, &c.

The Martin boasts of the honor of adorning with his fur the rich and the beautiful; as princes, ladies, and opulent people of all nations pride themselves to wear his spoils. He is about as big as a cat, but the body is much longer proportionally, and the legs shorter. His skin is of a light brown, with white under the throat, and yellow on the back. The fur of the Martin fetches a high price, and is much used in European countries; the best is imported from Sweden, Russia, and Muscovy.

The Sable is of the same family; the best colour among the different shades of the fur which covers this small animal is the dark brown, inclining to black. His name is derived from the German Zobel.

F 2



THE ZEBRA

Is the most elegant quadruped in nature. He is striped all over with a most pleasing regularity; in form he resembles the mule, being smaller than the horse and bigger than the ass. The hair of his skin is uncommonly smooth, and he looks at a distance as an animal whom some fanciful hand has surrounded with ribbands of pure white and jet black. He is, however, very ferocious and untractable, and is a native of Africa. Were the Zebra accustomed to our climate, there is little doubt but he might be soon domesticated. The black cross which the ass bears on his back and shoulders seems to prove an ancient affinity with these two classes, yet they refuse to produce together, and nature seems to have drawn between them an impassable line of demarcation. This animal feeds in the same manner as the horse, ass, and mule; and seems to delight in having clean straw and dried leaves to sleep upon.



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THE AXIS,

A very beautiful species of the deer, found in Africa and the East Indies, of a light red colour, though some of the kind are of a deeper red. He is about the size of a fallow deer, and often variegated with beautiful spots of bright white. The horns are slender and triple forked. The Axis is a native of Ceylon and Borneo, a timid and harmless creature, more ornamental to the landscape, where it skips and plays in a wild state, than useful to man.



THE GUINEA-PIG OR CAVI,

Or as the French call him, the Cochon d'Inde, is generally white with spots of red and black. He is a native of the Brazils, but now domesticated in most parts of Europe; it is a very prolific animal, breeding nearly every two months, and bringing from four to twelve at a litter. There is no doubt but

this species belong to the genus of the rat and mouse, although one of its principal characteristics is the entire want of a tail, a limb generally so long and conspicuous in the others. There are several species of the Cavi which it would be useless to describe.



THE DORMOUSE, OR SLEEPER,

An animal of the mouse kind, of the order of Glires. They build their nests either in the hollow of trees, or near the bottom of thick shrubs, and line them most industriously with moss, soft lichens, and dead leaves. Conscious of the length of time he has to pass in his solitary cell, the Dormouse is very nice in the choice of the materials he employs to build and furnish it; and generally lays up a store of food, consisting in nuts, beans, and acorns: and on the approach of cold weather they roll themselves in balls, their tail curled up over their head between the ears, and, in a state of apparent lethargy, pass the greatest part of winter, till the warmth of the sun, pervading the whole atmosphere, kindles their congealed blood and calls the animal back again to the enjoyment of life, the pursuit of love, and the duty of propagating his species. Except in time of breeding and bringing up the brood, the Dormouse is generally found alone in his cell.



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THE ICHNEUMON,

A SPECIES of the weasel kind, found chiefly in Egypt, where he has been long domesticated, and even deified on account of his great utility in destroying serpents, snakes, rats, mice, and other vermin; he is also fond of crocodile's eggs, which he digs out of the sand where they have been deposited. It is a very fierce, though small animal, fearing neither the vengeance of the dog, the insidious malice of the cat, the claws of the vulture, nor the sting of the serpent. It has been asserted, (upon what foundation we cannot ascertain) that the Ichneumon jumps into the jaws of the crocodile, and entering his throat, gnaws his inside, and by attacking his very vitals, puts the animal to death.



THE JERBOA

A SINGULAR genus of animals; their principal character consisting in their having very short fore

legs and very long hinder ones. This creature is about the size of a rat; the head resembles that of a rabbit with long whiskers, the tail is ten inches long, and terminated by a tuft of black hair.— The fur of the body is tawny, except the breast and throat, and part of the belly that are white. The Jerboa is very active and lively, always walks on the hinder feet, and jumps and springs, when pursued, six or seven feet from the ground. He borrows like the rabbit and feeds like the squirrel; he is a native of Egypt and all the adjacent countries.



THE KANGAROO,

A QUADRUPED of the oppossum kind, but bearing also a great affinity of shape and manners with the Jerboa, though considerably larger, for the body is upwards of three feet in length; the fore-feet are armed with five claws, and the hind ones with three, the middle one resembling a strong hoof, and considerably larger than the others. The Kangaroo does neither run nor walk, but bounces with great swiftness on his hinder legs. He feeds entirely on

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vegetables, and brings up his young in the same manner as does the opossum. Several are kept in Richmond park, at the king's expence.



THE LHAMA, OR CAMEL OF AMERICA,

Is a mild, timorous creature, not above four feet in height, and generally of a brown colour. They are used as beasts of burthen by the South Americans, and are so capriciously vindictive, that if their drivers strike them, they immediately squat down, and nothing but caresses can humour them to rise again. When provoked they spit at their adversary a strong acid liquid that inflames the skin .--The Pacos are somewhat less than the Lhama and of different colours in a domestic state. They are used for the same purposes, and differ little in habits The wool of both these animals is and nature. made use of for several purposes, and is a principal ingredient in the composition of hats, in several parts of the new and old continent.

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THE MARMOT, OR ALPINE RAT,

Is a harmless inoffensive animal, and seems to bear enmity to no creature but the dog. He is caught in Savoy, and carried about in several countries for the amusement of the mob. When taken young this creature is easily tamed, and possesses great muscular strength and agility. He will often walk on his hinder legs, and uses his fore paws to feed himself, like the squirrel. The Marmot makes his hole very deep, and in the form of the letter Y, one of the branches serving as an avenue to the innermost apartment, and the other sloping downwards as a kind of sink or drain; in this safe retreat he sleeps the whole of winter, and if discovered may be killed without appearing to undergo any great pain. These animals produce but once a year and bring forth three or four at a time.

> "Who taught the Marmot softly to bestrew His winter-cell, with downy leaves, with wool Left on the bush by rambling flocks, and plumes Dropt from the breast of moulting pelicans; And, provident, to hoard the prickly nuts Of tempest-beaten trees; there long to sleep Or muse in gentle slumbers, while the blast And pelting storm, in raging mood resound And shake the rocky piles from their high tops Down to the frighten'd vales below ?



THE NYL-GHAW,

A QUADRUPED but lately known; he is an inhabitant of India, and seems of a middle nature between the cow and the deer kind; in his body, horns, and tail he resembles the former, but the head, neck, and legs bear similarity to those of the latter. In the wild state these animals are said to be ferocious, but they may be domesticated, and in that condition give frequent tokens of familiarity, and even of gratitude to those under whose care they are placed. The female, or doe, is much smaller than the male, and is of a yellowish colour, by which she is easily distinguished from the buck, who is of a grey tint.



THE BAT,

A SINGULAR genus of animals, partaking of the nature of both quadrupeds and birds, and which appears to be the link which unites these two kingdoms together. The common bat is much like a mouse, except that he has leather wings that support him in the air for the space of about an hour, after which he must cling to some wall or stump of tree to rest himself. Like other quadrupeds, the Bat is viviparous; she brings forth from two to five young and suckles them with her two teats, which, as in the human species, are placed very high on the breast. The eddies and circumvolutions of the Bat's flight around the romantic ruins of some old castle or abbey, on a beautiful summer evening, are amusing to the imagination, and accord perfectly with the melancholy mood of the mind in such places and at such an hour. This creature lives not long, and the most part of its life, short as it is, is wasted in laziness and sleep; it passes the whole winter in a dormant state, and even in summer never ventures out but in a fine and warm evening, being much afraid of being caught in the rain. It is very

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harmless, and destroys a great quantity of gnats, moths, and other troublesome and noxious insects. The old fables of mythology hold them as an example of impiety, having been doomed to this transformation for their despising the feasts of one of the Gods.



THE LIZARDS.

NATURE, in her provident wisdom, seems to have united, in an uninterruped chain, the whole of the The coral brings the animal kingdom creation. near the vegetable; the Bat calls on the quadrupeds and the birds with equal rights of affinity, and the Lizards join the inhabitants of the liquid element with those of the land, whilst the flying fish assimilates them to those of the air. The Lizards may be divided into several species, and are nearly of all colours. They are amphibious, that is, they live equally happy on land or in water, although some particular species affect more the one than the other element. They are harmless, and have even received, from popular, but we think unfounded, traditions, the honourable qualification of being friends to man. The salamander, fabulously reported to be able to live amidst the flames, is nothing else than a kind of Lizard often found in brooks and rivulets.

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THE CAMELEON

Is a small animal of the lizard species, about eleven inches in length. His natural colour is a bluish grey, but varies considerably when exposed to the sun, or placed upon some stuff of a bright colour, which he generally reflects so strongly as to lose his own. It has been discovered that it is by swelling himself to a certain degree that this curious animal can impart to his skin a smoothness sufficient as to refract the colour which surrounds him. The Cameleon can live several months without taking any other food but air and a few flies, which he seems to swallow with great difficulty; his skin is very thin, and almost transparent. The tongue is nearly as long as the whole body. When he descends any height, he moves very cautiously and curls his tail to save himself from falling. He inhabits Asia and Africa, and is also found in the Mexican dominions. He is often used as an emblem of obsequiousness and flattery; and as a symbol to describe, allegorically, those vile sycophants, who conform themselves to the opinions and wishes of their feeders.



THE CROCODILE, OR ALLIGATOR,

Is the largest of the Lizard species, and, amphibious as the hippopotamus, links himself with the fish by his being oviparous, whilst the whale that is confined to the regions of the deep, and cannot live out of them, bears resemblance to the quadrupeds by its bringing forth her young alive. This curious animal, whose haunts are the reedy banks of the Nile, of the Niger, in Africa, and of the river of the Amazons, in South America, is rather of a gregarious propensity, as they are sometimes found lying as close together as a raft of timber. The body of the crocodile is rough, with hard scales, and extends sometimes to the length of eighteen, twenty, and sometimes thirty feet, the tail being about five feet and a half; the paws are divided into five fingers, three of which have strong nails. The eye is very small in proportion to the whole bulk of the crea-
ture, and about one inch long in its wider diameter. The nose is in the middle of the upper jaw, and perfectly round and flat; the jaws seem to be locked one within another, and are armed with twenty-seven cutting teeth above and fifteen below, with interstices, sharp at top and large at the root. The distance between the two jaws is large enough to admit the body of a man. From the general account of this tremendous animal, his destructive powers may be easily conjectured; and whether attacking or attacked he is nearly invincible. By the reason of his legs being short, his walk on the ground is very slow, but he swims very fast. The female lays eggs in the sand, to the number of three hundred, which often become the prey of the vulture or other birds, providentially appointed by nature to lessen the multiplication of so dangerous a creature. They are not only sought eagerly by these, but also by the natives, being a very luscious food for them. We hear much said about the cunning and lurking of the Crocodile, of his imitating the groaning of a man, or the weeping of a child, to draw nearer the object of his search, man or beast; but most of these anecdotes are fabulous, and not worth mentioning in a book where we pledged ourselves to publish nothing but what is generally held as undisputable amongst the best observers of Nature.



THE SEA-HORSE, OR WALRUS.

IT was a difficult point, with us, to decide where to place this amphibious quadruped, since he lives with equal ease, in the depth of the seas, and on land; he is a link between the inhabitants of the water and the animals who feed on the shores, and may be considered as belonging to both in the uninterrupted chain of natural beings. The Walrus, improperly denominated "Sea-horse," is of a very considerable size, being sometimes eighteen feet in length and twelve in circumference at the thickest part. He has two large tusks in the upper jaw; they are inverted, the points nearly uniting, and sometimes exceed twenty four inches in length; the use which the animal makes of them, is not easily explained, unless they help him to climb up the mountains of ice, amongst which he takes his abode, as the parrot employs his beak to get upon his perch. However they are equal for durability and whiteness to those of the elephant, and, keeping their colour much longer, are preferred by dentists, to repair, in the mouth of the fair, what age or accidents have destroyed.

abnog at Gril ten off

The Walrus is common in some of the northern seas, and often attacks a boat full of men. He is a gregarious animal, and shows a great deal of boldness and intrepidity when wounded. They are often found in herds, sleeping and snoring on the icy shores, and when alarmed they precipitate themselves into the water with great bustle and trepidation. They feed on shell fish and sea weeds, and yield a sort of oil equal in goodness to that of the whale.



THE FROG.

THIS amphibious being is nearly related, as to shape, to the lizard, except that it has no tail in its perfect state. The tadpole is the embryo of the Frog, which is contained under that larva, and when it has attained its real growth, breaks its ties and acquires legs, leaving its tail, with the rest of the exuviæ of its former shape. This metamorphosis is one of the most curious in nature, and deserves our observation. The Frog, like other amphibious animals, needs not to breathe in order to put his blood into circulation, having a communication between the two ventricles of the heart. There are two kinds of Frogs: one of a green and yellow colour, the other larger and more grey. The first lives in ponds, brooks, and

QUADRUPEDS.

rivulets, in all marshy grounds, and other watery places; the other in corn fields and most generally on cultivated land. The frogs have two bladders, one on each side of the mouth, which they fill with wind, and hence proceeds the voice. When they croak they put their heads out of the water or else it could not be heard. The hinder legs of the frog are much longer than the fore ones, to help them in those repeated and extensive leaps which they make to avoid danger. The whole of the body bears a little resemblance to the human form, principally about the thighs and the toes. The generation of Frogs is one of those secrets which Providence has entirely concealed from the pruriency of man after any knowledge that does not immediately relate to the knowledge of himself. The frog is extremely tenacious of life, and often survive the abcission of his own head for several hours. It is supposed that they spend the whole winter at the bottom of some stagnant water, in a state of torpidity.



THE TOAD,

WHOSE name seems to carry with itself something of an opprobrious meaning, is not so despicable as not to deserve the attention of the keen observer

A DESCRIPTION.

of nature. Somewhat like the frog in the body, he also resembles him in his habits; but the frog is nimble and leaps at a great distance, whilst the toad crawls, and strives in vain to haste away. It is an error to suppose the Toad to be a noxious and venomous animal; he is as harmless as the frog, and like some of the human kind, only labours under the stigma of undeserved calumny. Several stories have been related of his spiting poison, or knowing how to expel the venom he may have received from the spider or any other animals, but these fables have been long exploded, and have vanished like vapours before the enlightening torch of experiments. A curious and yet inexplicable phenomenon is that Toads have been found alive in the center of large blocks of stone where they must have subsisted without food and respiration for a number of years. The fact, we believe, cannot be denied, but the way in which this spark of animal life is preserved passes the limits of our conception. With regard to the length of life in amphibious animals, it is impossible to state any thing decisive, as several facts prove that some of them have been blessed with astonishing longevity.

According to La Cepède and other naturalists, it is also impossible to determine how far an amphibious animal may increase in bulk. The immense skins of a Lizard and of a Toad, have long been seen in one of the churches at St. Omer, in Picardy, and have astonished the beholders.

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BOOK II.

A DESCRIPTION OF BIRDS.



THE EAGLE.

" See, from the hoary groves, that nod and wave In th' howling storm, on Jura's frozen brow, The royal Eagle, tyrant of the air, Ascend, undazzl'd, to the blaze of noon; And, from the radiant zenith, pouncing straight, Seize on her prey—what time her downy brood, On barren rocks exposed, with saffron beaks Expanded wide, their wonted food demand, And screams their hunger to the passing blast."

THIS bird seems to enjoy a kind of supremacy over the rest of the inhabitants of the air. The mythologists placed him at the side of Jupiter, and en-

trusted to him the thunder-bolts of heaven. The Roman Legions followed the representation of the Eagle over all the provinces of the three parts of the world then known, and even now this bird is the principal armorial bearing of several kingdoms of Europe. The loftiness of his flight merited him a place on the side of the most sublime of the scriptural writers, St. John the Evangelist.

The Golden Eagle is, in length, from the point of the beak to the end of the tail, about three feet nine inches; the breadth, when his wings are extended, is eight spans. The beak is horny, crooked, and very strong. The feathers of the neck are of a rusty colour, and the rest nearly black, with lighter spots. Providence seems to have delighted in working the mechanism of the Eagle's eye, in order to give his sight the greatest perfection required for the purpose it was intended for : he has a double pair of eye-lids, which move independant of each other, and his optic powers are so strong that he is said to gaze steadfastly upon the sun without blinking. The feet are feathered down to the claws, which have a wonderful grasp; the leg is yellowish, and his four talons are crooked and strong.

Eagles are remarkable for their longevity, and their faculty of sustaining a long abstinence from food. Keylter relates that an Eagle died at Vienna after a confinement of 104 years, which justifies the allusion in Psalm ciii. v. 5. and the etymology of the Greek name. The Eagle is found in England and Ireland, in Germany, and nearly all parts of Europe. He is carnivorous, and when in want of flesh, he

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feeds on serpents and lizards. This noble bird has been often tamed, but in this situation he still preserves an innate love of liberty. The nest of the Eagle is composed of strong sticks, covered with rushes and generally built on the point of an inaccessible rock, from whence he darts upon his prey with the rapidity of the lightning.

> "The Bird of Jove stoop'd from his airy tour, "Two birds of gayest plame before him drove." PARADISE LOST, ix. 184.



THE OSPREY, OR SEA EAGLE,

WHICH seems to be the same with the English Bald Buzzard, is about three feet long from the point of

the beak to the end of the talons, and nine spans broad from tip to tip of the wings. The bill resembles that of the golden eagle, and from the chin down hang small hairy feathers, imitating a beard, whence he is called by some the bearded Eagle. The feathers of the whole body are party-coloured, being whitish, duskish, and rusty; his legs are almost wholly covered with dusky feathers, somewhat inclining to yellow. The whole of the body is covered, also, near the skin, with a kind of down, white and soft, like that of the swan. This bird builds his nest on some romantic cliffs by the sea-shores, and feeds entirely upon fish.

The Black Eagle is about twice as big as a raven. The parts about the beak and the eye are bare of feathers, and somewhat reddish; the head, neck, and breast, black; in the middle of the back, between the shoulders, he has a large white spot dashed with red; a black streak sweeps along the feathers, and is followed by a white one; the remaining part of the wing, to the tip, is of a dark ash colour. This bird has beautiful hazel eyes, full of animation; his legs are feathered down a little below the knees, the naked part being red; his talons are very long. He is found in France, Germany, Poland, and delights in Alpine mountains, where he makes the vales and woods resound with his incessant screamings when in search of prey.



THE BUZZARD

Is a rapacious bird, of the long-winged hawk kind, and the most common of all in England. He is of a sluggish indolent nature, often remaining perched on the same bough for the greatest part of the day, as if indifferent either to the allurements of food or of pleasure. He was doomed, as some of the human species, to pass his allotted span of life in passive contemplation. He feeds on mice, rabbits, frogs, and often on all sorts of carrion. Too idle to build himself a nest, he generally seizes upon the old habitation of a crow, which he lines afresh with wool and other soft materials. It is said, that the male, feeling a noble passion for the preservation of his young, will often rear them if the female happens to be killed. In general this bird, whose colour varies considerably, is brown, varied with yellow specks; at a certain age his

head becomes entirely grey. The female generally lays two or three eggs, which are mostly white, though sometimes spotted with yellow. The common length of this bird is twenty-two inches, and his breadth upwards of fifty.



THE GOSHAWK

BREEDS in lofty trees in Scotland, and destroys a great quantity of small game, which he seizes with his sharp and crooked talons, and carries to his nest. Somewhat larger than the common buzzard, he is of the falcon tribe; has a blue bill, and a white stripe runs over each eye; there is also a large white spot on each side of the neck. The general colour of the plumage is deep brown; the breast and belly white, transversely streaked with black; and the legs yellow.



THE SPARROW HAWK,

THE Accipiter of the Ancients, and the Epervier of the French, is a spirited well shaped bird, about as big as a large wood pigeon; his beak is short, crooked, and of a bluish tint, but very black towards the tip; the tongue black and a little cleft; the eyes of a mean size. The crown of the head is of a dark brown; above the eyes, in the hinder part of the head, sometimes are white feathers; the roots of the feathers of the head and neck are white; the rest of the upper side, back, shoulders, wings, and neck, of a dark brown. The wings, when closed, scarcely reach to the middle of the tail; the thighs are strong and fleshy, the legs long, slender, and yellow; the toes also long, and the talons black. The female, which is, as in other birds of prey, much bigger than the male, lays about five eggs, spotted near the blunt end with blood-red specks. When wild, they feed only upon birds, and possess a boldness and courage above their bigness; but in domesticity they do not refuse raw flesh and mice.

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THE KITE

Is of the hawk kind, but of an ignoble class. He is easily distinguished from any other birds of prey by his forked tail, and the slow and circular eddies he describes in the air, whenever he spies, from the regions of the clouds, a young duck or a chicken, strayed too far from the brood, which, pouncing with the rapidity of a dart, he seizes in his talons, and carries up to destroy without mercy. He is bigger than the common buzzard; the head and back are of a pale ash-colour, varied with longitudinal lines across the shafts of the feathers; the neck is reddish; the lesser rows of the wing-feathers are party-coloured, of black, red, and white; the feathers covering the inside of the wings are red, with black spots in the middle. The eyes are great, the legs and feet yellow, the talons black.



THE FALCON

Is a predaceous bird of the hawk kind, and may be divided into several species. The *Gerfalcon* is found in the northern parts of Europe; and was anciently used for the noblest game, being the largest of all, and nearly as big as the Osprey. The bill is crooked and yellow; the irides of the eye dusky; and the whole plumage of a whitish hue, marked with dusky lines on the breast, and dusky spots on the back.

The Peregrine Falcon is as large as the Moor-Buzzard. The bill is blue at the base, and black at the point; the head, back, scapulars, and coverts of the wings, are barred with deep black and blue; the throat, neck, and upper part of the breast, are white, tinged with yellow; the bottom of the breast, belly, and thighs, are of a greyish white; and the tail is black and blue. They breed among the

rocks of Caernarvonshire, and in the north of Scotland.



THE MOUNTAIN FALCON

Is about the size of the Goshawk, but of a thicker body. The head is covered with cinereous feathers, mixed with black; the throat and part of the breast are spotted with ash-colour; and the body is of a dark reddish brown, marked with small white lines.

The Red Indian Falcon is about the bigness of the Mountain Falcon. The bill is cinereous, the cere yellow; the back and wings of a reddish hue; the breast and belly of a mixture of ash colour and brown; and an oblong reddish spot proceeds from the interior corner of each eye. It is a handsome bird, and he shares with all the kind, that keenness of sight, which is so useful to them, in singling their devoted prey from the regions of the air, down to the

darkest thickets of the woods. It is worthy of observation, that several naturalists have puzzled themselves to find the individuals, or the kind of falcons, to which might belong several names, as the *Gentle Falcon*, and the *Haggard*, mentioned in Belon and others; but the fact is, that these denominations belong to the same bird, viz. the Common Falcon, but in different periods of his life.



THE MERLIN

Is the least of the hawk species, and, as his name implies, is not much different in size from the Black-bird; the word Merlin signifying in French, a small *merle* or black-bird. However, he is one of the best birds our Falconers use for hawking. The male is also smaller than the female, as in the other kinds; and is noted for his daringness and spirit, often attacking and killing at one stroke, a full grown patridge or a quail. The back of this bird is party-coloured, of dark blue and brown; the flag feathers of the wings black, with rusty spots; the train is about five inches long, of a dark brown or

blackish colour, with transverse white bars; the breast and belly down are of a dirty white, interspersed with brown spots; the legs are long, slender, and yellow; the talons black. The head is encircled with a row of yellowish feathers, not unlike a coronet. In the male the feathers on the rump, next the tail, are bluer; a note, by which, as well as by his size, the Falconers easily discern the sex of the bird.



THE BUTCHER-BIRD,

ALSO called the Nine Killer, is known in the north of England, by the name of Werkenjel. It is said, that he catches small birds to the number of nine, and affixes them to a thorn, one after another; and that when he has completed the number nine, he begins to tear them in pieces in order to eat them. But this story carries with itself proofs of its falsity. Would a hungry bird refrain from satisfying his appetite till he has ranged his victims in a row, and not touch any of them till a certain number is attained? The fact is, that this small bird is so courageous, that he will attack,

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combat, and kill much bigger birds than himself; and that to manage his tearing them with more ease he hangs them at a thorn, as a butcher does his beasts at a hook, and dilaniates them at pleasure, from which circumstance the French call him the Lanier, from the Latin Lanius, "a butcher." The head, back, and rump, are ash coloured; the chin and belly white; the breast and lower part of the throat varied with dark lines, crossing each other; the tip of the feathers of the wings are for the most part white; he has a black spot by the eye; the utmost feathers of the male are all over white; the two middlemost have only their tips white, the rest of the feathers being black, as well as the legs and feet. He builds his nest among thorny shrubs and dwarf trees, and furnishes it with moss, wool, and downy herbs, where the female lays five or six eggs. A peculiarity belonging to those kinds of birds is, that they do not, like others, expel the young ones from the nest as soon as they can provide for themselves, but the whole brood live together in one family.



THE LITTLE BUTCHER-BIRD,

CALLED in Yorkshire *Flusher*, is about the bigness of a Lark, with a large head. About the nos-

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trils and corners of the mouth he has black hairs or bristles; and about the eyes a large black longitudinal spot; the back and upper side of the wings are of a rusty colour; the head and rump cinereous; the throat and breast white, spotted with red. He builds his nest of grass; and the female lays six eggs, nearly all white, except at the blunt end, which is encircled with brown or dark red marks.



THE VULTURE

Is somewhat bigger than the Eagle, but has not that noble spirit, which distinguishes the king of the air. His beak is large, and crooked at the end. His sense of smelling is very sagacious, so that he can perceive the savour of dead carcases from afar. His neck is for the most part bare of feathers, and his craw hangs like a bag before his breast; the whole from the neck is covered with soft down; and below hangs a tuff of hair, resembling those of a quadruped; the tongue is bifid. This bird, compared to the Eagle, has an ignominious, mean look; his claws are strong, and enable him to seize most powerfully on his prey, and even to dig out half-buried carrions, which he will always prefer to fresh meat. This bird is a native of nearly all parts of Europe, but unknown in England. The general colour is a dingy white.

The King of the Vultures is a species, whose head, eyes, and beak, are adorned with red cartilaginous appendages; his back is of a brown colour, and his neck ornamented with reddish feathers. These birds build in general among the rocks, in lofty places, which they make resound with horrid screamings, in search of their prey, or when disputing and wrangling for the possession of a nesthole in the cliffs, or the choice of a female in the flock.

In Mythology, the Vulture is represented gnawing the liver and heart of Tityus and Prometheus, as a punishment for their impious audacity. And Satan is compared to this bird by Milton :

> " As when a Vulture on Imaus bred, Whose snowy ridge the roving Tartar bounds, Dislodging from a region scarce of prey, To gorge the flesh of lambs or yeanling kids, On hills where flocks are fed, flies toward the springs Of Ganges or Hydaspes ______"

> > PARADISE LOST, D. iii.

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THE CUCKOW.

THE well-known notes of this bird, in spite of their monotony, are heard with pleasure from the grove, in the beginning of spring, as a sure prognostic of fine weather. His timidity keeps him in the thickets; and few men can boast of having spied him when he was singing. His natural idleness prevents his taking the trouble of making a nest : and Dr. Willoughby and Mr. Ray, two very celebrated Ornithologists, assure us, that they have ascertained the fact of the female Cuckow laying her egg in the nest of some little birds, when the mother is absent. The stranger is hatched, and educated as one of the family; and is said to repay his friends with the utmost ingratitude, by killing, or expelling from the nest, the young of the real possessor of it.

The Cuckow is about the size of a Magpie; his length being about twelve inches, from the tip of the bill to the end of the tail. He is remarkable for his round prominent nostrils; the lower part of the body is of yellowish colour, with black transverse lines on the throat and across the breast; the head and upper part of the body and wings are beautifully marked with black and tawny stripes, and on the top of the head there are a few white spots. The tail is long, and on the exterior part, or edges of the feathers, there are several white marks; the ground colour of the body is a sort of grey. The legs are short and covered with feathers, and the feet composed of four toes, two before and two behind.

The Cuckow feeds upon caterpillars and other insects. Several fabulous accounts have been given by ancient naturalists, which it would be as useless to mention, as ridiculous to believe; however, it is certain, that his name in every known language is associated with an idea of contempt.

" Of spurious birth, first harbinger of spring, The timid Cuckow, from the leafy grove, Now and anon sighs iterated notes, And wakes the field and wood-land quiristers To sweeter melody, whilst, from the hill, Responsive echo, mimicking his call, Renders his doubted station more secure."

The Cowslip, one of the first daughters of spring, by its blooming at the same time when the Cuckow begins to sing, is called in France by the same name, and in some other countries by a name similar to it.

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rogue. He is fond of picking up any small picce

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THE RAVEN

Is upwards of two feet in length, and above four in breadth His weight is about three pounds. The bill is strong, black, and hooked. The plumage of the whole body of a shining black, glossed with deep blue; yet the black of the belly inclines to a dusky colour. He is of a strong and hardy disposition, and inhabits all climates of the globe. He builds his nest in trees; and the female lays five or six eggs of a palish green colour, spotted with brown. The life of this bird extends to a century, and above, if we can believe the accounts of several naturalists on the subject. The Raven unites the voracious appetite of the Crow, to the dishonesty of the Daw, and the docility of almost every other bird. He possesses many diverting and mischievous qualities; he is active, curious, sagacious and impudent; by nature a glutton, by habit a thief, in disposition a miser, and in practice a rogue. He is fond of picking up any small piece of money, bits of glass, or any thing that shines, and conceals it carefully under the eaves of roofs, or any other inaccessible places. This propensity, which he shares with the crow, the magpie, and the daw, is the more inexplicable and astonishing, as the object of his cupidity is of no sort of use to him. He is easily tamed, and may be instructed, like the hawk, for the diversion of the chace. He fetches and carries like the spaniel; and, like the parrot, can imitate the human voice. He was the armorial bearing of the Danish kings of old; and is mentioned in the Scripture, where his young are represented claiming support from the hand of their Creator.



THE CROW

Is less in size than the raven. The bill is strong, thick, and straight. The general colour is black, except the bottom of the feathers, which has a greyish tint. His delight is to feed upon carcases and dead animals, or malefactors exposed at the gibbet. Like the raven he has a most sagacious

scent, and is said to smell gunpowder afar off. He roosts upon trees, and takes both animal and vegetable food. Like the rooks, the Crows are gregarious, and often fly in large companies in the fields or in the woods. They are great destroyers of patridges, as they generally pierce their eggs with their bill, and carry them in that manner through the air, at a great distance, to feed the cravings of their young. The female lays five or six eggs.



THE ROOK.

THE wrangling and screaming of these birds, on the tops of high trees, near gentlemen's houses, and in the middle of cities, is not very pleasing; yet old habits, to which we are reconciled, have as much influence upon us, as if they were productive of amusement. Hence it has been seldom attempted to destroy a rookery, although the noise, and other inconveniences, that accompany these birds, render their vicinity often obnoxious. They feed entirely on corn and insects, and are little bigger than the common crows. Their young are said to be good eating, and are generally skinned before they are

dressed. The colour is black, but brighter than that of the crow, to which the Rook resembles in shape. The female lays the same number of eggs; and the male shares with her the trouble of fetching sticks, and interweaving them to make the nest, an operation which is attended with a great deal of fighting and disputing with the other Rooks. It is amusing to see their coming at sun set, as thick as a cloud, hovering over a grove, and after several eddies described in the air, and incessant screamings, each repairing to his own nest, set in a few minutes to rest, till the dawn call them up again, to their pasture in the neighbouring fields.



THE JACK DAW

Is much less than the crow. He has a large head and long bill, proportionally with the bigness of his body. The colour of the plumage is black, but on some parts inclining to a bluish hue; the fore part of the head is of a deeper black. He feeds upon nuts, fruit, seeds, and insects; and builds in ancient castles, towers, cliffs, and all desolate and ruinous

places. The female lays five or six eggs, lesser, paler, and marked with fewer spots than those of the crows. This bird may be taught to imitate the voice of man.



THE MAGPIE

RESEMBLES the daw, except in the whiteness of the breast and wings, and the length of the tail. The black of his feathers is accompanied with a changing gloss of green and purple. It is a very loquacious creature, and can be brought to imitate the human voice as well as any parrot. He feeds on every thing; worms and other insects, meat and cheese, bread and milk, all kind of seeds; and also, on small birds when they come in his way; the young of the black-bird, and of the thrush, and even a strayed chicken, often fall a prey to his rapacity. Fond of hiding pieces of money or wearing apparel. which he carries away by stealth, and with much dexterity, to his hole, he has often been the cause of apparently grounded suspicions against innocent servants. His cunning is also remarked in the

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manner of making his nest, which he covers all over with thorny branches, leaving only one hole for his ingress and egress, securing, in that manner, his beloved brood from the attack of their enemies.



THE JAY

Is less than the magpie, and resembles him more in the habits of his life, than in the shape and colour of his body. Talkative, and ready to imitate all sounds, as is the former, yet he can boast of ornamental colours, which the magpie is deprived of. Nothing can, on the pallet of the ablest painter, equal the brightness of the chequered tablets of white, black, and blue, which adorn the sides of his wings. His head is covered with feathers, which are moveable at his will; and their motion is expressive of the internal affections of the bird, whether he is stimulated by fear, anger, or desire. The fable of the *Gracculus*, who plumed himself with the spoils of the peacock, is better applied to the jack daw than to the Jay, as this has been suffi-

ciently favoured by nature, with regard to beauty of plumage. The hen lays five or six eggs, of a dull white colour, mottled with brown.



THE TOUCAN

Is a native of South America, very conspicuous for the bigness and shape of his bill. He is about the size of the magpie, but his beak is alone nearly as big as the rest of the body; the head is large and strong, and the neck short, in order the more easily to support the bulk of such a beak. The head, neck, and wings, are black; the breast shines with a most lovely saffron colour, with a certain redness near the beginning; the belly and thigh with a most beautiful vermillion; the tail is black, but of a bright red at the end. The monkies are his sworn enemies; they often attack his nest, but Providence has allotted him a head and a beak of such a bigness, as to fill up the whole entrance of his habitation, and when the plunderer approaches, the Toucan gives him such a welcome, that the monkey is glad to run away. So this monstrous bill,

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according to the wisdom of Providence, when seen peeping out of the nest, makes other animals suppose, that a much bigger and more powerful bird inhabits the well-guarded mansion.



THE CALAO.

WHEN in the productions of nature we find encumbrance added to inutility, we generally suppose that she has been mistaken; but this thought borders upon blasphemy against the wisdom of Providence. How can mean and limited beings as we are, so ignorant of the simplest mechanism of the world, suppose for a moment, that because we cannot guess the use of a part of the creation, that part is useless. Nothing has been created in vain; and if the aim of nature is concealed from us, is that a reason sufficient to accuse her of folly, of wantonness, of error? Truth Eternal cannot err. Let us, therefore, endeavour to divine the purpose of Providence in her ways; and if we find ourselves lost in our searches, let us fairly impute the fault, not to

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her, but to our own incapacity. This bird has not only been allotted a large beak, but another, or something like, above it: the bill, with its supereminent appendage, forms a height of four inches; near the head they are about five inches thick across; the true bill terminates in a blunt point, and is made of strong horny substance; the false bill, if we can call it a bill, is light, and of a matter like the crab's shell, crumbling easily under the thumb. The colour of both, the beak and its adjunct, is whitish-yellow; the fore part of the upper bill is The Calaos are natives of the coast of Mablack. We have not been able yet to ascertain labar. whether this apparatus, that seems to have nothing to do with the beak below, is not purposely placed there, in order to enhance the power of smelling, which, in the habits of the bird, may be of great advantage to him; the upper bill, by its shape, might divide the air, and thereby assists the aspiring of the nostrils.



THE ROLLER

Is about the bigness of the jay. His bill is black, sharp, and somewhat hooked. The head is of a BIRDS.

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sordid green, mingled with blue; of which colour is also the throat, with white lines in the middle of each feather; the breast and belly are of a pale blue, like those of a pigeon; the middle of the back, between the shoulders, is red; the rump, and lesser rows of the coverts of the wings, are of a lovely blue; the feet are short, and, like those of a dove, of a dirty yellow colour.



THE PARROT.

HAD Nature united in the same creature the shape of man, as we perceive it in the largest monkies and apes; the intelligence of the elephant, who is so soon acquainted with the language of his keeper; and the faculty of speech, which she bestowed on the Parrot, we would have been at a loss to decide, whether this curious animal were not one of a family with the human species; but her wisdom directed the operations of classing the animals in a different way, and she separated her gifts, allowing the human speech to a bird, the intelligence to a being which, in shape, does not in the least re-

semble man, and in refusing both to the brute who, in outward appearance, approaches the most to the human form. The tongue of the Parrot is not unlike a black soft bean, and fills so completely the capacity of his beak, that the bird can easily modulate sounds, and articulate words; the beak is composed of two pieces, both moveable, which is a peculiarity belonging exclusively, it appears, to this class of creatures. The colour of the Parrot varies with the species; and nature seems to have indulged her fanciful mixture of green, red, yellow, and blue, upon these birds. The bill of the Parrot is strongly hooked, and assists him in climbing, catching hold of the boughs of the trees with it, and then drawing his legs upwards; then again advancing his beak, and afterwards his feet; for his legs are not adapted for hopping from bough to bough, as other birds use to do. Several stories are told of the sagacity of this bird, and of the aptitude of his interrogatories and answers, but most of them are the effect of chance. Parrots are very numerous in the East and West Indies, where they assemble in companies, like rooks, and build in the hollows of trees. The female lays two or three eggs, marked with little specks, like those of the partridge. They never breed in our climates, and yet live here to a great age. They feed entirely upon vegetables, yet when tame, they take out of the mouth of their master or mistress, any kind of chewed meat, and chiefly eggs, of which they seem particularly fond. They do not only articulate words, but also sing verses of songs, and their memory is astonishing. They bite or pinch very hard, and some of them possess so much strength in their beak, that they

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could easily cut a man's finger in two, through the bone. The Parrot is sensible of attachment, as well as of revenge; and if they show, in their mimic attitudes, great pleasure at the sight of their feeders, they also fly up with anger, to the face of those who once have affronted or injured them.



THE MACAW

Is the largest of the parrot kind, and painted with the finest colour Nature can bestow. The beak is uncommonly strong; and the tail proportionally longer than that of any parrots. Their voice is fierce and tremendous, and seems to utter the word "Arara," which occasioned his going by that name in his native countries. The Macaw of St. Domingo is of a fine red colour, except some blue and yellow feathers about the wings. The flesh of this bird is much esteemed as an article of food in that island.

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THE PARROQUET

Is less than the common parrot, and furnished with a longer tail. There are several varieties of this bird, whose habits and qualities are similar to those of the parrot. They are even more easily tamed, and, although they are not allotted so great a faculty of speech, they are the amusement of sedentary ladies in all countries.



THE COCKATOO

BELONGS to the same family of birds, and is distinguished from the parrots, and all others, by a beautiful crest, composed of a tuft of elegant feathers, which he can raise or depress at pleasure. We meet with some of a beautiful white plumage, and the inside feathers of the crest of a pleasing yellow colour, with a spot of the same under each eye, and one upon the breast. This bird often repeats the word from which he received his name, but can also imitate the human voice.



THE RING PARROQUET.

THIS is the first of the species of that name, and is supposed to have been the only one known to the ancients, since the time of Alexander the Great down to the age of Nero; but this opinion cannot be easily maintained, as the communication with the East Indies, of which they are natives, was not much intercepted in that lapse of years. The bird is about fifteen inches long, his bill is thick and all over red; the head and the body green; but the neck, breast, andthe whole of the under side more faint or pale; the other parts deeper coloured. He has a red circle or ring which encompasses the back of the neck, and is, behind, about the breadth of one's little finger, but grows narrower by degrees towards the sides and ends under the lower chap of the bill. The
belly is of so faint a green that it seems almost yellow. The tail is also of a yellowish green, the legs and feet are ash-coloured.



THE HORNED OWL

Is nearly the largest of all Owls, and has two long horns growing from the top of his head, above his ears, and composed of six feathers, which he can raise or lay down at pleasure. The eyes are large, and encircled with an orange-coloured iris; the ears are large and deep, and the beak black; the breast, belly, and thighs, are of a dull yellow, marked with brown streaks; the back, coverts of the wings, and quill feathers, are brown and yellow; and the tail is marked with dusky and red bars. He inhabits the north and west of England and Wales. The organ of sight in this bird, as well as in all other Owls, is so peculiarly conformed, and so much in its nature resembling that of the feline kind, that this creature can much better see at dusk than by day-light, but in total darkness they do not see well. The Barn Owl sees in a greater degree of

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darkness than the others; and on the contrary, the Horned Owl is enabled to pursue his prey by day, but with difficulty. Gray, in his beautiful "Elegy in a Country Church Yard," expresses himself in the following manner:

from yonder ivy-mantled tow'r The moping owl does to the moon complain Of such, who, wand'ring near her secret bow'r, Molest her ancient solitary reign.



THE BARN OWL

Is about the bigness of a pigeon. His beak hooked at the end, is more than an inch and a half long. This bird has a circle or wreath of white, soft, and downy feathers, encompassed with yellow ones, beginning from the nostrils on each side, passing round the eye and under the chin, somewhat resembling a hood, as women used to wear; so that the eyes appear to be sunk in the middle of the feathers. The breast, belly, and feathers, of

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the inside of the wings, are white, and marked with a few dark spots. The legs are coloured, with a thick down to the feet, but the toes have only thin set hairs around them.

In ancient mythology, this bird was consecrated to Minerva, the goddess of wisdom; in allusion to the lucubrations of wise men, who study in retirement and during the night, in order to improve their knowledge and communicate it to others. See Ovid's Metam. B. 11.



THE GOAT-SUCKER

Is a bird of the swallow kind, which some call the Churn Owl. His plumage is composed of black, brown, grey, white, and ferruginous colours, beautifully arranged. The tongue is small, and placed low in the mouth; the legs small also, feathered below the knee, and covered with scales. He receives his name from the ancient error of his being supposed to suck the milk, and even the blood of Goats, his large mouth being adapted for such a use. He is said to be a bird of passage, arriving in this island about the latter end of May.



THE COMMON GREEN WOOD-PECKER

RECEIVES his name from the facility with which he pecks the insects from the chinks of trees, and holes in the bark. They are often seen hanging by their claws, and resting upon their tails against the stem of a tree; and after darting, with strength and noise, their beak against the bark, turn round with great alacrity, which manœuvre has made the country people suppose, that they go round to see whether they have not pierced the tree through its body. The fact is, that this beating against the bark is for no other purpose than to rouse the insects, which the chink contains, and to force them to come out, which they would not do if their enemy was present there; and soon after the Pecker turning round takes them unawares, and feeds upon them; when the insects answer not the delusive call, the birds dart their long tongues into the hole, and bring out, by this means, their reluctant prey. The plumage of this bird is a compound of red and green, two colours, the approximation of which is always productive of harmony in the works of na-

ture. They nest in the hollow of trees, where the female lays five or six whitish eggs upon the bare ground, trusting to the natural heat of her body to hatch them into life.



THE ADJUTANT

Is a bird of the stork kind, lately brought from Botany Bay. The beak of this creature is an anomaly among the rest; it is composed of two long sticks, apparently, as if of wood, with which they make a loud clattering noise, in order to clean them. The head is bare of feathers, hairs, or down, and also looks as if made of wood; in which the eye seems to be set, as if without lids or any cartilaginous appendages. Under the chin is a kind of bag, or purse, that seems adapted to receive the water they are obliged to swallow with the fish they feed on. The neck is not covered with feathers, but bare like that of the ostrich, and of a flesh colour. The covert of the wings and back are black, with a bluish cast; the under part of the body whitish; the legs are long, without feathers, and of a greyish hue; so are the thighs, which seem to

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be as slender as the leg. The articulation between the tibia and the femur is perceptible and larger than in any bird of the kind. Two birds of this species were exposed to view in London, at the menagery of Exeter-Change, in 1810.



THE NUTHATCH, OR NUTJOBBER,

Is less than a chafinch. The head, neck, and beak, are of an ash colour; the sides under the wings red; the throat and breast of a pale yellow; the chin is white, and the feathers under the tail are red, with white tips. He feeds upon nuts, which he hoards in the hollow of a tree: it is pleasing to see this bird fetch a nut out of the hole, place it fast in a chink, and, standing above it with his head downwards, striking it with all his might, break the shell, and catch up the kernel. He feeds also upon flies and other small insects. The hen is so attached to her covey that, when disturbed from her nest, she flutters about the head of the depredator, and hisses like a snake. The young ones are said to afford a very delicate food. 122



THE CREEPERS

MAKE a family of themselves. The Wall Creeper, or Spider Catcher, is bigger than a housesparrow. He has a long, slender, black bill; the head, neck, and back, are of an ash colour; the breast white; the wings a compound of lead and red tint. He is a brisk and cheerful bird, and has a pleasant note. He builds his nest in the holes of trees.

The Ox-Eye Creeper is scarce bigger than a wren. He has a long, slender, sharp bill. The throat, breast, and belly, are white; the head, back, and wings of a fox colour; the middle parts of the wings whitish; above the eyes, on each side, is a white spot. It is commonly seen in England, and builds in hollow trees. The smaller is the bird, in general, the greater number of eggs the female lays; the number of the Creeper's eggs is sometimes above twenty. It is pleasant to see the Creepers climb up the stem of a tree, with the greatest agility, in search of those small creatures which, while feeding themselves on smaller ones, become the prey of these little birds.

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THE PEACOCK,

Adorns him, colour'd with the florid hue Of rainbows and starry' eyes.

MILTON'S PARADISE LOST, B. VI.

ASTONISHED at the unparallelled beauty of this bird, the ancients could not help indulging their lively and creative fancy, in accounting for the magnificence of his plumage. They made him the favourite of imperial Juno sister and wife to Jupiter, and not less than the hundred eyes of Argus were pulled out to ornament his tail; indeed there is scarcely any thing in nature that can vie with the transcendant lustre of the Peacock's feathers. The changing glory of his neck eclipses the deep azure of ultramarine, and, at the least evolution, it assumes the green tint of the emerald and the purple hue of

the amethyst. His head, which is small and finely shaped, offers several curious stripes of white and black round the eyes, and is surmounted by an elegant panache, or tuft of feathers, each of which is composed of a slender stem and a small flower at the top. Displayed with conscious pride, for the purpose of expressing his love to his female, and exposed under a variety of angles to the reflections of versatile light, the broad and variegated discus of his tail, of which the neck, head, and breast of the bird become the centre, claims our well-merited admiration. By an extraordinary mixture of the brightest colours, it displays at once the richness of gold, and the paler tints of silver, fringed with bronze-coloured edges, and surrounding eye-like spots of dark brown and sapphire; it is supposed that this bird is conscious of his incomparable beauty, and sensible to the voice of praise. The female does not share these great honours with the cock, and is generally of a light brown. It has been said that both are ashamed of the hoarseness of their voice and ill-shapedness of their feet; and indeed they may, for here we ought again to acknowledge the great system of equity and compensation which pervades the whole of nature. The loud screamings of the Peacock are worse than the harsh croakings of the Raven, and a sure prognostic for bad weather; and his feet, more clumsy than those of the Turkey, make a sad contrast with the elegance of the rest. The spreading of the tail, the swelling of the throat, neck, and breast, and the puffing noise which they emit, at certain times, are proofs that the Turkey and the Peacock stand nearly allied in the family chain of animated beings.

There is a species of Peacocks, now not uncommon in gentlemen's parks and pleasure grounds, which are of the brightest unmixed white. They participate, with the other breed, the elegance of shape in the head and body, and the widely spreading tail; but they look as a degenerated branch of the family, which the coldness of our northern climate has deprived, by degrees, of its native splendour.

The Peacock's food is like that of the common cock and hen; and the female hatches her young to the number of five or six, with great attention and patience, while the male, in full rotation and gaudy display, sheds around her nest the glowing radiance of his train. The flesh of the Peacock was anciently a princely dish, and the whole bird used to be served on the table with the feathers of the neck and tail preserved; but few people could now relish such food, as it is much coarser than the flesh of the turkey. The Italians have given this laconic description of the Peacock : "He has the plumage of an angel, the voice of a devil, and the stomach of a thief." Let us observe that this bird, may be a true moral emblem of those who, with most alluring outward qualities, do not possess the much more valuable ones of the heart and mind, for the Peacock is both cruel and stupid. We have seen instances of the Peahen tossing up her chicks with unnatural barbarity, till they were dead; and out of the several ones which she hatches, she seldom rears more than one or two.

The Latin name Pavo, originates from the clang Pea-hoo, which they repeat in rainy weather.

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THE TURKEY

WAS originally an inhabitant of America, from whence he was brought to Europe by some jesuit missionaries, which accounts for his being called a jesuit in some parts of the continent. Except the tuft on the head, which he does not share with the Peacock, and his plumage which is very different from that of the latter, in many particulars he is very The general colour is brown and black; like him. and they have about the head, especially the cock, naked and tuberous lumps of flesh of a bright red colour. A long fleshy appendage depends from the base of the upper mandible, and seems to be lengthened and shortened at pleasure. The hen lays from fifteen to twenty eggs which are whitish and freckled. The chickens are very tender and require great care and attentive nursing before they are able to seek their food. In the county of Norfolk the breading of Turkeys, which is there a considerable branch of commerce, is brought to such a perfec-

tion that they are the largest in this island, weighing upwards of twenty pounds each; and in the East Indies they generally weigh upward of fifty. They are supposed to have a natural antipathy against red colour, which, if so, must be owing to its resemblance to light or fire.



THE COMMON COCK

Is so well known that it would be lost labour to say much of him. His plumage is various and beautiful, his courage very great and proverbial, his sobriety astonishing, and his inward knowledge of the station which the sun holds in the firmament has baffled the most obstinate researches of naturalists. When of a good breed and well taught to fight, he will rather die than yield to his adversary. The hen lays a great number of eggs and at certain times feels an irresistible propensity to sit upon them. When in the secluded state of incubation she eats very little, and yet is so courageous and strong that

she will rise and fight men or animals that dare to approach her nest. It is impossible to conceive how, with so scanty a sustenance as she takes, she can, for twenty one days, emit, constantly from her body, such intense heat as would raise Farenheit's thermometer to 96 degrees. The flesh of this bird is delicate and wholesome, and given to convalescent people as a nourishing and light kind of food.

There are several species or families of this fowl. The Hamburgh Cock has a beautiful tuft of feathers about his cars and on the top of his head; and the Bantam have their legs and toes entirely covered, which is more an impediment than an ornament to the bird. The cock is a true emblem of vigilance, and his crowing at certain hours of the day and night made him called not improperly, "The hamlet clock," as the inhabitants of the hamlet, being too distant to hear the parish clock, have no other means to find the time of the day or night but by the warning voice of chanticleer,

"_____ whose clarion sounds The silent hours." PARAD. LOST.

A modern author, describing the bustle and noise of the metropolis, and wishing for the calm and quietness of country retirement, expresses himself in the following manner, and mentions the crowing of the hamlet Cock as one of the principal inducements to leave town.

> "Oh! lead me to some cool, secreted vales, Where, free from smoke, the purest air exhales, The wholesome smell of turf, the breath of flow'rs And scented shrubs, self-plaited in the bow'rs; Where sleep unbought refresh the wearied eyes, And cloudless days to clear nights yield the skies;

Where drowsy watchmen, staggering as they go, Bawl not the hour they themselves hardly know; But Chanticleer, true herald of the sun, Tells me at once the day's work is begun; Where no hoarse tribes of jews, the butt of scorn, Disturb the silence of the peaceful morn; But soaring larks, in heavenly melody, Call me to share the pleasures of the day."

The cruel sport of cock-fighting may be traced back to the earliest antiquity. The Athenians seem to have received it from India, where it is even now followed with a kind of phrensy, and we are told that the Chinese will sometimes risk not only the whole of their property, but their wives and children on the issue of a battle. The religion of the Greeks could not see that game with pleasure, and therefore cockfighting was allowed only once a year; but the Romans, who had given to the bird the name of their earliest enemies, the Gauls, adopted the practice with rapture, and introduced it in this island. Henry VIII. delighted in that sport, and caused a commodious house to be built for the purpose, which, although it is now applied to a very different use, still retains the name of the cock-pit. The part of our ships, so called, seems also to indicate that at other times the diversion of cock-fighting was permitted in order to beguile the tedious hours of a long voyage. It is a great pity that a custom which originated in barbarous times, should still continue to the disgrace of a philosophic and enlightened age.

The Cock was sacred to Esculapius, son of Apollo; and Socrates, when on the point of drinking the poison, is reported to have immolated this bird upon the altar of the God of Medicine; a singular act of

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superstition from a man who was persecuted for preaching the religion of one God, and the immortality of the soul.



THE PHEASANT.

THE name of this bird implies that he was originally a native of the banks of the river Phasis in Armenia; how and when he emigrated and began to haunt our groves, is unknown. The colour of this half domesticated fowl is very beautiful, uniting the brightness of deep yellow gold to the finest tints of ruby and turquoise, with reflections of green; the whole being set off by several spots of shining black; but, as in every other kind of well painted birds, nature has, for some wise purposes yet unknown to us, denied the female that admirable beauty of plumage. The pheasant lives in the woods which he leaves at dusk to perambulate corn fields and other sequester-

ed places, where he feeds, with his females, upon acorns, berries, grains, and seeds of plants, but chiefly on ants' eggs, of which he is particularly fond. His flesh is justly accounted better meat than any of the domestic or wild fowls, as it unites the delicacy of the common chicken to a peculiar taste of its own. The female lays eighteen or twenty eggs once a year, in the wild state, and it is in vain that we have attempted to domesticate this bird entirely, as he never will remain confined, and, if he ever breed in confinement, is very careless of his brood. This beautiful bird is elegantly described in the following passage :—

See! from the brake the whirring pheasant springs, And mounts exulting on triumphant wings; Short is his joy; he feels the fiery wound, Flutters in blood, and panting beats the ground; Ah! what avails his glossy, varying dyes; His purple crest, his scarlet circled eyes, The vivid green his shining plumes unfold, His painted wings and breast that flames with gold!



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THE PARTRIDGE

Is in weight about fourteen ounces. The shape f this bird is peculiar to himself and the quail, hav-

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ing both a very short tail; his plumage, although it cannot boast of gaudiness, is very pleasing to the eye, being altogether a mixture of brown and fawn colour interspersed with grey and ash colour tints. The head is small and pretty, the beak strong, yet not long, and resembling that of all other granivorous birds. The female lays fifteen or eighteen eggs, and leads her brood in the corn fields with the utmost care. It is even told that when she finds that the pointer is at hand, she turns out, affecting lameness, to decoy the dog, and thereby gives her brood time to escape the enemy's search. Partridges fly in companies, the young never leaving the old ones till after February, when they pair together and fly by two and two.

The shooting of Partridges, Quails, and other innocent inhabitants of the fields, where they live at no body's expence, upon what the last gleaners have left behind, is well described in the following lines:

Now mark The fowler, as he stands and meditates The cruel deed! See how, with steady grasp, He holds the thund'ring messenger of death; His eye fix'd,—levell'd on the fatal tube; His forward leg.—Amidst the bristling corn His dog, as if by skilful *Flaxman* cut In Parian stone, or cast in lasting bronze By far-fam'd *Westmacott*, stands forth unmov'd, Ready to give the deadly signal.—Hark! 'Tis done—shot through the heart, she reels, she falls, Far from her nest; whilst th' unsuspecting mate Still leads the flutt'ring covey through the field.

Z.



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THE QUAIL

Is a small bird, being in length no more than seven The colour of the breast and belly is of a inches. dirty pale yellow, the throat has a little mixture of red; the head is black and the body and wings have black stripes upon an hazel-coloured ground. Their habits and manner of living resemble those of the pheasant and partridge, and they are either caught in nets by decoy birds, or shot by the help of the setting dog, their call being easily imitated by tapping two pieces of copper one against another. The flesh of the Quail is very luscious, and next in taste to that of the partridge. Although it is certain that the Quails cannot remain long on the wing, yet it is believed that they are birds of passage, the only peculiarity in which these birds differ from all other of the poultry kind. The female lays seldom more than six or seven eggs.

The ancient Athenians kept this bird merely for the sport of fighting with each other, as game cocks do, and never eat the flesh: it was that wild fowl which God thought proper to send to the chosen people, as a sustenance in the desert.



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THE OSTRICH

Is bred in Africa, Asia, and America. It is the tallest of all birds; when he holds up his head he can reach eleven feet in height. The head is very small in comparison with the body, being hardly bigger than one of his toes. It is covered, as well as the neck, with a certain down or thin-set hairs, instead of feathers, the sides and thighs are entirely bare and flesh colour. The lower part of the neck, where the feathers begin, is white. The wings are short and of no use for flying, but help the bird in his skipping along the plain. The feathers of the back, in the cock, are coal black; in the hen only dusky, and so soft that they resemble a kind of wool. The tail is thick, bushy, and round, in the cock whitish, in the hen duskish with white tops. These are the feathers which adorn the heads of the fair and of the brave. They are generally in great requisition, to decorate the hats of our ladies, and the helmets of warriors.

The Ostrich swallows any thing that presents itself to him, leather, grass, iron, bread, hair, &c. and what the power of digestion in the stomach is unable to macerate, is voided entire by the common way. The eggs are as big as a young child's head, with a hard and stony shell, which being buried in the sand to the number of fifty and upwards, are cherished only by the heat of the sun, till the young are hatched. In the thirty-ninth chapter of Job we read a most beautiful description of this bird. They had at that time, observed the manner in which the female Ostrich abandons her brood to the natural heat of the sand: "She is hardened against her young ones, as though they were not her's. Her labour is in vain; without fear, because God hath deprived her of wisdom; neither has he imparted to her understanding. What time she lifteth up her head on high she scorneth the horse and his rider." Nothing can be more exact than this character of the Ostrich, and it ought to increase our admiration and respect for the sacred writings in which we find after so many ages, so correct, so animated a description of the bird.

> Who, tossing up on high in vacant air, Her much more vacant head, struts fast along On Ammon's sandy plains, and, void of care, Leaves all what's dear behind—Untaught to feed Her orphan brood, hatch'd from spheric shells, Summon her guidance, but in vain; she still Struts far away on Ammon's sandy plains.

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The name of Struthio, which is applied to this bird, in Latin as well as in Greek, seems to bear a sort of analogy to his manner of strutting on the ground; and the etymologists are at a loss to decide, whether to strut comes from Struthio, or Struthio from strutting.



THE CASSOWARY

Is next in size to the ostrich, but of a different nature. His wings are hardly perceptible, being very short and entirely concealed under the plumage. The general tint of his feathers is brown, with some spots of vermillion red; his head is small and depressed, with a horny crown; the head and neck are deprived of feathers, and only set with a kind of hairy down. From the bill to the claws the body measures about five feet and a half: about the neck are two protuberances of a bluish colour, and, in shape, like the wattles of a cock. Unlike that in other birds, the nature of his feathers on the coverings of the wings, or any other part of the body, is entirely the same, so that at a distance he looks rather as if he was entirely covered with hairs like a bear, than with plumage like a bird. The Cassowary eats indiscriminately whatever comes in his way, and does not seem to have any sort of predilection for any kind of food. He is a native of the southern parts of India; the eggs of the female are nearly fifteen inches in circumference, of a greyish ash colour, marked with green. It has been said of the Cassowary, that he has the head of a warrior, the eye of a lion, the armament of a porcupine, and the swiftness of a courser; yet nature has made him of a mild, amicable, and gentle disposition.

The Emú, a native of America, is a bird of a large size belonging to the Cassowary kind; it is reported that the male, when the eggs are laid, drives the female away and hatches them himself; leaving, however, two of the eggs to rot aside, in order to breed flies and insects, to feed the new brood as soon as they are ushered into life; what could be the meaning of this, if true, is impossible to explain; unless we suppose that mindful of his rising posterity, the cock does not allow that the time of incubation should encroach upon the duty of propagating. We are of opinion that the Cassowary, belonging to the Ostrich kind, partakes in the apparent carelessness of that bird for her eggs; a circumstance which may have given rise to the story of the male sitting instead of the female.



THE KING FISHER,

Is the Alcyon of the ancients, and his name recalls to our mind the most lively ideas; it was believed that as long as the female sat upon her eggs, the god of storms and tempests refrained from disturbing the calmness of the waves, and *Alcyon days* were for navigators of old times a most secure moment to perform their voyages. But although this bears analogy to a natural coincidence between the time of brooding assigned to the King Fishers, and a part of the year when the ocean is less tempestuous, yet Mythology would exercise her fancy, and turn into wonders that which was nothing else than the common course of nature. She invented the interesting fable of Ceyx and Halcyone. See Ovid. et.xi.10. to which the following lines allude.

> "Relent, ye tyrants of the troubled seas, Suspend your boist'rous fury—let the surge Roll smoothly o'er fair Thetys' silver zone, Eolus' daughter rides the azure main." Thus sung the nymphs, whilst in her floating bow'r, With woven reeds and rushes made secure, Halcyone sits mindful of her hopes, The future brood; what time her em'rald neck With changing hues, reflects the setting rays, Which, levell'd to the watry plain, gild o'er The gently-rising bosoms of the waves. Z.

This bird is nearly as small as a common sparrow, but the head and beak appear proportionally too big The bright blue of his back and for the body. wings claims our admiration as it changes into deep purple or lively green, according to the angles of light under which the bird presents himself to the eye. He is generally seen on the banks of rivers, for the purpose of seizing small fish, on which he subsists, and which he takes in amazing quantities, by balancing himself at a distance above the water for a certain time, and then darting on the fish with unerring aim. The French by calling this bird Martin-pecheur, seem to have attached him to the swallow kind, but they are much mistaken, as the colour, the habits, and shape of the King Fisher are entirely different from those of the swallow. The King Fisher naturally belongs to the tribe of water birds, as he lives on fish; and it is therefore by mistake that he has been generally classed with the land birds.

It is reported, that the dead body of this bird placed in drawers and presses keeps away moths and other insects from committing depredations upon the clothes kept in them. We shall leave this for experiment to decide whether it is true or not. Some people have an opinion, that these birds make no nest, but generally seize upon the hole of a water rat on the banks of rivers and ponds, and that the female deposits her eggs there, without any other thing to receive them than the naked mould. That may be accidentally the case, but only when the nest having been destroyed, the hen has not time sufficient to build another. 140



THE HOOPOE

Is a small bird measuring no more than twelve inches from the sharp point of the bill to the end of the tail. The bill is sharp, black, and somewhat bending; Nature seems to have sat down with pleasure and enjoyed her work when she was forming the moving and most beautiful crest which adorns the head of this bird; it is a kind of bright halo, whose radiation places the head nearly in the centre of a golden circle. This pleasing ornament, which the bird sets up or lets fall at pleasure, is composed of a double row of feathers reaching from the bill to the nape of the neck, which is of a pale red. The breast is white with black strokes tending downwards; the wings and back are varied with white and black cross lines. This beautifully crested bird is not very common in this country. In Egypt they are often seen in small flocks. The female makes no nest, and lays five or six eggs in the hollow of a tree without any sort of preparation.



THE WATER OUZEL, OR WATER CRAKE,

Is nearly as big as the common black-bird; he is an English bird, and is found in most counties of the island. He feeds upon fish, yet does not refuse insects when hungry. The head and upper side of the neck are of a kind of umber colour, and sometimes black with a shade of red; the back and coverings of the wings are of a mixture of black and ash colour, the throat and breast perfectly white.

> " Close to the riv'let hank, the Ouzel shy Tries first his notes—then, balanc'd on the reed Pliantly swinging o'er the busy stream, He joins, in concert full, th' enticing noise Of loud cascades, when from the craggy rocks, They tumble, spread, and fret along the mead.

> > Z.

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The most peculiar trait in this bird's character is that he can walk on the pebbly bottom of a shallow stream, in quest of small minnows, as easily as he does on land, without being staggered by the rapidity of the current.



THE TURTLE DOVE

BRINGS to the heart and mind recollections of the most pleasing kind; the name is nearly synonimous with faithfulness and unvariable affection. The male or female is so much attached to the respective mate that it is said, perhaps with more emphasis than truth, that if one dies the other will never survive: however the author of these observations was an eye witness, that a female Turtle Dove, having been unfortunately killed by a spaniel in the absence of the male, the disconsolate survivor, after having searched in vain all places where he might find his mate, came and melancholily perched upon the wonted' trough, waiting patiently for her to repair there in order to get food; but after two days of unavailing expectation, he, by spontaneous abstinence, pined and died on the place. These examples are not common, and we believe that, when not domesticated, the appearance of another female in the time of coupling, sets at defiance all natural propensity to constancy, and puts an end to the much famed widowhood. The general colour of this bird

is a bluish grey; the breast and neck of a kind of whitish purple, with a ringlet of beautiful white feathers with black edges about the sides of the neck. Nothing can express the sensation which is excited in a feeling mind when the tender and sweetly plaintive notes of the Turtle Dove breathe from the grove on a beautiful spring evening; it is the very harmony of the heart. Dryden says, after Virgil, Ecl. 1. 59.

> " Stock Doves and Turtles tell their am'rous pain, And, from the lofty elms, of love complain.



THE RING DOVE

Is of a pale chocolate or cream colour, with a black ringlet, with white edges, around the neck; the breed is common in England, and they are easily domesticated. Their habits are like those of other birds of the tribe. They are also called the *Indian Turtle Dove*, and are often a great object of attention and care to our ladies, who breed them at home and sometimes in their gardens. 144



THE STOCK DOVE, OR WOOD PIGEON,

APPEARS to have been the origin of all the tribes of the pigeon kind. They generally build their nests either in holes of rocks or in excavated trees. and are, when taken young, easily brought to a do-They however preserve their mesticated state. original colour through several generations, and become by degrees more diversified in their plumage; a circumstance which is remarkable in all quadrupeds or birds, who, from the free but wild state of nature are brought to the easier mode of domestic life. The colour of the Stock Dove is generally of a deep slate or lead tint, with rings of black about the feathers. Their murmuring strains, in the morning and at dusk, is most pleasing and throws an agreeable melancholy on the solitude of the grove. The poet of the seasons expresses it in the following lines, with a beautiful instance of imitative harmony.

after describing the full band of the woodland cho risters with elegance and truth, he concludes,

A melancholy murmur thro' the whole.

SPRING.

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THE TAME PIGEON

Is well known as to his shape, but the colour varies so much that it eludes the rules of classification. They prefer a gregarious life, and abide often to the number of five or six thousand in a tower purposely built for them in the neighbourhood of the farm yard, with proper holes to nestle in. The female pigeon, through the whole species, lays two eggs at a time, which bring generally a male and a female. It is much pleasing to see how eager the male is to sit upon the eggs in order that his mate may rest and feed herself; faithfulness and harmony are invariable inmates of their nests; most happy would they be had they no others, but they are often infested by insects always ready to vex and torment the young ones.



THE BLACK BIRD, OR BLACK OUZEL.

THIS well-known songster, does not soar up to the clouds, like the lark, to make his voice resound through the air; but keeps steady in the shady groves, which he fills with his melodious notes. Early at dawn, late at dusk, he continues his pleasing melody; and when incarcerated in the narrow space of a prisoncage, cheerful still and merry, he strives to repay the kindness of his keeper, by his singing to him his natural strains; and beguiles his irksome hours of captivity, by studying and imitating his master's whistle. They build their nest with great art, making the outside of moss, slender twigs, cemented together with clay, and covering the clay with soft materials, as hair, wool, and straw. The female lays four or five eggs of a bluish green colour, all spotted with brown. The bill is saffron, but in the female the upper part and point are blackish; the inside of the mouth, and the circumference of the eyelids, are yellow. The name of this bird is sufficiently expressive of the general colour of his body.

He feeds on berries, fruit, insects, &c. The species of this bird in Surinam and South America is not of so deep a black; the throat and part of the breast are of a crimson colour.

"The Black Bird, says Buffon, is more restless than cunning; more timid than suspicious; as he readily suffers himself to be caught with bird-lime, nooses, and all sorts of snares." In some counties of England this bird is called simply *Ouzel*, but anciently the name *Mearle*, from the French *Merle*, and Latin *Merula*, was the common appellation.



THE STARE, OR STARLING,

Is of the bigness and shape of a black-bird; the tips of the feathers on the neck and back are yellow; the feathers under the tail of an ash-colour; the other parts of the plumage are black, with a purple or deep blue gloss, changing as it is variously exposed to the light. In the hen, the tips of the feathers on the breast and belly, to the very throat, are white, which constitutes a material

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point in the choice of the bird, as the female is no singer. She lays four or five eggs, lightly tinctured with a greenish cast of blue. They build in hollow trees and clefts of rocks, are very easily tamed, and can add to their natural notes any words or modulation they are taught to learn. They are subject to epileptic fits; but they are easily cured if, at the moment of the paroxism, their nails are cut to the quick. They live long, and seem happy in servitude, mimicking the voice of other birds and other noise in the reach of their hearing.

> " Oft in the wicker-prison doom'd to live And sing, suspended at the cottage door, Or gently swinging o'er the cobler's stall, The lively, restless Starling, all the day, Chattering and loud, calls to the passing clown, And whistles to his brothers of the grove, Unmindful of lost liberty---that boon Which they, for all his troughs of chosen seed, And daily dainties, and the cares of man, Would never barter, truly wise."

Z.



THE SWALLOW.

It has long been a problem, whether these birds emigrate from countries to countries, or whether

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they remain the whole winter where they have abided during the summer season, and then hide themselves in caves, banks of rivers, holes of trees, clefts of rocks, to pass the cold months, in torpid insensibility. Of the possibility of emigrating there is no doubt, as this bird can remain so long on the wing; on another hand, of their having been found clustered together, under the shelving banks of rivers and ponds, many facts may be adduced to prove it; and thus the lover and observer of nature is left in a painful equilibrium. There are several species of the Swallow: the general characters, a small beak, but large wide mouth, for the purpose of swallowing flying insects, their natural food; and their long forked tails and extensive wings to help in pursuing the prey, belong to all of them. The common house-swallow builds at our very windows, and seems not afraid at the sight of man, yet it cannot be tamed, or even kept in cage. The nature of their nest is worthy our serious observation; how the mud is extracted from the sea-shores, rivers, or other watery places; how masoned and formed into a solid building, strong enough to support a whole family, and to face the "pelting storm," are wonders which ought to raise our mind to Him who bestowed that instinct upon them. The ancient mythologists struck at a bloody spot, which one of the species present on their breast, invented, or applied the story of the unfortunate Procne, which is so well alluded to, and so poetically described by Virgil, in his Georgics, Book IV. v. 15, where speaking of the enemies of the bees, he says,

The Titmouse and the Pecker's hungry brood, And Procne, with her bosom stain'd in blood.

DRYDEN.

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Modern poets have not been unmindful of the Swallows, and our immortal Shakespeare mentions them in Macbeth in the following manner, Act I. scene vi.

"This guest of summer, The temple-haunting Martlet, does approve By his lov'd masonry, that heav'n's breath Swells wooingly here. No jutting frieze Buttress, or coignes of 'vantage, but this bird Hath made his pendent bed and procreant cradle : Where they most breed and haunt, I have observ'd The air is delicate.

And undoubtedly Banquo was right, as it is plain that, if this bird passes the winter in hollow caves and muddy banks; in summer, however, he delights in high situations, where the purest air circulates. The Swallow is on the head, neck, back, and rump, of a shining black colour, with purple gloss, and some times with a blue shade; the throat and neck are of the same colour; the breast and belly are white, with a dash of red. The tail is forked, and consists of twelve feathers. The wings are of the same colour with the back. They feed upon flies, worms, insects; and generally hunt their prey on the wing.



THE MARTIN

Is something less than the swallow, and often confounded with him. He has a great head comparatively, and a wide mouth; his legs are very short but thick, and the feet very small. They very seldom alight on the ground, but sit upon the top of chimneys, church towers, and old buildings. In heraldry the Martlet is painted without feet, and is a most ancient and noble bearing, and this bird is fond of nestling under the gates or windows of old castles, as it is observed in the above quotation from our illustrious bard.



THE RED-BREAST

SEEMS to have been a favourite of nature; she bestowed upon him several qualities, one of which would be sufficient to recommend him to the atten-
The prettiness of his shape, the tion of man. beauty of his plumage, the quickness of his motions, his familiarity with us in winter, and above all, the melody and sweetness of his voice, always claim our admiration, and have insured him that security he enjoys among us. In the brumal season, impelled by the potent stimulus of hunger, he frequents our barns, our gardens, our houses, and often alights, on a sudden, on the rustic floor; there, with his broad eye incessantly open, and looking askew upon the company, he picks up eagerly the crumbs of bread that fall from the table, and then flies off to the neighbouring bush, where, by his warbling strains, he expresses his gratitude for the liberty he has been allowed. He is found in most parts of Europe, but no where so commonly as in several counties of England. His bill is dusky; the forehead, chin, throat, and breast, are of a deep orange colour, inclining to vermillion; the back of the head, neck, back, and tail, are of ash colour, tinged with green ; the wings are somewhat darker, the edges inclining to yellow; the legs and feet are dusky. He builds his nest in the crevice of some mossy bank, and sometimes secrets it in the thickest coverts. The elegant Poet of the Seasons gives us a most exact and animated description of this bird in the following lines :

> Half afraid, he first Against the window beats: then, brisk, alights On the warm hearth; then, hopping on the floor Eyes all the smiling family askance, And pecks, and starts, and wonders where he is, 'Till more familiar grown, the table crumbs Attract his slender feet.

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An old Latin proverb tells us, that two Robin-Red-Breasts do not feed on the same tree. We cannot vouch for the truth of this; but it is certain, that the Red-Breast is a solitary bird, and that he does not live in much harmony and friendship with those of his kind. The male may be known from the female by the colour of his legs, which are blacker.

The Red-Start is about the bigness of a robin-redbreast. The breast, rump, and sides, under the wings, are red; the lower belly white; the head, neck, and back, of a lead colour. He feeds upon insects, and makes his appearance in summer; whether and where he retires in winter is a question which cannot be easily answered. This bird, when taken old, cannot be tamed; but if caught young, and kept warm in the winter, he will enliven the night as well as the day, with the sweet modulations of his song; he may even be taught to imitate the whistle of other birds, but his wild notes are so melodious that it is a pity to substitute any other to them. He is remarkable for shaking his tale from side to side, with a very quick motion. He builds in the hollow of a tree, or holes of walls; and the female lays four or five eggs, which she generally forsakes as soon as she perceives that her nest is known, and that the eggs have been touched. This bird feeds upon flies, spiders, eggs of ants, small and soft berries, and such like. There are several species of this bird, but the difference between them is so inconsiderable, that it would be useless to enumerate them all.

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THE FIELDFARE

Is a well-known bird in this country. They fly in flocks, together with the redwing and starlings, and shift places according to the season of the year. They abide with us in winter, and disappear in spring, so punctually, that after that time not one is to be seen. The flesh is esteemed a great delicacy. Some authors give us a description of their nest; whilst, on the contrary, some others assure us, that no man ever saw them build and breed in Great Britain. The head is ash-coloured, and spotted with black; the back and coverts of the wings of a deep chesnut colour; the rump cinereous; and the tail black, except the lower part of the two middle feathers, which are ashcoloured, and the upper sides of the exterior feathers which are white.

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THE THRUSH

Is one of the best "quiristers" of the evening hymn in the grove. His tone is loud and sweet; the melody of his song is varied, and, although not so deep in the general diapazon of the woodland concert, as that of the black bird, yet it fills up agreeably, and bursts through the inferior warblings of smaller performers. He is called also the Misle-Bird, we should suppose from his breast, which is of a yellowish white, being all over spotted with black dashes, like ermine spots. The legs are yellow, and the bill is shorter than any one of the kind. The Throstle is but a variety of the Thrush, and the best singer of the whole family. These birds lay five or six bluish eggs, with a tint of green, and marked with dusky spots. There are several species of that bird besides the above-

mentioned, which differ but little from the description we have given.

> " _____ The Thrush And Wood lark, o'er the kind, contending throng Superior heard, run thro' the sweetest length Of notes____

> > THOMSON'S SPRING.



THE REDWING

Is rather less than the thrush; but the upper side of the body is of the same colour; the breast not so much spotted; the coverings of the feathers of the underside of the wings, which in the thrush are yellow, are of orange colour in this bird; by which marks he is generally distinguished. The belly is white, the throat and breast yellowish, marked with dusky spots. He is supposed to be a migratory bird in this island, builds his nest in hedges, and lays six bluish eggs. We cannot praise much the melody of his note.

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THE LARK

Is generally distinguished from other sorts of birds, by the long spur of his back toe, the earthy colour of his feathers, and his singing as he mounts up in the air. The common Sky-Lark is not much bigger than the house sparrow. He builds his nest sometimes in the plain under some high grass, and the tint of his plumage resembles so much the ground on which he hops along, that the body of the bird is hardly perceptible upon it. They breed thrice a year, in May, July, and August, rearing their young in a short space of time. Young nestlings may be brought up almost with any meat, but sheep's heart and eggs chopped together seem to agree best with their stomachs. They are caught in great quantities in winter, and are reckoned a delicate food amongst our best dishes. It is a melancholy observation, that man should feed upon, and indulge his sense of taste with, those very birds who have so often delighted the sense of hearing with their songs, when they usher to the

gladened creation the return of their best friend, the sun. Thomson gives us a most pleasing description of this little creature :

> Up springs the Lark, Shrill-voic'd and loud, the messenger of morn; 'Ere yet the shadows fly, he, mounted, sings Amid the dawning clouds, and from their haunts Calls up the tuneful nations.



THE WOOD LARK

Is smaller than the Sky-Lark, and his voice deeper. The general character of the kind is found again in this bird, but the difference consists chiefly in his having a circle of white feathers encompassing the head, from eye to eye, like a crown or wreath, and the utmost feather of the wing being much shorter than the second, whereas in the common Lark they are nearly equal. This bird sometimes emulates the nightingale, and when pouring his sweet melody in the grove, during a silent night, he is often mistaken for Philomela herself. These birds sit and perch upon trees, which habit the common Lark has not, being always found on the ground.



THE CRESTED LARK

Is another branch of the family of the Larks, and differs from the common ones in several particulars. The colour of the plumage is more uniform, but fainter and less beautiful; he has a shorter tail, and differs also in bigness; besides, he does not soar up so high in the air, and, when he mounts up, cannot remain so long on the wing. They do not assemble together in flocks as the others do, and are often seen about the banks of lakes and rivers. But the principal and most striking point of difference resides in the crest, which the bird can raise or depress at pleasure. This tuft of feathers upon the head of the bird has caused the ancients to call him Cassita, from cassis, a helmet, as his crest bears a resemblance to the well-known head.armour of that name.



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THE NIGHTINGALE

HAS little to boast, if we consider his plumage, which is of a pale tawny colour, on the head and back, dashed with a little shade of olive ; the breast and upper part of the belly incline to a greyish tint; and the lower part of the belly is almost white; the exterior web of the quill-feathers are of reddish brown; the tail of a dull red; the legs and feet ashcoloured; the irides hazel; and the eyes large, bright, and staring. But if we consider how nature has favoured him in another way, we must again humble ourselves, admire and adore Providence, for that eternal and constant system of equity and compensation, which is so evident through the whole of the creation. It is hardly possible to give an idea of the extraordinary power which this small bird possesses in his throat, as to extension of sound, sweetness of tone, and versatility of notes. His song is composed of several musical phrases, each of which does not continue

more than the third part of a minute, but they are so varied; the passing from one tone to another is so fanciful and so rapid; the melody so sweet and so mellow, that the most consummate musician is pleasingly led to a deep sense of admiration at hearing him. Sometimes joyful and merry, he runs down the diapazon with the velocity of the lightning, touching the treble and the base nearly at the same instant; at other times, mournful and plaintive, the unfortunate Philomela draws heavily her lengthened notes, and breathes a delightful melancholy around. These have the appearance of sorrowful sighs; the other modulations resemble the laughter of the happy. Solitary on the twig of a small tree, and cautiously at a certain distance from the nest, where the pledges of his love are treasured under the fostering breast of his mate, the male fills constantly the silent woods with his harmonious strains; and during the whole night entertains and repays his female for the irksome duties of incubation. For it is not, when the harsh and sometimes discordant concert of the other songsters is at full play, that the Nightingale wastes his songs to the astounded coppices; he waits till the blackbird and the thrush have uttered their evening call, even till the stoke and ring doves have, by their soft murmurings, lolled each other to rest, and then he displays, at full, his melodious faculties.

" _____ List'ning Philomela deigns To let them joy, and purposes, in thought Elate, to make her night excel their day.

THOMSON.

It is a great subject of astonishment, that so

small a bird should be endowed with such potent lungs; as several observers have calculated, that his voice agitates with vibrations a diameter of two miles, or a circumference of six. Where is the player on our stages, whose voice could fill up such an area? This bird, who is the ornament and charm of our spring and summer evenings, disappears on a sudden, and as it cannot be ascertained where he retires, he has been placed generally among the birds of passage; but his wings not being calculated to bear him long through the skies, we cannot easily believe that he flies far away. The disapparition, or emigration of birds, is, as we have observed above, a mystery still concealed behind the awful veil of Nature. Nightingales are sometimes reared up, and doomed to the prison of a cage; but seldom, if ever, repay their keeper for his trouble. We have, however, seen a few instances of a Nightingale brought up and kept for several years, but we cannot avow that his domestic notes are so pleasing as they are in his wild state.

We cannot resist the desire of quoting here a translation of the beautiful passage in the Georgics of Virgil, where Orpheus having been deprived, for the second time, of his beloved Eurydice, is compared to the Nightingale who has just lost her young:

> " ______ Thus in the shade Of thick-leaved poplars, Philomela mourns For her lost brood, whom some sly-watching hind Has stol'n, unfeather'd, from the nest.—All night, Perch'd on the bough, she plaintive sings, and fills The wide-extended woods with melancholy strains. Z.

The following lines, from the 4th book of the *Paradise Lost*, are stamped with Milton's usual sublimity of thought, and boldness of expression :

"_____ Beast and bird They to their grassy couch, these to their nests Were slunk; all, but the wakeful Nightingale: She all night long her am'rous descant sung; Silence was pleased____"

The Virginia Nightingale is not much less than the common black bird : what distinguishes him particularly is the crest with which his head is adorned; it is a tuft of feathers of scarlet colour, which obeys the will of the bird; the whole body is of the same tint except the tail which is much fainter. This bird must be endowed by nature with a certain share of courage and audacity, for when he sees his image in a glass, mistaking it for a rival or an enemy, he makes several strange gesticulations, accompanied with a hissing noise, lowering his crest, setting up his tail like a peacock, shaking his wings, and striking the looking glass with his bill.



THE SPARROW

Is, after the robin-red-breast, the boldest of the small feathered tribe, which frequent our barns and M 2

houses; he is a courageous little creature, and fights undauntedly against birds ten times bigger than himself. We have seen the Sparrow introducing himself into pigeon-houses, and, in spite of the outraged parents, and unmindful of their wings, with which they endeavour to keep the intruder away, opening with their sharp and short beak the naked craw of the young ones, and feeding on the half-digested grain which it contained. The quantity of corn they consume is so considerable, that in several countries the landlord or farmer puts a price to a Sparrow's head, and, by that means, rids his lands of this troublesome depredator. This bird is easily tamed, and will hop about the house, and on the table, with great familiarity. They feed on any thing, and are particularly fond of meat cut in small pieces. Their song, if we can call so their chirping, is far from being agreeable. The male is particularly distinguished by a jet black spot under the bill upon a whitish ground. They are found nearly in every country of the world. The Hedge Sparrow is a smaller variety of the bird above described, and is called in French, Friquet. Commentators do not agree whether the Sparrow or Canary was the beloved bird of Catullus's mistress, on the death of which he composed the famous elegy, beginning by the words :- Lugete Veneres, &c. part of which has been imitated as follows :

> Ye, Cupids, close your silky wings, Drop from your heads the festive curl; Let freely flow the lucid pearl That from the heart of sorrow springs; My Lesbia's bird no longer sings; He's gone, the favourite of my girl!

No longer will the myrtle grow, No longer yonder streamlet purl, No more the violet will blow, No more young roses will unfurl Their damask curtains, since they know That to the murky shades below, Atropos, last night, durst to hurl The little soul that used to glow Within the favourite of my girl.



THE BULL-FINCH

Is a very docile bird, and will nearly imitate the sound of a pipe, or the whistle of man, with its voice, whose mellowness is really charming. He is, by bird-fancyers, supposed to excel all other small birds, by the softness of his tones and variety of his notes, except the linnet. In domesticity, we should rather say, in captivity, his melody seems to be as great a solace to himself as a pleasure to his master. By day, and even when the evening has called for the artificial light of candles, he pursues his melodious exertions, and if there is any other birds in the apartment, wakes them gently to the pleasing task of singing in concert with him.

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Z.

His notes are upon one of the lowest keys of the gamut of birds. Thomson says:

The mellow Bull-Finch answers from the grove.

SPRING.

His plumage is beautiful, though simple and uniform, consisting only of three or four shades of colours. In the male a lovely scarlet or crimson colour adorns the breast, throat, and jaws, as far as the eyes; the crown of the head is black; the rump and tail white; the neck and back grey, or of lead-tint. The name of this bird originates from his head appearing too great in proportion with the body. The female does not share with the male the brightness of colours on her plumage. They build their nests in gardens and orchards, and particularly in places that abound in fruit trees, as they are passionately fond of young fruit, which they often destroy before it is ripe.



THE GOLD-FINCH

Is also called *Thistle-Finch*, from his fondness for the seed of that plant. He is a very beautiful bird; his plumage is elegantly diversified. His

form is small, but pleasing; his voice not loud, but sweet. He is easily tamed, and often exhibited as a captive, with a chain round his body, drawing up with trouble, but yet with amazing desterity, two small alternate buckets, one containing his meat, the other his drink. We remember one who, after having been doomed a whole year to that drudgery, and having nipt off a link of his chain, remained spontaneously a captive for several months, ere, by some accident, his master became conscious of his bird being under no constraint, and at full liberty. It is perhaps a melancholy but yet a true observation, that mankind is less patient of freedom than of slavery, and that men, like brutes, know better how to make good use of the latter than of the former. When caught old, the Gold-Finch, after a few weeks, if well attended to, and gently treated, becomes as familiar as if he had been brought up by the hand of his keeper. Some have been taught to fire a small piece of artillery, and go through the drilling exercise, to the great astonishment of the spectators.

This bird, as if conscious of the beauty of his plumage, likes to view himself in a glass, which is sometimes fixed for that purpose in the back of the cage, or, as it is called among the French, "*la galere.*" The art with which these birds compose and build their nests is really an object of admiration; it is generally interwoven with moss, small twigs, horse-hair, and other pliant materials; the inside stuffed, most carefully, with a fine down. There the female deposits five or six eggs of a white colour, marked at their upper end with purple dots. It is reported that this

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small creature exceeds the general rules of life among those of his size, and often lives twenty years.

> Now where the thistle blows his feather'd seed Which frolick Zephirs buffet in the air, The crimson-hooded Finches, on the flowers, Spread the pure gold laid on their sable wings, With conscious pride,—they feed—the vocal band Enliven Nature's banquet hours with songs Mellifluous, and, grateful guests, repay, With melody, the dainties of the board.

> > Z.



THE LINNET

Is about the size of the Gold-Finch, and compensates, by a still more melodious voice, the want of variety in his plumage, which, except in the red-breasted species, is nearly all of one colour. His musical talents are, like those of many other birds, repaid with ungratefulness; for he is kept in cages on account of his singing.

The red-breasted Linnet generally builds here on the sea-coast, and on the continent in vineyards; but that livery of nature, the crimson scarf that glows so beautifully under his neck, disappears as soon as the bird is domesticated. None but those who enjoy freedom are the favourites of nature! This bird is one of the first whose appearance announces the spring; a circumstance alluded to in the following passage:

"Thrice welcome to my bow'r, where woodbine sweet, With jessamine entwin'd, checquers the shade; Welcome, young Zephir's friend, whose early voice Calls down fair Cloris to the realms of flow'rs; Soft warbling Linnet, welcome to the vine Whose gentle tendrils curl around my cot. So delicate thy notes! thy scarf so bright; So keen the eye that, thro' the foliage, peeps! Sure pledge of spring, thrice welcome to my bow'r."



THE YELLOW HAMMER

Is of the bigness of a sparrow. Its head is of a greenish yellow, spotted with brown; the throat,

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and belly are yellow; the breast and sides, under the wings, mingled with red; and the bird has a pretty note, not unlike that of the linnet. They build their nests on the ground, near some bush where the female lays five or six eggs. This bird is often seen perched on the finger of some poor man or woman in the streets of London, in a state of complete tameness; but we understand that it is the transitory effect of intoxication, and that soon after the bird is bought and brought home, it dies, overcome by the power of the laudanum that has been given him.

This bird feeds on various sorts of insects, and all kinds of seeds, and is common in every lane, on every hedge throughout the country, flitting before the traveller, and fluttering about the bushes on the side of the road. Happily for him we are accustomed to grosser kinds of food than the natives of Italy, where the Yellow Hammer falls a daily victim to the delicacy of the table, and where his flesh is esteemed a very luscious eating. There he is often fattened, like the Ortolan, for the purpose of gratifying the palate of the epicures.



THE WATER WAG-TAIL.

THERE is not a brook purling along between the green confinement of two flowery hedges, not a rivulet winding through the green meadow, not a river pacing across the country, which is not frequented by this well-coloured and elegantly shaped little creature. We even see him often in the streets of country towns, following, with a quick pace, the half-drowned fly or moth which the canal-stream carries away. Next to the robinred-breast and the sparrow, they come nearest to our habitations. They are too well known to need description.

However, we must mention two different species of this bird. The white or common Wag-tail has a black breast; in the other the breast and belly are yellow. The Wag-tails are much in motion; seldom perch, and perpetually flirt their long and slender tail, principally after picking up some food from the ground, as if that tail was a kind of lever

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or counterpoise, used to place again the body in equilibrium upon the legs. They are observed to frequent, more commonly, those streams where women come to wash their linen; probably not ignorant that the soap, whose froth floats upon the water, attracts those insects which are most acceptable to them. From that circumstance they are called *Lavandieres*, by the French ornithologists.



THE CANARY-BIRD,

As his name imports, is a native of the Canary Islands, where, in his wild state, he has a dusky grey plumage, and a much stronger voice than when in a cage. In our northern countries his feathers undergo a great alteration; and the bird becomes entirely white or yellow. This effect of cold, upon animals of all kinds, is general and progressive, according to the distance of the climate from the equator. This bird who, with a

sweet voice and agreeable modulations, has often been the agreeable companion and favourite amusement of sedentary ladies, breeds generally twice a year in domesticity; and it happens sometimes that the first brood is not yet fledged, when the female has laid her eggs for the second time. Then the male takes, good-naturedly, the place of the female when she feeds the young ones, and feeds them in his turn, when she sits in the nest. They are very easily tamed, when brought up with attention and kindness; they take their food out of the hand, and often, perching on the shoulder of their mistress. feed out of her mouth. The Canary-Bird is sometimes, and with success, matched with the Linnet or the Gold-Finch; and the produce is a beautiful bird, called Hybrid or Mule-bird, who partaking of the talents and plumage of both, makes a mixed and pleasing character, and a temporary species of itself; for nature's laws have doomed the Hybrid to sterility, lest a new race, not inserted in the original order of things, should take place by the ingenuity of man. They live twelve or thirteen years in our climate, and sing well to the end of their life.

The method of rearing the young ones of the Canary-Bird, has been often given by authors, who wrote upon this subject, but Buffon is the best ornithologist, to whom we can refer our readers. Suffice to say, that hard-boiled eggs, with a little plain cake, made into a soft paste, has been esteemed the food which agrees best with the young Canaries. When adult, they feed upon rape and hemp-seed, and the seed to which the vulgar have given, from that circumstance, the name of Canary.



THE CRANE

Is a large bird, sometimes weighing ten pounds, which frequents marshy places and lives upon small fish and water-insects. Their long beaks enable them to search the water and mud for their prey, and their long necks prevent the necessity of stooping to pick up from between their feet the smallest objects of their search. The top of the head is black, destitute of feathers, and covered with a kind of hairs or bristles; the throat and sides of the neck are of a black hue; the back and coverings of the feathers and the belly are ash-co-

loured. They are common in the fen-countries, in Lincolnshire and Cambridgeshire; but it is not yet ascertained whether they breed here or not. These birds, however, in their flights, mount high in the air, and although the bird ceases to be perceptible to the eye, yet his voice can be heard; and it is said that their sight is so keen, that they discover at a a great distance any corn-field or other food which they are fond of, and presently alight and enjoy it. These depredations they generally commit during the night, and they trample down the ground as if it had been marched over by an army. It has been observed that they place centinels to give the alarm at the least appearance of danger. They generally form themselves in the air, into the shape of a wedge, in order to cut the adverse winds with greater facility. Milton expresses this circumstance with his usual superiority.

> " _____ part more wise In common, rang'd in figure, wedge their way, Intelligent of seasons, and set forth Their airy caravan high over seas Flying, and over lands, with mutual wing Easing their flight. So steers the prudent Crane Her annual voyage, borne on the winds. The air Flotes, as they pass, fann'd by unnumber'd wings.

> > PARAD. LOST, VII. 425.

This bird lives to a great age, and as he is easily tamed, it has been ascertained that the Crane often reaches his fortieth year.

The ancient fable of the battles between the Cranes and the Pigmies, a supposed nation of dwarfs, inhabiting India, Thracia, and Æthiopia, though consecrated by the lore of the best poets, has long been exploded. Homer, Ovid, and several others mention these ridiculous fights with more elegance than truth ; and Juvenal derides them with his usual sarcastic sneer. See Sat. XIII. 270.



THE BALEARIC CRANE

Is originally, as the name expresses, a native of Majorca and Minorca, in the Mediterranean sea; but is chiefly found now in the Cape-Verde Islands. He is not unlike the common Crane as to the shape of the body, but has a principal and distinctive mark

on his head; that is, a tuft of hairs, or rather strong greyish bristles, which are a peculiarity belonging to this species. They roost in the manner of the peacocks, and feed like them.

The Numidian Crane is well known for his antic gestures, when he perceives himself noticed by any body.



THE STORK.

THE neck, head, breast, and belly of this bird are white, the rump and exterior feathers of the wings black; the eye-lids naked; the tail white and the legs long, slender, and of a reddish colour. Storks are birds of passage, as it is supposed, although we cannot yet ascertain where they migrate. When leaving Europe, they assemble together on some particular day, and all take their flight at night. This is a fact, but what remains to be explained is, by what

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instinct or means, they are convoked together. As they feed on frogs, lizards, serpents, and other noxious creatures, it is not to be expected that man should be inimical to them, and therefore they have been generally and at all times a favourite with the nations they frequent. The ancient Egyptians paid to them, in the species of the Ibis, divine honours; and the Dutch have laws against destroying them. They are therefore very common in that country, and build their nests and rear their young on the tops of houses and chimneys in the middle of the most frequented and populous cities. The Stork resembles much the Crane in his conformation, but appears somewhat more corpulent in the body. The former lays four eggs, whereas the other lays but two.



THE WREN

Is a very small bird, and indeed the smallest in Europe; but, as if nature had intended to compensate the want of size and bulk in the individuals by multiplying them to a greater amount, this little bird is perhaps one of the most prolific; for the nest, which is of the shape and bigness of the egg of a

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common hen, contains often upwards of eighteen eggs of a whitish colour, and not much bigger than a pea. The male and female enter this repository by a hole contrived in the middle of the nest, and which, by its situation and size is accessible to none besides themselves. The Wren weighs no more than three drachms. The notes of this bird are very sweet and rival the songs of the Robin Red-Breasts, in the middle of winter, when the coldness of the weather has condemned the other songsters to silence. Let us remark how astonishing it is that so small a bird should be able to hatch so many eggs under the confined space of her little breast, and what attention, what care is wanted to bring up so large a family. A modern author has said, speaking of this bird, and pointing especially to the golden-crested kind :

> "______ least of all, Yet kingly crown'd, the brisk and sprightly Wren, When th' icy hand of winter sternly spreads His ermine mantle on the wither'd lawn, And on the hoary banks of frozen brooks, Salutes with melody the chilling breeze And chirps and sings amidst the silent grief Of half-expiring Nature."



THE TIT-MOUSE Is a small bird which presents us with a curious anomality; namely, that his tongue is split at the N 2

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end in four distinct filaments. The head is curiously coloured; the beak is generally black, with strong hairs at its base. The head and throat are of the same colour, the belly of a yellowish green; the back and coverts of the wings green, and the rump inclining to blue; the tail is black but touched with blue at its exterior edges. This bird and all the species related to him, live on insects as well as on seeds. When kept in a cage it is really amusing to see with what quickness the Tit-Mouse darts at the fly or moth which comes imprudently within the circumference of his reach; if this kind of food is deficient, as it generally happens in winter, he then feeds upon several kinds of seed, and particularly that of the sun-flower, which he dexterously holds upright between his claws and strikes powerfully with his sharp little bill, till the black covering splits, and yields its white contents to the hammer-They build their nest with great ingeing bird. nuity and the female lays, sometimes, upwards of twenty eggs.



THE BLACK-CAP

Is a very small bird, not weighing above half an ounce. The top of the head is black, whence he

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takes his name; the neck ash-coloured, the whole back a dark green; the wings of a dusky colour, with green edges, the tail nearly the same, the nether part of the neck, throat and upper part of the breast of a pale ash-colour; the lower belly white, tinctured with yellow. This bird is very common in Italy and is also found in England, but rarely.



THE HUMMING BIRD

Is the least of all the feathered tribe, and a native of America, where they are as common as butterflies are here. The sizes vary with the different species: the biggest is about as big as our smallest wren, and the smallest the size of our common humble bee. They feed upon the nectar which they extract with their slender and tubular beaks and thread like tongues, from the cups of the flowers: always on the wing, and never alighting to take up their food; in this situation the constant fluttering of their wings, which move with incredible velocity, produces a humming noise, whence they received

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their denomination. They suspend their nest, which is not bigger than a wall-nut, to the branches of the orange or lemon tree, and the female deposits there two eggs only, very white, dashed with brown spots, as small as a common pea.

The colour of this small favourite of nature is most beautiful, resembling, by its bright azure and deep green colour, mixed with a golden gloss, the richness of the peacock's neck. Some species of this dwarfish bird are very remarkable for the length of their forked tails. It is natural to suppose that, feeding upon the ambrosia which they find in the scented bosom of the flowers, they cannot subsist in countries where the severity of the winter season destroys this pride of our gardens, and must therefore be confined to those tropical regions where ever-blooming flowers present them with a never-failing stream of nectar:

> " — in Nature's gaudiest livery, There Flora's darling bird, her sprightly dwarf, Humming his morning whispers in the cnps Of dew-pearled blossoms, sips the liquid sweets On perfumed boughs; where ripening golden fruits Hang, in the air, fast by the silver buds, In rich and vast Hesperian groves; and join Deep-blushing Autumn's hand to youthful Spring, In constant Hymen through the year — ." Z.

The figure above has been correctly drawn from a subject sent to England, carefully stuffed, and which preserves at this moment all the changeful and glowing brilliancy of its plumage.



THE HERON

DOES not seem, at first view, to have received from Providence that share of happiness which, with impartial hands, she has divided among the individuals that constitute the whole creation. His habits are peculiar to himself, and not to be envied by any other of the animals. No cheerfulness seems to gladden, no strong passion to agitate, his heart; his appetite is temporary and easily satisfied; his love is of short duration and far from being impassionate. He feels both as if merely for the prolongation of his wretched life, and the production of offspring doomed to be as miserable as himself. Perched on a stone or the stump of a tree, by the solitary current of a brook, his neck and long beak half buried between his shoulders, he will wait the whole day long, patiently and unmoved, for the passing of a small fish, or the hopping of a frog.

But yet in this situation who can guess what kind of passive happiness he may not enjoy—the rapacity of the eagle, the cravings of the raven, do not tor-

ment his stomach; his small heart is not distracted by the fears of the dove, in the absence of her mate, or the anger of the revengeful hawk who pursues his prey in the very bosom of the clouds.

This bird is about four feet long from the tip of the bill to the end of the claws; to the end of the tail about thirty eight inches; the breadth, when the wings are extended is about five feet. The male is particularly distinguished by a crest or tuft of black feathers hanging from the hinder part of his head. This tuft or crest, in chivalrous times was of great value, and held as a great mark of distinction when worn above the plume of ostrich feathers. The back is clothed with down instead of feathers. The fore part of the neck is white, marked with a double row of black spots, the plumage being long, narrow and falling loosely over the breast; the breast, belly, and thighs are all white. This bird is accused of cowardise, and indeed smaller birds than himself seem to impress terror upon him : but may not this be owing to the consciousness of his inferior strength? It is certain that when the marshes and rivers are fettered in ice, and the Heron cannot get at his usual food, he is obliged to live upon grass, plants, and roots, which disagree so much with his stomach that they bring him soon to a consumption. Virgil in his Georgics, B. I. reckons the Heron among the birds that are affected by, and foretell, the approaching storm :

> "When watchful Herons leave their wat'ry stand, And mounting upwards with erected flight, Gain on the skies, and soar above the sight."

DRYDEN.

The Heron, though living chiefly in the vicinity

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of marshes and lakes, often forms a nest on the tops of the loftiest trees, or on the pointed cliffs of the sea shore, but oftener takes possession of the abode of the crow or owl in their absence, and assumes courage enough to repel the original tenant. The female lays four large eggs, of a pale green colour; and the natural length of this bird's life is said to exceed sixty years. There are several species of the Heron, but as they differ but little in the colour of the plumage and in size it is useless to expatiate any longer upon the subject.



THE BITTERN

Is as big as the common Heron; his head is small, narrow, and compressed at the sides. The crown is black, the throat and sides of the neck are red with narrow black lines, the back of a pale red mixed with yellow. The hinder claw of this bird has been frequently set in silver or other metal for

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a tooth pick, some people falsely imagining that it had the singular property of preserving the teeth. The most remarkable character in this bird is the hollow and yet loud rumbling of his voice; his bellowing is heard at the distance of a mile at sun set, and it is hardly possible to conceive at first how such a body of sound, resembling the lowing of an ox, can be produced by a bird comparatively so small; however naturalists seem to have been satisfied, by the inspection of his dissected throat, that it is capable of emitting such a noise, and thereby have set at rest all the wonderful stories propagated upon Sometimes in the evening he soars on this bird. a sudden in a straight, or, at other times, in a spiral line, so high in the air that he ceases to be perceptible to the eye. The flesh of this bird, who lives entirely upon fish, frogs, insects and vegetables, is considered delicious. The bill is four inches long, to enable him to seize upon his prey. As to the booming sound which this bird is in the habit of making in the evening and at night, the following lines seem to explain it satisfactorily:

> " ______ at dusk the Bittern loud Bellows and blows her ev'ning horn; half stunn'd The verdant frog, the frisky lizard, quit The troubled pool, whilst high, from yonder cloud, The soaring bird, with watchful eye, intent, Singles his prey, and makes his better chace From their imprudent fear.

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THE RED SHANK

RECEIVED his name from the colour of his legs which are of a crimson red. In size he may be reckoned between the lap-wing and the snipe, and is sometimes called Pool Snipe. The head and back are of a dusky ash colour, spotted with black, the throat party-coloured black and white, the black being drawn down along the feathers. The breast whiter, with fewer spots. He delights in fen countries, in wet and marshy grounds, where he breeds and rears his young. The female lays four whitish eggs, with olive-coloured dashes, and marked with irregular spots of black. We must observe here that this bird has often been mistaken for others. The fact is, (and this might lead us into a dissertation too extensive for the bounds of our book) that several birds changing their plumage and increasing or diminishing their size according to their age, the season of the year, and the climate they live in, they put all nomenclators at defiance and confound all classifications.


THE LAP-WING

Is a bird well known in all countries, and nearly every where to be met with. He is of the bigness of a common pigeon. The female lays four or five eggs, of a dirty yellow, varied all over with great black spots and strokes. They build their nests on the ground in the middle of some field or heath, open and exposed to view, laying only some few straws under the eggs: as soon as the young are hatched they instantly forsake the nest, running away with the shell on their back, and following the mother, only covered with a kind of down like young ducks. The parents have been impressed by nature with the most attentive love and care for their offspring, for if the fowler or any other enemy comes near the nest, the female, panting with fear, lessens her call to make her enemies believe that she is much farther, and thereby estranges those that search for her covey. In some parts of this kingdom they are supposed to be migratory. This bird is really beautiful, although he does not exhibit that gaudiness of colours which other species of the feathered tribe can boast of: he weighs about half a pound. The head and crest which elegantly adorn it, are black; this crest, composed of unwebbed feathers, is about four inches in length. The back is of a dark green, glossed with blue shades, the throat is black, the hinder part of the neck, the breast, and belly are white. His voice on the swampy places along the sea shores, heard at night, resembles the sound of *pewit*, or *tewit*, and hence his name in several parts of Great Britain; he is also called the *Great Plover* by several ornithologists. This bird is one of those who attract the fowler's attention in winter sports.

> "With slaught'ring gun th' unweary'd fowler roves, When frosts have whiten'd all the naked groves; Where doves in flocks the leafless trees o'ershade And lonely woodcocks haunt the wat'ry glade. He lifts his tube, and levels with his eye; Straight a short thunder breaks the frozen sky; Oft, as in airy rings they skim the heath, The clam'rous Lapwings feel the leaden death : Oft, as the mounting larks their notes prepare, They fall, and leave their little lives in air.

POPE'S WINDSOR FOREST.

Buffon, with his usual sagacity, observes, that this bird held a place between fish and fowl, in the bill of fare of the monks, who used to admit his flesh on their tables, in Lent, and other times of abstinence. When basted with vinegar at the spit, this bird becomes tolerable good eating, chiefly if young and fat.



THE SWAN.

THERE are two distinct species of this elegantly formed and majestic bird, the wild and the tame; both bearing the general characters of the class which they may be referred to, yet not exactly tallying with each other. The beak of the wild Swan is surmounted with a vellow skin which runs up the eye, in the tame one this appendage (the use of which has not been yet sufficiently explored) is jet black, as well as the feet in both species. The tame Swan is the biggest of all webb-footed water-fowls, some of them weighing about twenty pounds: the whole body is covered with a beautiful lilly-white plumage; the young ones are grey; under the feathers is a thick but soft down, which is of very great use and often made out as a mere ornament. The elegance of form which this bird displays, when with his arched neck and half-displayed wings, he sails along the crystal surface of a tranquil stream,

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which reflects, as he passes, the snowy beauty of his dress, is worthy of our admiration; the ancient mythologists, struck with astonishment at the sight of this royal and stately bird, have even supposed that a beautiful young prince, cousin to the unfortunate Phaeton was transformed into this creature, and that Jupiter himself chose to assume the shape of the Swan more effectually to seduce the fair Leda, the wife of Tyndarus, king of Lacedemon.

For ages past this bird has been protected on the river Thames as a royal guest. The City of London, as far as the property of that river belongs to the corporation, is entrusted with the care of this bird, and the Lord Mayor, accompanied with the Aldermen, the Liveries of the city, and a band of musicians, proceed at certain times, in the stately barge kept for that purpose, to what is commonly called, "Swan hopping;" when the duty of marking the young birds is performed. These birds are seldom attached to the same place, and often fly from the banks where they were hatched. Thus Milton:

" _____ the Swan with arched neck, Between her white wings mant'ling proudly, rows Her state with eary feet; yet oft they quit The dank, and rising on stiff pennons, tower The mid aerial sky _____."

PARADISE LOST, VII. 438.

The Cignet continues longer in the shell than any other bird, and all the stages of his growth are gradual and slow, and it is generally believed that the period of his life is three hundred years. Why the ancient poets should have attributed melody to the voice of the Swan, whilst nothing is more harsh,

more disagreeable perhaps than his clang, has not yet been sufficiently explained, although thousands of commentators have exercised their knowledge and wit upon the passages where the dying strains of this bird are mentioned. The Swan lives upon watergrass, and roots, which he finds at the bottom of rivers, and does not disdain now and then to take up a small fish or even a snail. Thomson, in his excellent poem describes him in the following manner:

> " _____ the stately sailing Swan Gives out his snowy plumage to the gale, And arching proud his neck, with oary feet, Bears forward fierce, and guards his osier isle, Protective of his young."



THE GOOSE

Is so very different in outward appearance from the above mentioned bird that they seem to exist at the furthest extremities of the chain in the natural order of things. Stupidity in her looks, uncouthness in her walk, heaviness in her flight, are the

are the principal characteristics of the Goose. But why should we dwell upon those defects? they are not such in the great scale of the creation. Her flesh feeds many, and is not disdained even by the great; her feathers keep us warm and call down the soporative powers on our weary limbs, and the very pen I hold in my hand was plucked from her wings. The Goose was in great veneration among the Romans, as having, by her watchfulness, saved the capitol from the attack of the Gauls. Virgil says in the seventh book of the Eneid:

> The silver Goose before the shining gate There flew, and by her cackle saved the state ;

> > DRYDEN.

and Ovid relates, in his interesting fable of Philemon and Baucis, that the Gods who visited them desired that their only Goose, the watchful guardian of their cottage, should be spared.

The colour of this useful bird is generally white, yet we often find them of a mixture of white, grey, black, and sometimes yellow. The feet, which are palmated, are orange colour, and the beak is serrated. A longer description of a bird so well known would be an encroachment upon the reader's time.

The Wild Goose is of course the original of the tame one; and differs much in colour from her; the general tint of the feathers being a cinerous black. They fly by night in large flocks, to distant countries; and there clang is heard, from the regions of the clouds, although the birds are out of sight.

hich proves very positiable to their own

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THE DUCK

Is also divided into wild and tame one, the latter being but the same species altered by domestication; the difference between both is very trifling, save that the colour of the Mallard, or wild Duck, is constantly the same in all the individuals, whereas the tame ones, or Drakes, are varied in their plumage. The females submit respectively to that general rule of nature, who ordered that they should not share with the males the beauty of feathers: and the admirable scarf of glossy green and blue which surround the neck of the Drakes and Mallards, is an exclusive prerogative of the male sex. There is also a curious and invariable peculiarity which belongs to the males, which consists of a few curled feathers rising upon the rump. The wild Ducks are caught by decoys in the fen countries, and supply our markets most plentifully. The tame ones, reared about mills and rivers, or wherever there is a sufficient quantity of water for them to indulge their sports and searches for food, become a branch of trade which proves very profitable to their owners.



THE WIGEON

WEIGHS about twenty-two ounces, and feeds upon grass and roots growing at the bottom of lakes, rivers and ponds. The plumage of this bird is much variegated, and his flesh esteemed a great delicacy, though not so highly praised as that of the teal. The bill of the Wigeon is black; the head and upper part of the neck of a bright bay, the back and sides under the wings waved with black and white, the breast purple and the belly white; the legs are dusky. The young of both sexes are grey and continue in that plain garb till the month of February, after which a change takes places, and the plumage of the male begins to assume its rich colourings, in which, it is said, he continues till the end of July, and then again the feathers become dark and grey, so that he is hardly to be distinguished from the When we consider that in the season of female. love the plumage of several birds assumes a greater lustre, we are inclined to conclude that this elegance and gaudiness of colouring, for which nature seems to have exhausted the finest tints of her pallet, are not merely destined, as we proudly think, to amuse

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the eye of man, but have a most direct and effective tendency to the great work of propagation. This general observation applies itself to several other birds, who are decked by the hands of Providence in a particular manner, at the time when the secret impulse of one of the first laws of nature called them to the duty of multiplying their species.



THE KNOT

Is a small bird whose head and back are of a dusky ash colour, or dark grey. The rump white and varied with black lines. The breast and belly white. The sides under the wings spotted with brown. He weighs about four ounces and a half, and generally makes his appearance in Lincolnshire in the beginning of winter. They abide there for two or three months and fly off in flocks. When the Knot is fat, his flesh is accounted excellent food. He is reckoned by some naturalists as one of the snipe kind.



THE RUFF.

It is curious to see, in our observations upon natural objects, how the creative power of Providence seems to have tryed all forms and shapes in the composition of species. In the cock bird a circle or collar of long feathers, somewhat resembling a ruff, encompasses the neck under the head, whence the bird took the name of Ruff. There is a wonderful and almost infinite variety in the colours of the feathers of the males; so that in spring there can scarcely be found any two exactly alike. After moulting time they become all alike again. The hens are smaller than the cocks and their feathers undergo no change. This small creature has been endowed with great natural courage. Spurred by love the males fight desperately for the females, and the strongest often destroy many of their sex. The female is called Reeve, and the flesh of this bird affords a very luscious meat.



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THE COOT

Is a species of the wild duck. The manner in which they build their nest is very ingenious. They form it of interwoven watery weeds, and place it among the rushes, in such a way that it may occasionally rise with, but not be washed away by, the stream; and if ever that accident happens, steady on her nest the hen does not desert her brood, and follows with them the destiny of the floating cradle. This bird in the figure and shape of his body resembles the water hen, and weighs about twenty-four ounces. The feathers about the head and neck are low, soft, and thick. The colour about the whole of the body is black, but of a deeper hue about the head. The cere rises upon the forehead in a peculiar manner, and appears as if Providence had contrived this sort of helmet as a means of defence. It changes its white colour to a pale red or pink in the breeding season. They are very shy and seldom venture abroad before dusk.

The Coot is mentioned in the Georgics of Virgil,

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among the marine birds who fortell the approaching storm;

When sportful Coots run skimming o'er the strand, DRYDEN.

and is met in various parts of the continent. His flesh, although it has a strong marshy taste, is reckoned very good by certain persons, whilst little esteemed by others.



THE SNIPE

WEIGHS about four ounces. A pale red line divides the head in the middle longways; the chin under the bill is white; the neck is a mixture of brown and red; the breast and belly are almost wholly white. The back and wings are of a dusky colour. The flesh is tender, sweet, and of a most agreeable flavour, next to that of the wood cock. They feed especially upon small red worms, and other insects which they find in muddy and swampy places, on the shores of rivulets and brooks, and on the clayish margins of ponds. It is said that some Snipes remain with us all the summer, and build in moors and marshes, laying four or five eggs. The others are migatory.



THE GODWIT

Is much like, and in size equal to, if not somewhat bigger than, the woodcock. He abides and seeks for his food on sandy shores, where he dextrously extracts with his slender beak, the imprudent worm that wriggles himself out as soon as the tide has retired. A peculiarity belonging to this bird is the shape of his bill, which is a little turned upwards. The head neck, and back are of a reddish brown; the belly and vent white; the legs dusky and sometimes black.

Several authors have reckoned the flesh of this bird among delicacies, but epicures differ much on this point. The Godwit is timid and shelters himself at the approach of tempestuous weather:

> The storm is o'er, and to the distant verge Of harrass'd ocean, now the scatter'd clouds Slowly retire, and dart their dying fires; Whilst on the beaten shores, among the rocks And pendant weeds, the Godwits more secure Seek, in full cry, their scanty food; they strut, And sport, and flutter o'er the ebbing surge.

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THE CURLEW

Is a pretty large fowl, weighing about twenty four or five ounces. He is found on the sea shores on all sides of England. The middle parts of the feathers of the head, neck, and back, are black, the borders or outsides ash coloured, with a mixture of red; the rump and belly are white. The beak has a regular curve down, and is soft at the point. This bird's flesh may challenge for flavour and delicacy that of any other water fowl, and the people of Suffolk say proverbially:

> " A Curlew, be she white or black, She carries twelve pence on her back ;"

but we must confess that the quality and goodness of their flesh depends on their manner of feeding and the season in which they are caught. When they dwell on the sea shores, they acquire a kind of rankness which is so strong that, unless they are basted on the spit with vinegar, they are not eatable. 202



THE SPOON BILL

Is a large towl; the colour of the whole body is white, and the resemblance of the bill to a spoon has caused the denomination of the bird. In some species the plumage inclines from white to pink colour. On the hind part of the head is a beautiful white crest, reclining backwards. The legs and thighs are black. The wisdom of Providence is also most comspicuous in the conformation of the bill, which seems entirely adapted to the habits and man ner of feeding of these birds; the frog and the lizard, which constitute the principle food of the Spoon Bill, do often escape the thin and narrow beak of the heron and others, but here the mandibles are so large at the end, that the prey cannot slip aside.



THE WOODCOCK

Is somewhat less than a partridge. The upper side of the body is partly coloured of red, black, and grey very beautiful to the sight. From the bill almost to the middle of the head, he is of a reddish ash-colour. The breast and belly are grey, with transverse brown lines; under the tail the colour is somewhat yellowish; the chin is white with a tincture of yellow. They are migatory birds, coming over into Britain in Autumn and departing again in the beginning of spring; yet they pair before they go, and are seen flying two together.

The colours of this timid bird make him apparently like the withered stalks and leaves of fern, sticks, moss, and grass, which form the back ground of the scenery by which he is sheltered in his moist and solitary retreats. The sportsman only, by being accustomed to it, is enabled to discover him, and his leading marks are the full eye and glossy silver white-tipped tail of the bird. The flesh is held in high estimation, and hence he is eagerly sought

after by the sportsmen. It is hardly necessary to notice, that in dressing it for the spit the entrails are not to be drawn, as, dropping upon slices of toasted bread, they are relished as a delicious kind of sauce. By some late observations it appears that several individuals of the species remain with us the whole year. They frequent especially moist and swampy woods, the thick hedges near rivulets, and places affording them their allotted food, which consists in very small insects found in the mud.



THE GREY PLOVER

Is about the bigness of the lap-wing, the head, back, and coverts of the wings are black, with tips of a greenish grey; the chin white, the throat spotted with brown or dusky spots; the breast, belly, and thighs white. The taste of the flesh when the bird is caught in the proper season, is delicate and savory, otherwise it is hard and has a strong and rank flavour.

The Green Plover is about the size of the former. The colour of the whole upper side is black, thick set with yellowish green spots; the breast brown

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with spots as on the back; the belly is white. The flesh is sweet and tender, and therefore highly esteemed as a choice dish in this as well as any other country.



THE DOTTREL

Is proverbially accounted a foolish bird, and it is hardly possible to decide why, or upon what ground. This bird seems to be migratory, and makes his appearance in Lincolnshire, Cambridgeshire, and Derbyshire in April, but, finding very likely nothing much to his liking, soon leaves those countries and retires in June to places which are totally unknown. In April and sometimes in September, they are seen in Wiltshire and Berkshire. They are generally caught, like other birds, by night; when, dazzled by the light of a torch, they are at a loss to know where to fly for safety, the whole place being in darkness except the very spot which they should avoid. Many and most ridiculous stories have been propagated about the gestures of this bird, endeavouring to imitate the actions of the fowler, and thereby falling in the snare laid down for him; but they ought to be entirely exploded.

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THE MOOR-HEN

Is bigger than the plover, and also called the Water-Hen. The breast is of a lead colour, and the belly inclining to grey or ash colour; the back all over blackish. As she swims or walks she often flirts up her tail. They feed upon watry grass and roots, and upon the small insects which adhere to them; they grow fat and their flesh is esteemed for its taste next to that of the teal; yet it is seldom that you can deprive it entirely of its fishy taste. They build their nests upon low trees and shrubs by the water side, breeding twice or thrice in the course of a summer; the eggs are white with a tincture of green, dashed with brown spots. This bird must not be mistaken for the moor-game, which is described in another part of this work.

There are very few countries in the world where these birds are not to be found. They generally prefer the cold mountainous regions in summer, and lower and warmer situations during winter



THE TEAL

Is the least of the duck kind, weighing only twelve ounces. The breast and belly are of a dirty white, inclining to a grey tint. The back and sides under the wings are curiously varied with lines of white and black; the wings are all over brown, and the tail of the same colour. This bird is common in England during the winter months, and it is still uncertain whether it does not breed here, as it does in France. The female makes her nest of reeds interwoven with grass, and, as it is reported, places it among the rushes, in order that it may rise and fall according to the accidental height of the water. They live commonly upon cresses, chervil, and some other weeds, as well as upon seeds and small animated beings that swarm in the water. The flesh of the Teal is a great delicacy in the winter season, and has less of the fishy flavour than any of the wild duck kind.

> "With spotted breast and webbed feet, the Teal, Dear to the sporting Naiads of the lakes, Swims gently on the crystal plain, and cleaves With steady thrusts, the yielding wave; but if, At eve, the neighbouring hills and woods resound, With dangerous noise; well-warn'd with fear, she dives And then, lost to the fowler's watching eye She safely grazes on the green-leav'd weeds That stretch and flag along the stream, and seeks The wriggling insect in the turbid ooze."

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THE PELICAN

Is in bigness nearly equal to a swan; the colour of the body is white, inclining to a pink hue; the beak is straight and long, with a sharp hook at the end; the gullet or skin of the lower mandible is so capable of distension that it may be dilated as to contain fish to a great weight, and, some say, fifteen quarts of water. This pouch Providence has allowed to the bird that he may bring to his airy sufficient food for several days, and save himself the trouble of travelling through the air and watching and diving so often for his food. The legs are black and the four toes palmated. It is a very indolent, inactive, and inelegant bird, who often sits whole days and nights on rocks or branches of trees, motionless and in a melancholy posture, till the resistless stimulus

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of hunger spurs him away, and forces him to distant seas in search of his nourishment.

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We have long indulged the idea that the Pelican was a fit emblem for maternal kindness and affection towards the young, but it happens that we are positively mistaken; for very few birds, if we except the ostrich, show less affection for their helpless offspring. It is with great reluctance that we deprive the bird of the honourable office of being a true symbol of charity, but as we intend to let no idea, ever so pleasing, intrude itself in the mind of our young readers, at the expense of truth, we must undeceive them, whenever we find an opportunity. This bird is often represented scratching her breast and feeding her young with the blood that gushes out of the wounds; and is used as a representation of the unspeakable goodness of HIM who shed his blood to redeem mankind. But all this has no other ground than the bird having been sometimes, though seldom, seen picking off the down of her breast to soften the nest of her young. However as this pious Pelican is generally painted or drawn more like an eagle than the bird of that name, we should not be surprised if the quality of the one had been transferred to the other, by some ancient and accidental mistake.

This bird is a native of Africa, and his flesh is coarse and ill-tasted; he is easily tamed and is often seen among other birds in travelling menageries at country-fairs; and does not seem to suffer much from the difference between his native climate and ours. He seems of gentle and docile habits when forced to comply with the unavoidable state of domesticity.



THE CORMORANT,

Is a large water bird of the order of anseres, or geese, and has been cursed, if we may say so without blasphemy, with a most voracious appetite; for he is of a very rapacious disposition. He lives upon all sorts of fish; the fresh water and the briny waves of the sea, both pay a large contribution to his craving stomach. The bill is about five inches in length and of a dusky colour; the predominant tints of the body are black and dark green. They were formerly tamed in England for the purpose of catching fish as the falcons and hawks for chasing the fleet inhabitants of the air. We are told that the custom is still in full practice in China. This bird, although of the acquatic kind, is often seen, like the pelican, perched upon trees; and Milton tells us that Satan

> " _____ on the tree of life, The middle tree, and highest there that grew, Sat like a Cormorant."

PARADISE LOST, iv. 194.



THE BIRD OF PARADISE

HAS been called so, we may fairly suppose, on account of his being generally seen on the wing, and flying in the tropic zone at a small distance from the land. Its appearance being most welcome to the tired sailor and longing passenger, generally causes much happiness by its foretelling the vicinity of Terra firma. The head is small, but adorned with colours which can vie with the brightest nuances of the peacock's embellishments; the neck is of a fawn tint, and the body very small, but covered with long feathers of a browner hue, tinged with gold; two feathers issue from the rump, and constitute the tail. This bird's feathers have not only been the

favourite ornament of the South American ladies, for a long time, but have had also the honour of decorating the heads of our fair country women.



THE CORNISH CHOUGH

Is like the jack daw in shape and colour of body, but bigger in size. The bill and legs are in the former of a red colour, and are generally painted so in heraldry, where the bird has been for centuries a very common bearing. He is not only an inhabitant of Cornwall, but also of Wales and of all the western coasts of England. He is generally to be found among rocks near the sea; and builds there, as well as in old ruinous castles, and churches on the seaside. The voice of the Chough resembles that of the jack daw, except that it excels it in hoarseness and strength.

The Scare Crow frequents the fens of Lincolnshire; and belongs to the sea-guli kind. He is about the size of a blackbird. The wings are long with regard to the bigness of the body. The under part of the belly

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is white, and the legs red; the neck, head, and back are black; the back and coverts of the wings of a grey ash colour. We have searched for the cause of this bird bearing such a name as is generally given to any thing set up in order to frighten out birds from gardens and newly sown grounds, but we must fairly confess that we have failed in our enquiries.



THE PINTADO.

THIS bird, which is called also the Guinea-Hen, or Pearled-Hen, was originally brought from Africa, where the breed is common, and seems to have been well known to the Romans who used to esteem the flesh of this fowl as a delicacy, and to admit it at their banquets. She went then by the name of Numidian Hen, or Meleagris, a compound Greek word which implies somewhat of the principal characteristics of the bird; namely, stolidity and rusticity. In fact, although they are now domesticated with us, they retain yet a great deal of their original free-

dom, and have a stupid look. Their noise is very disagreeable; it is a creaking note, which, incessantly repeated, grates upon the ear and becomes very teasing and unpleasant. They belong to the class of birds called *pulveratores*, as they scrape the ground and roll themselves in the dust like common hens, in order to get rid of small insects which lodge in their feathers.

The Pintado is somewhat larger than the common hen; her head is bare of feathers and covered with a naked skin of a bluish colour; on the top is a callous protuberance of a conical form. At the base of the bill on each side, hangs a loose wattle, red in the female and bluish in the male. The general colour of the plumage is a dark bluish grey, sprinkled with round white spots of different sizes, resembling pearls, from which circumstance the epithet of pearled has been applied to this bird, who, at first sight, appears as if he had been pelted by a strong These spots, which we find of a shower of hail. larger dimension upon some of the feathers of the pheasant, and bigger still on the tail of the peacock, are convincing proofs of a near relationship between these fowls.

This bird has, of late years, considerably pullulated in this country, and is often seen hanging at the poultry shops and in the markets; the great abundance of them has considerably reduced their value, and they sell now, proportionally, like other fowls. The eggs are smaller than those of the common hen and rounder. They are reckoned a most delicate food.



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THE GOR-COCK

Is called by some Ornithologists the Moor-Cock and Red Game. The beak is black and short; over the eyes there is a bare skin of a bright red. The general colour of the plumage is red and black, variegated and intermixed with each other, except the wings, which are brownish, spotted with red, and the tail which is black; the legs are covered with long thick feathers down to the very toes. This bird is common in the north of England, and in Wales, and not only affords great diversion to the noblemen and gentlemen of those counties who are fond of shooting, but also repays them handsomely for their trouble, as the flesh of this wild fowl is very delicate and holds on our table a place level with the partridge and the Pheasant. The hen lays seven or eight eggs of a red-black colour,

"Where smooth, unruffi'd by the northern blast, The chrystal lakes, in alpine rocks enshrin'd, Reflect the verdant scene, and gently bathe, With silver waves around the grass grown feet Of woody hills. There to his cackling dames, On blooming heaths and secret lawns dispers'd, The Gor-cock calls, the sultan of the grove."



THE AUK, OR NORTHERN PENGUIN

Is reckoned by true observers of the wonderful operations of the Creator, a link between the bird and the fish, and we place here his description in order to exhibit more explicitly and conspicuously the uninterrupted chain of beings which constitute the whole sum of created nature. These birds have very short wings, not exceeding four inches and a quarter from the tip of the longest quill feather to the first joint; legs black, short, and placed near the vent. From the inability of these birds to fly or walk, they are seldom seen out of the water, and they never venture beyond soundings. It is a peculiarity belonging to this class of birds that the female lays one egg only, which she deposits and hatches upon a ledge close to the sea-mark; it is about six inches in length, white streaked with purple lines. When on shore this bird and all of the same species, stand upright on their rump and short legs, which give them a very aukward appearance.

BOOK III.

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A DESCRIPTION OF FISHES.



THE WHALE.

" _____ part huge of bulk Wallowing unwieldly, enormous in their gate, Tempest the ocean. There Leviathan, Hugest of living creatures, on the deep Stretch'd like a promontory, sleeps or swims, And seems a moving land; and at his gills Draws in, and at his trunk spouts out, a sea. PARADISE LOST, B. vii 410.

THE Whale is by far the largest of the known inhabitants of the sea; he is often mentioned in the holy writ, and described under the name of Leviathan. This class of animals have generally breathing apertures on the head; pectoral fins, an horizontal tail, and

no kind of claws. The Greenland Whale, which inhabits the Artic circle, is sometimes ninety feet in length; and it is reported that within the bounds of the torrid zone they are often discovered measuring a hundred and sixty feet. Although it is impossible to ascertain the length of time which such a creature may be allowed by Providence to remain in existence, yet it is fair to suppose that the life of the Whale must exceed that of any other animal, when no accidents shorten the number of his days. The head of this animal generally constitutes a third part of the whole bulk. The underlip is much larger than the upper, the tongue, which is of the size and form nearly of a large feather bed, is of a fat and adipous substance, yielding commonly five or six barrels of blubber. Out of two orifices placed in the middle of the head, this creature spouts the water to a great distance, chiefly when wounded. The eyes are comparatively small, and placed towards the back of the head. The tail is broad and semi-circular; the colour of the back is blackish, and the belly white.

We shall enter at length into the management of the Whale fishery to which Falconer alludes in the following lines:

> " As when enclosing harponeers assail In Hyperborean seas, the slumbering Whale; Soon as their javelins pierce the scaly side, He groans, he darts impetuous down the tide; And, racked all o'er with lacerating pain, He flies remote beneath the flood in vain." FALCONER'S SHIPWRECK, canto jii.



HEAD OF THE WHALE.

Whales are taken in large numbers about Iceland, Greenland, and other northern countries, by the English, Hollanders, &c. The South Sea Company, for several years, used to send annually on this expedition, about twenty sail of ships, every ship being above 300 tons burden, and each carrying forty-five men: this fleet usually sailed about the end of March, but seldom began to fish till the month of May. When they begin their fishery the ship is fastened, or moored, with nose-hooks to the ice. Two boats, each manned with six men, (which is the complement of every boat in the fleet), are ordered by the Commodore (who is an officer, and also the head of every ship's company, and appointed on purpose to manage the fishery) to look out for the coming of the fish, for two hours, and then are relieved by two more, and so by turns: the two boats lie at some small distance from the ship, each separated from the other, fastened to the ice with their boat-hooks, ready to let go in an instant at the first sight of the Whale. Here the dexterity of the whale hunters is

to be admired; for so soon as the fish shews himself, every man is to his oar, and they rush on the monster with a prodigious swiftness; at the same time taking care to come abaft or behind his head, that he may not see the boat, which sometimes so scars him that he plunges down again before they have time to strike him. But the greatest care is to be taken of the tail, with which it many times does very great damage, both to the boats and mariners; the harpooneer, who is placed at the head or bow of the boat, seeing the back of the Whale, and making the onset, thrusts the harping iron with all his might into its body, by the help of a staff fixed in it for that purpose, and leaves it in, a line being fastened to it of about two inches in circumference, and 136 fathoms long. Every boat is furnished with seven of these lines, which being let run, from the motion of it they observe the course of the fish.

As soon as ever the Whale is struck the third man in the boat holds up his oar, with something on the top, as a signal to the ship; at the sight of which the man who is appointed to watch gives the alarm to those that are asleep, who instantly let fall their other four boats, which hang on the tackles, two each side, ready to let go at a minute's warning, all furnished alike with six men each, harping irons, lances, lines, &c. two or three of these boats row to the place where the fish may be expected to come up again, the other to assist the boat that first struck the Whale with line; for the fish will sometimes run out two or three boats lines, all fastened to each other; for, when the lines of the first boat are almost run out, they throw the end to the second, to be fastened to theirs, and then follow the other boats

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in pursuit of the Whale, and so likewise does the second boat when their lines are run out.

A Whale, when she is first struck, will run out above a hundred fathoms of line, before the harpooneer is able to take a turn round the boat's stern, and with that swiftness, that a man stands ready to quench it, if it should fire, which it frequently does. There was a boat lately to be seen in the South Sea dock at Deptford, the head of which was sawed off by the swiftness of the line running out. Sometimes the Whale is killed on the spot, without sinking down at all. The harping iron would but little avail to the destruction of this animal; but part of the rowers, either at the first onset, or when, in order to fetch his breath, it discovers itself to view, throwing aside their oars, and taking up their very sharp lances, they thrust it through the body, till they see it spurt the blood through the blower; the sight of which is a most joyful sign of the creature's being mortally wounded. The fishermen, upon the killing of a Whale, are each entitled to some small reward. After the whale is killed, they cut all the lines that are fastened to it, and the tail off; then it instantly turns on its back; so they tow it to the ship, where they fasten ropes to keep it from sinking; and when it is cold begin to cut it up.

The body of a Whale is frequently found to be eighteen or twenty inches thick of fat; and yields fifty or sixty puncheons of oil, each puncheon containing seventy-four gallons, and about twelve hundred pieces of whale-bone, most of which are about fifteen feet long, and twelve inches broad, which are all taken out of the jaws, being the gills of fish; the whole produce of a Whale being worth one thou-

sand pounds, sometimes more or less, according to the goondess of the fish. Whilst the men are at work on the back of the fish, they have spurs on their boots, with two prongs, which come down on each side of their feet, lest they should slip, the back of the Whale being very slippery. These ships have orders to quit those seas by the 24th of June, for then the fish begin to be very mischievous.

While they swim it is not easy to distinguish the male from the female, unless from hence, that the latter is bigger than the former. The female has teats, and suckles her young after the manner of The Triton, one of our South Sea land animals. Company's ships, killed a female Whale; and whilst they were cutting her up along side, a young one swam about the ship, and would not forsake the dam, till at length the Commodore ordered the boat to go out and kill it, which they did, and it produced four puncheons of oil, &c. There is a small fish called Lodd by the whale-catchers, of which, if the Whales devour any large numbers, they become as it were drunk, and, transported with rage and fury, and exercise outrages against whatever comes in their way. The throat of the Whale is so very strait, that it can hardly take in the arm of a man; therefore stories about men having been swallowed by a Whale are void of foundation Great pains have been taken by commentators to reconcile with truth and nature the history of Jonah; but their endeavours were as fruitless, as they were presumptuous. Let us consider that the fact, as related, is a miraculous one, and a sort of type of the resurrection of Christ; surely he who had broken the laws of nature in favour of his chosen people, who had bid the sea to open

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its bosom, the Jordan to recoil towards its source, &c. could easily perform the astonishing deed above mentioned.



THE SPERMACETI WHALE.

According to the relations of navigators the Whale produces one or two cubs at a time, which she suckles with her teats, for the whole space of one year. At the moment of their birth the young are about ten feet in length, and follow the dam as calves do the cow; but when she is in fear, and flees from danger, she grasps her cubs within her fins and plunges with astonishing velocity to the most profound regions of the deep, where, secure from the attack of man, she enjoys the pleasures of maternal love; no animals appearing more fond of their offspring than the Whales.

When we reflect that the same power whose will has formed the immense bulk of this marine monster, has also given animation, senses, and passions to the smaller of the microscopic animalcules, how lowered must be the pride of man, who standing in the middle, and nearly at equal distance from both, is yet unable to comprehend the mechanism which
puts them in motion, and much less that intelligence and power which has given them life, and has assigned to them their respective stations in the universe. Let us then exclaim with astonishment and gratitude with the psalmist: "O Lord how inscrutable are thy ways, how magnificent thy works!"



THE SHARK.

THERE are several species of this monster, for his boldness and voracity may allow us to style him so. The greatest and most audacious of this destructive tribe of the sea-fish is called the white Shark. He represents the vulture, as the whale does the eagle, among the inhabitants of the deep. Like the whale he is viviporous, but differs from that marine wonder in bulk and in habits. The whale's peculiar food is a small sea-insect, called the medusa; the Shark lives entirely upon fish or flesh, and it is reported that when he has once tasted of the flesh of

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a human being nothing can make him desist from his pursuit after the vessels which he suspects to contain the delicate food he seeks after. The white shark is sometimes found weighing near four thousand pounds. The throat is often large enough to swallow a man, which has often been found entire in the stomach of this tremendous animal. He is furnished with six rows of sharp triangular teeth, amounting in the whole to one hundred and fortyfour, serrated on their edges, and capable of being erected or depressed at pleasure, owing to a curious muscular mechanism in the palate and jaws of the Shark. The whole body and fins are of a light ashcolour, the skin rough, and often worked into that substance called shagreen, an abreviation of the words "shark" and "green." His eyes are large and staring, and he possesses greatmuscular strength in his tail and fins. Whenever he spies from the deepest recesses of the sea, a man swimming or diving, he bolts from the place, darts up to his prey, and if unable to take in the whole or snatch away a limb, he follows for a long time the boat or vessel in which the more nimble swimmer has found a safe and opportune retreat : but seldom does he let any one escape his cruel jaws and get off entire. A late worthy member of the Court of Aldermen, Sir Brook Watson, lost, when young, one of his legs in the mouth of one of these monsters. Some commentators of the Book of Jonah are of opinion that it was this fish, and not the whale, that swallowed the prophet.

Had nature allowed this fish to seize on his prey with as much facility as many others, the Shark tribe would have soon depopulated the

ocean, and reigned alone in the vast regions of of the sea, till hunger would have forced them to attack and ultimately destroy each other; but, holding the impartial scale over the whole creation, she ordered that the under jaw of this devouring marine animal should be, by its cumbersome prominency an impediment to his seizing easily his offered food; and it is generally remarked that when on the point of catching hold of any thing the Shark is obliged to twist himself on one side, which troublesome evolution gives often time to escape. The flesh of this fish is of a disagreeable taste, and cannot be eaten with any kind of relish.



THE PILOT FISH

THE body is long, the head compressed, rounding off in front, without scales as far as the operculum. The mouth is small, the jaws of equal length and furnished with small teeth; the palate has a curved row of similar teeth in front, and the tongue has teeth all along. The colour varies in several species. What is most remarkable in this fish is that he is

a provisor or guide for the shark, when in search of food. This opinion, long doubted, has been, it seems, confirmed by Mr. Geoffroy, professor in the Museum of Natural History at Paris, who speaks as an eye witness, and describes how the Pilots (for two of them accompanied the shark which he saw near Malta, on the 26th of May, 1798) led the fish to a piece of bacon which a seaman had let down with a rope and hook; and how the shark obeyed their motions till he arrived in sight of his prey. What can induce this small fish to associate and become subservient to the shark?



THE REMORA, OR SUCKING FISH

RESEMBLES the herring; his head is thick, naked, depressed, and marked on the upper side with transverse rough lines, or striæ. The fins are seven in number; the under jaw is longer than the upper, and both furnished with teeth. He is provided by nature with a strong adhesive power, and, by means of the striæ on his head, attaches himself to any animal or body whatever. A small fish with seven acting fins, armed like a galley with oars, we might suppose to have a great power of motion in the water, but by some reason unknown to us, Providence has contrived for him an easier way of travelling, by fixing himself to the hulk or sides of ships, and even

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to the body of larger animals than himselr, as the whale, the shark, and others. Now is it probable that so small, so weak a creature, should have might enough to retard the fast steering of a man of war, frigate, or even a boat, sailing on the smooth surface of the liquid plain? Yet, to the shame of authors who invented and published such a falsity, and to the humiliation of human pride, whose ignorance believed such things, this nonsense has been held as a fact for many centuries, and copied from book to book as indubitable, so far that the very name of the fish was derived from this idle story. This fish, found in the Indian ocean, belongs to a genus call by the ichthyologists "Echeneis."



THE DOLPHIN

Is a large fish so like the porpus that he has been often confounded with it, although they differ much from each other. He seldom exceeds five feet in length, the body is roundish, growing gradually less towards the tail; the nose is long and pointed, the skin smooth, the back black or dusky-blue, becoming white towards the belly; he is entirely destitute of gills, or any similar aperture, but respires and

also spouts water through a pipe of a semi-circular form, placed on the upper part of the head. The lower end of the pipe opens in the mouth, and is capable of being opened and shut at pleasure. We find eight small teeth in each jaw; a dorsal and two pectoral fins, and the tail in the shape of a half moon. Their snouts are most useful to them when in search of eels and other fishes which harbour in the mud at the bottom of the sea.

Several curious stories have been related on this animal, most of which are fabulous. The anecdote of Arion whom a Dolphin, enchanted with the harmonious strains of his lyre, saved from sinking in the sea, is well known and acquired great credit among aneient poets; but it is rather an instructing allegory than a well grounded fact. However this fish has obtained the reputation of being particularly fond of man, from the following interesting anecdote related by Pliny the younger, who, at the time he wrote it, does not appear to have had any doubt of its being true. It is as follows, "There is in Africa a town called Hippo, situated not far from the sea coast; it stands upon a navigable lake from whence a river runs into the sea and ebbs and flows with the tide. Persons of all ages divert themselves there with fishing, sailing, or swimming, especially boys, whom love of play and idleness bring thither. The contest among them is who shall have the glory of swimming farthest. It happened in one of those trials of skill, that a certain boy more bold than the rest, launched out towards the opposite shore; he was met by a Dolphin who sometimes swam before him, and sometimes behind him, then played round him, and at last took him upon his back, then

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set him down, and afterwards took him up again: and thus he carried the frightened boy out into the deepest part, when immediately he turned back again to the shore and landed him among his companions. The fame of this remarkable event spread through the town, and crowds of people flocked round the boy to ask him questions and hear his answers. The next day the shore was lined with multitudes of spectators, all attentively contemplating the ocean, or whatever at a distance looked like it; in the mean while the boys swam as usual, and among the rest the youth I am speaking of went into the lake, but with more caution than before. The Dolphin again appeared, and came to the boy, who, together with his companions, swam away with great precipitation. The Dolphin, as it were to invite and recall them, leaped and dived up and down, darting about in a thousand different convolutions; this he practised for several days together, till the people began to be ashamed of their timidity. They ventured therefore to advance nearer, playing with him, and calling him to them, while he, in return, suffered himself to be touched and stroked. Use rendered them more courageous; the boy in particular who first had experienced the safety, swam by the side of him, and leaping upon his back was carried about in that manner: thus they gradually became acquainted and delighted with each other. There seemed now, indeed, to be no fear on either side; the confidence of the one, and tameness of the other mutually increasing; the rest of the boys in the mean while surrounding and encouraging their companion.

It is very remarkable that this Dolphin was fol-

lowed by a second who seemed only as a spectator or attendant on the former; for he did not at all submit to the same familiarities as the first, but only conducted him backwards and forwards, as the boys did their comrade. But what is further surprizing, and no less true, is that this Dolphin, who thus played with the boys, would come upon the shore, dry himself on the sand, and as soon as he grew warm, roll back into the sea. Octavius Avitus, deputy governor of the province, actuated by an absurd sense of superstition, poured some precious ointment over him as he lay on the shore: the novelty and smell of which made him retire into the ocean, and it was not till after several days that he was seen again, when he appeared dull and languid. However he recovered his strength and continued his usual playful tricks. All the magistrates round the country flocked thither to see the sight, the entertainment of whom, upon their arrival and during their stay, was an additional expense, which the slender finances of this little community could ill afford; besides the quietness and retirement of the place was utterly destroyed. It was thought proper, therefore, to remove the occasion of this concourse, by privately killing the poor Dolphin."

The elder Pliny mentions a similar circumstance of a Dolphin who used to carry a boy to school upon his back, and bring him back home, across the streights which separate Baiæ from Puzzoli; the boy died of an accidental illness, and for several days the disappointed fish made his appearance at the place where he was wont to take the boy up; but finding him not, soon pined away and died; he

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was placed in the same tomb with the remains of of his friend the boy.

There are several other facts mentioned by ancient authors to prove the philanthropy of the Dolphin, but those related above, being the most interesting, will be sufficient for our purpose. Since the provice of *Dauphiné* in France has been united to the crown, the heir apparent has been called "Dauphin," and quarters a Dolphin on his shield. Falconer in his beautiful poem "The Shipwreck," describes the death of this fish in the following elegant manner:

> " _____ beneath the lofty vessel's stern A shoal of Dolphins they discern, Beaming from burnished scales refulgent rays, 'Till all the glowing ocean seems to blaze. In curling wreaths they wanton on the tide; Now bound aloft, now downward swiftly glide. Awhile beneath the waves their tracks remain And burn in silver streams along the liquid plain ; Soon to the sport of death the crew repair, Dart the long lance, or spread the baited snare. One in redoubling mazes wheels along, And glides, unhappy, near the triple prong. Rodmond, unerring, o'er his head suspends, The barbed steel, and every turn attends; Unerring aim'd, the missile weapon flew, And, plunging, struck the fated victim through. The upturning points his ponderous bulk sustain ; On deck he struggles with convulsive pain ; But while his heart the fatal javelin thrills, And fleeting life escapes in sanguine rills, What radiant changes strike the astonished sight, What glowing hues of mingled shade and light! No equal beauties gild the lucid West With parting beams all o'er profusely drest ; No lovelier colours paint the vernal dawn When orient dews impearl the enamelled lawn ; Than from his sides, in bright suffusion flow, That now with gold empyreal seem to glow.

Now in pellucid sapphires meet the view, And emulate the soft celestial hue; Now beam a flaming crimson to the eye, And now assume the purple's deeper dye; But here description clouds each shining ray; What terms of art can Nature's power display!" FALCONER'S SHIPWRECK, canto II.



THE FLYING FISH

Is slender and long with a large staring eye. The body is in shape, scales, and colour like one of our mullets. The fins on each side of the back are so long and spread so as to answer the purpose of wings, and, aided by them, he flies nearly to the distance of a gun-shot before he touches the water, and when he has slightly dipt, in order to rest himself, mounts up again; a curious manœuvre, by which he often escapes the jaws of the Dolphins, which swim rapidly in pursuit of him. He is a native of the Mediterranean, and is found in many other seas in warm climates. This curious creature, as we may easily perceive, is the link between the fish and the birds, as the auk or penguin unites the inhabitants of the air with those of the sea, in the contemplative mind of the naturalist.



THE SHEAT FISH

GROWS to a large magnitude, some of them weighing sometimes eighty pounds, and measuring fifteen or sixteen feet, upon a breadth of two. In colour it resembles the eel, and has no scales; one only small fin on the back, and a forked tail; its flesh is esteemed next to that of the eel, and has a similar flavour. This fish is a great depredator and makes considerable havock among the smaller inhabitants of the rivers and lakes which he inhabits. The Danube and several other rivers of Germany, and the lakes of Switzerland and Bavaria, contain numerous tribes of the Sheat Fish,

> " ——— whose fleet, impetuous, darting flight Cleaves fast the crystal of the rippling streams, Where, in the faithful mirror of the waves, The snow crown'd Alps admire the splendid cones Of their inverted tops—woe to the herds Of smaller citizens that thrive and sport, With pearly-girdled Nayads in the stream! Woe to the golden carp, the minnow tribe, All, but the tyrant pike, all soon must fall, The fated victims of the hungry Sheat."

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THE SEA WOLF

Is often caught at Heligoland, an island not far from the mouth of the Elbe; it is about three feet in length, and has a bigger and flatter head than the shark. The back, sides, and fins are of a bluish colour, the belly is nearly white; the whole skin is smooth and slippery, without any appearance of He is of a very voracious nature and has a scales. double row of sharp and round teeth, both in the upper and lower jaw. However his appetite does not lead him to destroy fishes similar in shape to himself, as he is supposed to feed entirely on crustaceous animals and others, whose shells he breaks easily with his teeth. He is sometimes found in the northern seas exceeding six feet in length, and owes his name to his natural fierceness and voracity. The fins nearest to the head spread themselves when the animal is swimming, in the shape of two large fans, and their motion contributes considerably to accelerate his natural swiftness. We do not hear that his flesh is good to eat.



THE FATHER LASHER.

It would be a comfort for the writer upon natural history to be able to give a rational and satisfactory etymology of all names; but this is, in many circumstances, utterly impossible. The whimsical denomination of Father Lasher given to this fish cannot be easily accounted for, unless we take a particular notice of the quick and repeated lashings of his tail when he is caught and thrown upon the sand.



THE MONK FISH, OR ANGEL FISH,

Is very voracious and feeds upon all kind of flat fish, as soles, flounders, &c. he is often caught on

the coasts of Great Britain, and of such a size as to weigh sometimes a hundred pounds. This fish seems to be of a middle nature between the Rays and Sharks, and is called by Pliny the Squatina; a name which seems to bring his kind near that of the Skate His head is large, the mouth has five rows of teeth, which are capable of being raised or depressed at pleasure. The back is of a pale ash colour, the belly white and smooth. The shores of Cornwall are often frequented by this fish, but his flesh does not deserve to be praised, being hard and of a very indifferent flavour.



THE TURBOT

Is a well known and much esteemed fish for the delicate taste, firmness, and sweetness of his flesh. Juvenal in his fourth satyre gives us a most ludicrous description of the Roman Emperor Domitian assembling the senate to decide how and with what sauce this marine monster should be eaten. This fish is sometimes two feet and a half long and about two broad. The scales on the skin are so very small that they are hardly perceptible. The colour

of the upper side of the body is a dark brown, spotted with dirty yellow; the under side a pure white, tinged on the edges with somewhat like flesh colour, or pale pink. There is a great difficulty in baiting the Turbot as he is very supercilious about his food; nothing can allure him but herrings or small slices of haddocks, and lampreys, and as they lie in deep water, flirting and paddling on the oose at the bottom of the sea, no net can reach them, and they are generally caught by hooks and lines. They are found chiefly on the northern coasts of England, Scotland, and Holland; but there are several other fishes which, resembling the Turbot in shape, are much inferior to him in flavour. Our epicures pretend to so particular a knowledge of the taste of this fish as to distinguish whether it is brought from Torbay or the mouth of the Elbe.



THE SWORD FISH

HAS his name from his long snout resembling the blade of a sword. He weighs sometimes above one hundred pounds, and is sometimes fifteen feet in length. The body is of a conical form, black on the back, white under the belly, a large mouth and no

teeth; the tail is remarkably forked. The Sword Fish is often taken off the coast of Italy, in the bay of Naples, and all about Sicily. They are struck at by the fishermen and their flesh is reckoned as good as that of the sturgeon, by the Sicilians, who seem to be particularly fond of it. Other European seas are not destitute of this curious animal.



THE SAW FISH

WHAT can be the use of the curious apparatus with which the snout or beak of this fish is provided? It looks like an offensive piece of armour, yet we do not see what occasion the animal can have for it. However, let us admire Providence behind the veil which is spread between God and man, and let

" ----- expressive silence muse his praise,"

This fish is found in the Atlantic ocean, his back is ash-coloured and his belly white.



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THE PORPESSE, PORPUS, OR PORPOISE

RESEMBLES the dolphin in outward appearance, but in fact is essentially different. The length of the Porpesse is, from the tip of the snout to the end of the tail, three or four feet; and the width about two feet and a half. The figure of the whole body is conical; the colour of the back is deep blue inclining to shining black; the sides are grey and the belly white. The tail is forked and composed of several rays united by a membrane. This fish is covered with a rough skin, but has no scales; and, what is very singular, his blood is as warm as that of quadrupeds. The eyes are very small; he has only three fins, one on the back and one on each shoulder. When the flesh is cut up it looks very much like pork; but although it is sometimes eaten, it certainly has a disagreeable flavour .--The Porpesse is viviparous, like all the other fish which belong to the cetaceous class. They live on smaller fish, and appear generally in large shoals in the mackerel and herring seasons, at which time

they do very great damage to fishermen, by breaking and destroying the net to get at their prey. Their motion in the water is a kind of circular leap; they dive instantly to the bottom, but soon again rise up in order to breathe. They are so intent in the pursuit of their prey, that they sometimes ascend large rivers, and several have been seen between London and Westminster Bridges. They have no gills whatsoever, and blow the water with a loud noise, which in calm weather may be heard at a great distance. They are seen nearly in all the seas, and are very common about the English coasts, where they sport with great activity, chiefly at the approach of a squall.



THE STURGEON

Sometimes grows to the length of eighteen feet, and has been found to weigh five hundred pounds. It has along slender pointed nose, small eyes, and a small mouth, destitute of teeth, placed beneath and unsupported by the maxillæ; so that when the animal is dead the mouth remains always open. The body is covered with five rows of large bony tubercles, and the under side is flat; he has one dorsal fin, two pectoral, two ventral, and one anal. The upper

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part of the body is of a dirty olive colour, and the under part silvery. The tail is bifurcated, the upper part being much longer than the under one. The Sturgeons subsist principally on insects and marine plants, which they find at the bottom of the water, where they mostly resort. They are very harmless and timorous, and abide in flocks They are found in every country of together. Europe at different seasons in the year. They annually ascend the largest rivers in winter, in order to spawn, and produce their young in prodigious numbers. They are also found in North America. The flesh of the Sturgeon is highly esteemed, particularly in England, where it is often pickled, and is then accounted a delicacy. The eggs, made up in a huge mass, salted and put up into barrels, are sold among the Turks, Greeks, and Venetians, under the name of caviary. They are taken in nets, and seldom with hooks.



THE HADDOCK

Is much less in size than the cod fish, and differs somewhat from it in shape; it is of a bluish colour

on the back, with small scales; a black line is carried on from the upper corner of the gills on both sides down to the tail; in the middle of the sides, under the line a little beneath the gills, is a black spot on each shoulder which resembles the mark of a man's finger and thumb; from which circumstance it is called St. Peter's fish, alluding to the fact recorded in the 17th chapter of St. Matthew; "Go thou to the sea and cast an hook, and take up the fish that first cometh up, and when thou hast opened his mouth, thou shall find a piece of money : that take, and give unto them for me and thee." and while St. Peter held the fish with his fore finger and thumb it is supposed that the skin received then, and preserved to this moment, the hereditary impression This is but an idle belief. The flesh of the Had dock is harder and thicker than that of the Whiting, and not so good; but it is often brought upon the table as a good dish, either broiled, boiled, or baked, and is esteemed by many above several others.



THE WHITING

Is seldom more than twelve inches in length, and of a slender and tapering form. The scales are small and fine. The back is silvery, and when just

taken out of the sea, reflects the rays of light with great lustre and gloss. The flesh is light, wholesome, and gently nourishing: it is often allowed to sick people and convalescent stomachs, when other food is deemed hurtful. The Whiting is found in all parts about the coasts of England, and is in its proper season from August to February.



THE LING

Is from three to four feet in length, and some have been caught much longer. The body is long, the head flat, the teeth in the upper jaw small and numerous, and a small beard on the chin; it has two dorsal fins, two pectoral ones, and one ventral,

They abound on the coasts of Great Britain and Ireland, and great quantities are salted for home consumption and exportation. On the eastern coasts of England they are in their greatest perfection from the beginning of February to the end of May. They spawn in June; at this season the males separate from the females, who de-

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posit their eggs in the soft oozy ground at the mouth of large rivers.

This, as well as a thousand other kinds of fish, has been freed by Nature, from the trouble of rearing up their young; but in compensation they have been deprived of all the pleasures of maternal endearment and affection. The eggs once deposited in some small nook, or against a rock under an immense depth of water, are left to chance and their own internal spark of life to hatch out, and when hatched to seek for food. Whether the mother, in her ramblings through the waves, visits again the eggs, or, lurking at a distance, watches their bursting into life, has not been ascertained, and can never be observed closely enough to enable the most enlightened ichthyologists to give a positive answer to this question. As this observation applies to several other classes of animals in the whole chain of nature, we shall not repeat it in any other articles, but leave it to the reader to make the application.



THE GRAYLING

Is longer than the trout, and measures sometimes twenty inches in length. The back and sides are of a silvery grey, and when the fish is first taken R 3

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out of the water, slightly varied with blue and gold. The coverts of the gills are of a glossy green, and the scales are large. He is found in clear rapid streams in the north and west parts of England, and also in Lapland. It is a very good food and in perfection in the month of December.



THE SALMON

Is the boast of large rivers, and one of the noblest inhabitants of the sea, if we esteem him by his bulk, his colour, or the sweetness of his flesh. They are found of a great weight, and sometimes measure five feet at least in length. The colour is beautiful, a dark blue dotted with black spots on the back, decreasing to silvery white on the sides, and perfectly white with a little shade of pink on the belly. The fins are comparatively small as to the bigness of the bulk. Destined by nature to feed man, they come up the rivers that run down from inland countries, and there the female deposits her eggs. Soon after, both she and the male take an excursion to the vast regions of the sea, and do not return to the land streams again till the next year, for the same

purpose. They are so powerfully impelled by this natural sense that, when swimming up a river, if they are stopped by a fall of water, they spring up with such a force through the descending torrent, that they stem it, till they reach the higher bed of the stream. Whether they are attracted there, and overcome so many difficulties and hardships by the innate desire of spawning again where they were originally deposited in the shape of eggs, or by any other cause, is not yet ascertained. The Salmon is found nearly of the same size in all parts of Europe. The flesh is red when raw; redder when salted, and little paler when boiled; it is an agreeable food, fat, tender and sweet, and excels in delicacy most part of the sea-fish: however it does not agree with all stomachs and is chiefly hurtful when eaten by sick persons. The Salmon feeds on earth worms, minnows and other small fish. The pickled Salmon is a good substitute for the fresh one, and is a great branch of trade between Newcastle and the rest of England, where it is in great requisition.



THE CHAR, OR GILT CHARRE

Is not unlike the trout; the scales are very small; the colour of the back varied with spots; the R 4

belly white, the snout bluish. This fish is esteemed very delicate by all nations, and chiefly by the Italians. They have it plentifully in Lago di Gardo, near Venice, and it is also found not only in our northern lakes in Westmorland and Scotland, but also in those large ponds of water at the foot of the mountains in Lapland. The potted Char enjoys a high and deserved reputation in several parts of the continent as well as in England.



THE SALMON TROUT,

ALSO called the Bull Trout or Sea Trout, is thicker than the common trout in the body, weighing about three pounds; it has a large smooth head, which as well as the back is of a bluish tint, with a green gloss; the sides are interspersed with black spots, the tail is broad chiefly at the end. It is said that in the beginning of summer, the flesh of this fish begins to redden, and holds that colour till the month of August; which circumstance is very probably owing to their being on the point of spawning. This fish is very delicate and much esteemed

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on our table; but as it contains a great deal of fat it ought to be dressed as soon as possible, for it would soon turn to putrefaction. Some people prefer this to Salmon, but they are both loathsome when eaten in too great a quantity.



THE TROUT,

As to its figure resembles the salmon; it has a short roundish head, and a blunt snout. Trouts breed and live constantly in small rivers, whose transparent stream frets along upon the clean pebbles and beds of sand which cover the bottom of the water; they feed on river flies and other water insects, and are so desperately fond of them, and so blindly voracious, that anglers often deceive them with artificial flies, made up of feathers, wool and other materials, and which resemble very closely the natural ones. In Laugh-Neagh, in Ireland, trouts have been caught weighing thirty pounds; and we are told that in the lake of Geneva, and in the northern lakes of England, they are found of a still larger size. It holds the first place among the river fish, and its flesh is very delicious, but of hard digestion when old or kept too long. They spawn in the month of December, and deposit their eggs in the gravel at the bottom of rivers, dykes, and ponds. To the

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contrary of many other fish, the Trouts are least esteemed when nearest spawning. They are properly in season in the months of July and August, being then fat and well-tasted. It is said that the Romans knew not this fish, and that there is no Latin word to express it; but this is improbable as this fish is found in Italian rivers as well as any others, and as the word *Trocta* or *Trutta* has been used by several authors.



THE PLAICE.

A WELL known English fish; and a species of the pleuronectes. It has smooth sides, an anal spine, and the eyes and six tubercles are placed on the same side of the head. The body is very flat, and the upper part of the fins of a clear brown colour, marked with orange-coloured spots, and the belly white. They spawn in the beginning of February, and some of them grow to eight or nine pounds in weight, they assume then something like the shape of a turbot, but the flesh is very different, being soft and nearly tasteless.

The Dab, a fish of the same nature and shape, is thicker than the Plaice and has no reddish spots. They are plentifully found on the coasts of Holland.



THE FLOUNDER

DIFFERS from the plaice by its being a little longer in the body, and, when full grown, somewhat thicker. The back is of a dark olive colour, spotted; some of them, with round reddish spots on the back and fins. In taste they are reckoned by some more delicate than the plaice. They live long after their being taken out of their element, and are often cried in the streets of London in the morning; but they seldom appear on the table of the rich and opulent. They are common in the British seas, and in all large rivers which obey the impression of the tide, and feed upon decayed carcasses at the bottom of the water.



THE SOLE

Is well known as a most excellent fish, whose flesh is firm, delicate and of a pleasing flavour. They grow to the length of eighteen inches, and

even more in some of our seas. They are often found of that bigness and superiority in Torbay, from whence they are sent to market at Exeter and several other towns in Devonshire and the adjacent counties. They are also found in the Mediterranean and several other seas, and, when in season, are in great requisition for the most luxuriant tables. The upper part of the body is brown, the under part white, one of the pectoral fins is tipped with black, the sides are yellow and the tail rounded at its extremity. It is said that the small Soles caught in the northern seas are of a much superior taste than the large ones which the southern and western coasts afford.

A musician of fame having travelled, in his harmonical tour, not unlike Dr. Burney, as far as Marseilles, found there this fish so delicate, so much to his taste, that he died of an indigestion after eating too much of it; his friends erected a tomb to his memory, and a wag among them gave the following epitaph,



which being read according to the French gamut and pronounciation, gives these words, "La sole l'a mis la." The Sole placed him there. It is certain that, taken in two great a quantity, or when out of season, this fish is not one of the wholesomest.



THE COD FISH

Is a noble inhabitant of the seas; not only on account of his size, but also for the goodness of his flesh, either fresh or salted. The body measures sometimes above three and even four feet in length, with a proportionable thickness. The back is of a brown olive colour, with white spots on the sides, and the belly is entirely white. The eyes are large and staring. The head is broad and fleshy, and esteemed a delicious dish.

The fecundity of all fishes is an object of real astonishment to every observer of nature. In the year 1790, a Cod Fish was sold in Workington market, Cumberland, for one shilling; it weighed 15lb. and measured two feet nine inches in length and seven inches in breadth; the roe weighed 2lb. 10z. one grain of which contained 320 seeds or eggs. The whole therefore might contain, by fair estimation, 3,904,440 eggs. From such a trifle as this we may observe the prodigious value of the fishing trade to a commercial nation, and hence draw a useful hint for increasing it: for supposing that each of the above seeds should arrive at the same perfection and size, its produce would weigh 26,123 tons, and consequently would load 261 sail of ships, each of 100 tons burden. If each fish were brought to market and sold as the original

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one, for one shilling, the produce then would be 195,000l. that is to say, the first shilling would produce twenty times 19,5000, or 3,900,000s.

The chief fisheries for Cod are in the bay of Canada, near the coasts of Newfoundland. The best season is from the beginning of February to the end of April. Each fisherman only takes one Cod at a time, and yet the more experienced will catch from three to four hundred per day. It is fatiguing work, owing particularly to the intense cold they are obliged to suffer during the operation. The Latin name for this fish and several other of the kind, is *asellus*, "a young ass," on account of his large head and dusky colour.



THE GOLD FISH

Is very beautiful, about the same size and shape as the silver fish, except that it has not such long fins. This animal was originally brought from China, and first introduced into England in 1661; but they are now become quite common in this kingdom, and will breed as freely in open water as the carp. It seldom exceeds the length of seven inches and a half, and very few attain that size. They are here as well as in China, highly valued by people of fashion. Nothing is more pleasing than to see them glide along and play in the transparent crystal of a piece of water in a garden or park, whilst their smooth and broad scales, reflecting the versatile rays of the sun, shoot the richest sparks of light to the eye of the beholder. They are often kept within the small compass of a glass bowl, where they acquire a certain tameness and docility, most pleasing to their keepers whom they seem to know after having been fed there for some time.

The Silver Fish is about the size and shape of a small carp, and resembles it in taste as well as in shape. It is of a white colour, transversely striped with silvery lines. It is a native of the shores near the Cape of Good Hope. As it does not differ much from the preceding, we have not thought necessary to give a figure of it. They both seem to belong to the beautiful order called Cyprinus, which received its name from the goddess of beauty, VENUS, supposed by the ancients, to have arisen from the sea, in the neighbourhood of the island of Cyprus, from which circumstance she is often called CYPRIS by the poets. The lively imagination of the Greeks, and their good sense, observes La Cepéde in his most interesting history of the finny race, induced them to find a cradle for Venus in the wave of the sea; a most appropriate allegory, as the inhabitants of the deep are blessed with three great natural gifts by Providence; namely, beauty, fecundity, and longevity. The gold and silver fish exhibits the liveliest colours; the cod and carp boast of their fecundity; and the pike is known to live to a great age.



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THE PIKE.

THE regions of fresh water have their sharks as well as the empire of the seas. This fish lives in rivers, lakes, and ponds: and, in a confined piece of water, he will soon destroy all other fish, as he generally does not feed upon any thing else and often swallows one nearly as big as himself; for through his greediness in eating, he takes the head foremost, and so draws it in by little and little at a time, till he has absorbed the whole. I remember to have seen in the stomach of a large Pike a gudgeon of good size, the head of which had already received clear marks of the power of digestion, whilst the rest of the fish was still fresh and unimpaired.

It is a very long lived fish. In the year 1497, a Pike was caught at Hailbrun in Swabia, to which was affixed a brazen ring with the following words engraved on it in Greek characters, "I am the fish which was first of all put into this lake by the hands of the governor of the universe, Frederick the Second, the fifth of October, 1230." The Pike has a flat head and sharp teeth in his jaws, the under one of which is much more prominent than the superior one. This fish is of a white, firm, dry flesh, and wholesome. The larger and older, the more esteemed. The bones are long and pliant, and easily extracted in eating. The following lines are poetically expressive of the danger in which smaller fishes are at the approach of the Pike:

"Beware, ye harmless tribes ; the tyrant comes," Exclaims the silver-mantled Nayad of the pond ; "Beware, ye flirting gudgeons, barbels fair, And ye, quick-swimming minnows, gliding eels, And all who breathe the lucid crystal of the lake, Or lively sport betwixt the dashing wheels Of river mills, beware; the tyrant comes ! Grim death awaits you in his gaping jaws And lurks behind his hungry faugs-----beware !"

The best manner of cooking the Pike is to boil it in wine and water, or in the absence of wine with vinegar, accompanied with parsley, carrots, and other roots of agreeable flavour. It is served cold, upon a napkin, and eaten with oil and vinegar, with anchovy or cavice sauce.

The Anchovy is a fish about four or five inches long; some have been seen more than a span in length. It has a long slender body with small scales; the whole, like the smelt, is nearly transparent; the back is of a mixture of green and ash colour; the belly fof a silvery white, the nose sharp, the eyes large, and the tail forked. They are taken on the coasts of Italy and in the Mediterranean, salted, preserved in barrels, and so brought to Great Britain, and to all parts of the Continent; where they are esteemed a very agreeable relish in sauces and sallads. An imposition is often practised by substituting sprats

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to Anchovies, but the deception is soon found out by the difference of taste.



THE CAVALLO-MARINO, OR SEA-HORSE,

Is a small fish of a curious shape. The length is about two inches; the head bears some resemblance to that of a horse, whence originates its name; a long dorsal fin runs from the head to the tail, which is spirally turned inside. They are often seen in cabinets and museums in a dryed state, and the library of the East India House is possessed of a very good specimen of this curious creature. It belongs to the order of the *Pipe Fish*.



THE CARP

HAS a great fame for the sweetness of its flesh, and appears often with great repute on our tables, when

measuring twelve inches between the eye and the beginning of the tail. The scales are large with a golden gloss upon a dark green ground. They grow sometimes to a great size, being then three or four feet in length, and contain a great quantity of fat. The soft roe of the Carp is esteemed a great delicacy among the epicures on our board. In the canals of Chantilly, formerly the seat of the Prince of Condé, Carps have been kept for above one hundred years, most of them appearing hoary through old age, and so tame that they answered to their names when the keeper called them This fish has very small teeth and a to be fed. broad tongue; the tail is widely spread as well as the fins, which are inclined to a reddish tint. Those that live in rivers and running streams are most approved, as those which inhabit the pools and ponds have generally a muddy disagreeable taste. It is said that they were brought first to England by Leonard Maschal, about two hundred and fifty years ago. They are very tenacious of life, and when cut in quarters, the head being divided in two, the pieces have often been seen to jump off the dresser table, and even out of the frying-pan into the fire, which circumstance has given birth to the proverb.

" In genial spring, beneath the quiv'ring shade Where cooling vapours breathe along the mead, The patient fisher takes his silent stand Intent, his angle trembling in his hand; With looks unmov'd, he hopes the scaly breed, And eyes the dancing cork and bending reed. Our plenteous streams a various race supply, The bright ey'd pearch with fins of Tyrian dye; The silver eel in shining volumes roll'd, The yellow Carp in scales be-drop'd with gold; Swift trouts, diversify'd with crimson stains, And pikes, the tyrants of the wat'ry plains.

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THE DACE

RESEMBLES the chub in its form, but is less and of a lighter colour; it is a gregarious fish, frequenting the same places, and remarkably prolific. The body seldom extends ten inches in length, and like the rest of the leather-mouth kind, it has no teeth in its jaw, but only in its throat, a curious contrivance which nature has thought proper to make use of to enable the fish more easily to apprehend its food, even at the moment that the throat is busy in the act of trituration. Its back is of a dusky colour, tinged with yellow and green, and the sides and belly of a silvery cast.

They are very lively creatures, and if kept in vivaries, may live a considerable time. It is of an elegant shape, and its rapid evolutions in the water are greatly facilitated by six oars of a proportionable extent and a dove-tail-shaped rudder at the end of the body.



THE MACKAREL

Is taken and well known in all parts of the world. It is usually about a foot in length, or more; the body is thick, firm, and fleshy, slender towards the tail; the snout sharp, the tail forked, the back of a lovely green, beautifully speckled, or, as it were, painted with black strokes; the belly is of a silvery colour, reflecting, as well as the sides, the most elegant tints, imitating the opal and the mother of pearl. Nothing can be more interesting and pleasing to the eye than to see them, just caught, brought to shore by the fishermen, and spread, with all their radiancy, upon the pebbles of the beach. at the first rays of the rising sun; but they are no sooner taken out of their element than they die; the following lines allude to this peculiarity:

> When motionless he lies flat on the strand, Ah! what avails, that Nature's skilful hand Had deck'd his glossy cheeks with silv'ry light, Mix'd to the changing hues of opal bright; That on his back, with sable ribbands grac'd, His native waves seem curiously trac'd, That, chas'd in purest gold, his sparkling eyes Reflect the moving features of the skies; If vital air supplies him not with breath, And what gives life to others, gives him death ?

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THE HERRING

COMES next after the mackarel in shape as well as in delicacy of taste, although it differs much in flavour. It is about nine or ten inches long, and about two and a half broad, and has blood shot eyes; it has large roundish scales; a forked tail; the body is of a fat, soft, delicate flesh, but stronger than that of the mackarel, and therefore less wholesome. Yet some people are so very fond of it that they call the Herring the King of Fishes. They swim in shoals and spawn once a year, about the autumnal equinox, at which time they are best. These swarms of fish emigrate from the northern seas, and in an immense column, travel gently down till they arrive at the farthest point of the British islands, and then divide in two or three branches. One, following the coast of Holland, steers through the British channel, leaving plenty after them in the fisherman's nets. The second branch, which is the smallest, enters St. George's channel between Great Britain and Ireland; the western part of the column, or third division follows the western coast of Ireland and meet the others on the occidental part of Britanny. Hence they part themselves in many other divisions, and some entering the Mediterranean at Gibraltar, leave the rest to follow the orders of Providence in the Austral seas.

> "What Triton swift, or rose-finn'd Nereid, From Amphitrite's shell-wrought throne dispatch'd, Went through the chambers of the deep, and call'd The sportful myriads from the coral groves, To meet, prepare, and cleave, in order'd flight, The pathless mazes of the main ? Who taught The broad shining shoals to warp and steer Through whirling pools and currents wild, to seek, Unskill'd in charts, nor by true magnet led, Regions unknown, inhospitable shores, Where hungry death their annual tribute claims? Or there, perhaps, if Providence ordain'd, To sport and love, by various names yclept, And, with new nations, swell the Antarctic deep ; Wherefore with unrelenting speed, they scud Against the opponent waves ?-----"

This fish is prepared in different ways in order to be kept for use through the year. The white, or pickled Herrings, are washed in fresh water, and left the space of twelve or fifteen hours in a tub full of strong brine, made of fresh water and sea salt. When taken out they are drained and put in rows or layers in barrels.

The red Herrings are prepared in the same manner, with this difference that they are left in the brine double the time above mentioned, and when taken out placed in a small chimney constructed for the purpose, and containing about twelve thousand, where they are smoaked by means of a fire underneath,

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made of brushwood, for the space of twenty-four hours.



THE SPRAT,

A WELL known marine fish, between four or five inches in length, the back fin very remote from its nose; the lower jaw longer than the upper, the eyes blood-shot, like those of the Herring, and in shape so much like that fish that several clever ichthyologists have took the former to be the same as the latter, but not yet grown to its proper shape. But upon a nearer examination it has been ascertained that the Sprat has but forty eight dorsal vertebræ, whereas the herring has fifty-six: a difference so essential that neither age nor any other cause can obliterate it. They arrive yearly in the beginning of November in the river Thames, and generally a large dish of them is presented on the table at Guildhall, on Lord Mayor's Day. They continue through the winter and depart in March. They are sold by measure, and yield a great deal of sustenance to poor people in the hard season. It is reported that they have been taken yearly about Easter time in a lake about Cheshire, called Kostern Meer, and in the river Mersey, in which the sea ebbs and flows seven or eight miles below the lake.

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The Sardine, caught on the southern shores of France, where it is held in great repute, is much like the sprat, only a size bigger. It is sent here pickled in the same way as herrings, and packed in barrels.



THE SMELT

Is in length about eight or nine inches, and near. ly one broad; the body is of a light olive green, inclining to silver white. The smell of this small fish when fresh and raw is not unlike that of ripe cucumbers, but it goes off in the frying pan, and then the smelt yields a tender and delicate food. They are taken in the Thames and in other large rivers. The skin of this fish is so transparent that, with the help of a microscope, the blood may be seen to circulate.



THE GUDGEON,

A WELL known fresh-water fish, generally found in gentle streams; it is between five and six inches

in length. The back brown, the belly white, the sides tinged with red, and the tail forked. They spawn three or four times in summer, and feed upon wasps and any flies which approach too near the surface of the water.



THE LUMP, OR SEA OWL,

Is an odd shaped fish; its colour is blackish with faint red, in spots; the belly is red; it has no scales but on all sides sharp black tubercles, in shape like warts; on each side are three rows of sharp prickles, and on the back two distinct fins. It is taken in many places about England, and stares at the buyers on the stalls of the London markets. The Lump, properly so named from its unseemly shape, is about a foot in length and ten inches broad. The flesh is but indifferent.

The shape of this creature is so unlike any thing else, that it has caused several denominations according to the ideas which at first sight it created. Some call it the *Sucker*, on account of the curious form of its mouth; and some the *Cock-Paddle*. They look as if nature had figured them when in a whimsical mood, and after having exhausted all elegant shapes and pleasing outlines.



THE BREAM,

Is a flat fish, not unlike the carp in several points, but much broader in proportion with its length and thickness. They abide in the deepest parts of rivers, lakes and ponds. The scales are large and of a bright colour; the tail has the form of a crescent. They spawn in May, but when they are near that time they hide themselves so curiously in the ooze at the bottom of the water that they are very seldom found with either soft or hard roe in them, so that in some countries the name is often used to denote sterility. The flesh is not comparable to that of the carp.



THE SKATE

Is a species of the Ray. This fish had long been disregarded in this country as a coarse, bad-tasted food, but for some time past it rose into fashion,

and appears now with no unbecoming grace upon our best tables. The body is broad and flat, of a brown colour on the back, and white on the belly; the head is hardly perceptible, as it is comprehended in the whole of the shoulder; the mouth and eyes are as we might properly say, on the breast, so that this fish and all belonging to this class may be styled acephalous, or, without a head. Some other species have large thorns interspersed on the back, and from that peculiar circumstance are called *Thornbacks*. They are esteemed the best of the kind. The tail of the Skate is long and generally prickly: the eggs are often found on the beach after a storm, in the shape of a square bag with two long strings at each end as here represented.



In this the embryo is contained, and grows till it has acquired strength enough to burst through its prison. The colour of the bag is maroon, and the substance like thin brown parchment or leather. The female begins to drop her eggs singly in the month of May, and continues to exclude them for several months, to the number of two or three hundred. Some naturalists are of opinion that these fishes are the largest inhabitants of the deep, and that the smallest of them only, come near the

surface of the water; the biggest remaining flat at the bottom of the sea, where an unfathomable depth secures them against the wiles of man.

The Kraken mentioned by Pontoppiden, the learned bishop of Bergen, is perhaps one of the kind; but we cannot give much faith to the report, as it is supposed that this enormous bulk, which inhabits the bottom of the seas about the Norway coasts, is three or four miles in breadth; and that when it moves and palpitates on the ooze, it heaves the tide so vehemently that the fishermen are obliged to steer away as fast as they can, to avoid being upset by the commotion of the water:

> "Thus when beneath the shaggy hills and plain Of Enna, where fair Persephone once Won Pluto's heart, the vanquish'd giant heaves His weary sides; disturbed Ætna shakes Her hoary head, and sends the stormy rage Of burning stones, of cinders, and of flames That light afar, by lurid starts, the seas From fam'd Pachynum to the Libyan shores. Aroused by the ghastly blaze, the herds Affrighted leave the cooling shades and start On Erix' heathy brow, whilst cities wide Totter and listen to the dismal roar Of elements confused ____."

The fabulous story of the giant Enceladus seems to be a fit companion for that of the *Kraken*, although the latter is most seriously delivered by a mitred naturalist, and solemnly reported as true, whereas the former is nothing more than the work of the lively imagination of ancient poets, who, ignorant of the simplest effects of nature, endeavoured to explain them according to their mythological tenets.

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THE GURNARD.

THIS genus is divided into several species. The red Gurnard, the fins and body of which are of a bright red colour, is not unfrequent on the southern shores of England; it is often seen exposed at the fish markets of the maritime towns of Dorset and Devonshire, as well as in Cornwall. It is a good tasted fish, when properly stuffed and baked. The flavour of the flesh is similar to that of the haddock.

The Lucerna is caught in the Mediterranean sea, and is of a very curious shape; her fins about the gills are so large and spread so much like a fan on each side that they appear somewhat like wings. The tail is bifid, and the scales very small. The flesh is esteemed among the Italians, and the Lucerna is often seen at the fish markets of Naples, Venice, and other towns on the sea shores. This fish resembles so much the Father-lasher and the Gurnard, that we did not think necessary to give an engraving of it; our principal object being throughout to render the book more interesting than expensive. FISHES.

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The Poggeis a curious fish in appearance and shape; his fins, the pectoral ones particularly, are long and spread like those of the Lucerna and Gurnard before described.

When any man of sense considers the curious attire which this fish and all of the same species have been surrounded with by nature, how can he withhold his admiration of that unlimited intelligence who, at one word called out all shapes, all forms, and clothed animated matter with them. This astonishing variety puzzles the mind at the same time; as we cannot guess to what end it is directed,—can proud man suppose that it was for the purpose of pleasing his eyes? No, the ultimate object of Nature is concealed from us; and we remain as ignorant of the tendency and purpose of the creature as we are of the intermediate links, in the great chain, between the Creator and the creatures.



THE JOHN DOREE.

It would be an inexcusable neglect to pass this fish unnoticed, not on account of its disputing with the haddock the honour of having been pressed by

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the fingers of the apostle, nor of its having been trod upon by the gigantic foot of St. Christopher, when he carried on his shoulders a divine burden across an arm of the sea, but for the excellence of its flesh. It has been for some years in such favour with our epicures, that one of them, a comedian of good repute (Quin), used to say that it was worth one's while to ride down to Plymouth in order to eat John Dorees. The body of this fish presents the shape of a rhomboid, but the sides are much compressed, the mouth is large, and the snout long, composed of several cartilagious plates, which wrap and fold one over another, in order to enable the fish to catch its prey. The colour is a dark green, marked with black spots, with a golden gloss, from whence the name originated. They inhabit the coasts of England, and chiefly the bay of Torbay, whence they are sent to the fish market at London.



THE TORPEDO

Is a most wonderful marine animal, endowed by Providence with an electric power, the nature of FISHES.

which it has not been yet possible to ascertain. It gives a smart shock to the person who handles the fish, similar to that produced by the electrical machine. The body of this fish is nearly circular, and thicker than any of the Ray kind, to which it belongs. The shock imparted by the touch of the cramp-fish, as he is vulgarly called from this circumstance, is often at tended with a sudden sickness at the stomach, a ge neral tremor, a kind of convulsion, and sometimes a total suspension of the faculties of the mind. Such power of self defence has Providence allowed this animal! When ever his enemy approaches him, he emits from his body that benumbing charm which sets the other at rest instantly, and thereby he gets time to escape. But it is not only a sure means of defence, as, through it, the Torpedo benumbs his prey and most easily seizes upon it.



THE ELECTRICAL EEL

HAS been gifted by Providence with the same power as that of the preceding fish. It is about three feet

in length and twelve inches in circumference in the thickest part of the body. The head is broad, flat, and large, the rostrum obtuse and rounded; the eyes are small and of a bluish colour, the back is of a darkish brown, the sides grey, and the belly of a kind of dirty white. It is a native of north America.



THE MINNOW

Is to the whale as the humming bird is to the Condor, and the mouse to the elephant, in their respective bulks. It is a small fish found in gravelly fresh-water streams in this island. The back is olive, the sides and belly either red, blue, or white, being of different colours in different individuals.

The dorsal fin consists of eight rays, the body is slender and about three inches long, the scales are small, even in proportion with the body; the tail bifid, and marked with a dusky spot. It is curious to see their evolutions by sun-shine, in a clear runing stream, and their dartings at the fly that stalks in rapid eddies on the surface of the limpid current. They are the sprats of fresh water.



THE EEL

Is of the nature of harmless serpents; it lives in fresh water rivers, lakes, and ponds. It is a very voracious fish, feeding on worms, the young fry of fish, and even carrion and putrid flesh. The eyes are placed near the end of the nose, the teeth are small and sharp, the under jaw longer than the upper; the fins, chiefly the pectoral ones, rounded at their end. This fish is very tenacious of life, and lives long out of water. During the night it frequently quits its native element to wander in the adjacent meadows for the purpose of feeding on snails and other insects. They even emigrate from their usual ditch or pond, and seek overland for a more comfortable situation. They are viviparous.

The common eel often weighs upwards of twenty pounds; it is found every where, except in the Danube, where it is seldom seen. The flesh of the Eel is tender, soft, and nourishing, and contains many oily and balsamic parts; yet it does not agree with all stomachs, and is often found hard of digestion.



THE FLYING SCORPION.

How admirable is nature! how extensive her power, and how various the forms with which she has surrounded the united elements of animated matter! From the uncouth shape of the wallowing whale, of the unwieldly hippopotamus, or ponderous elephant, to the light and elegant form of the painted moth or fluttering colibri; she seems to have exhausted all ideas, all conceptions, and not to have left a single figure untried. The fish correctly represented above is one of those in the outlines and decorations of which she appears to have indulged her fancy in one of the happiest hours of the creation, and yet the whimsicality of the result has stamped the individual with the discordant appanage of frightful beauty. Armed cap-a-pié, surrounded with spines and thorns, bristling on his back and fins, like an armed phalanx of lance bearers; and decorated on the body with yellow ribbands, interwoven with white fillets; and on the purple fins of his breast, with the milky dots of the pintado; the Scorpion presents a most extraordinary contrast. His eyes, like those of which poets sang when celebrating the Nereids and Nayads, consist in black pupils surrounded with a silver iris radiated with alternate divisions of blue and black compartments. The rays of the dorsal fin are spiny, spotted brown and yellow, conjoined below by a darkbrown membrane, and at liberty above; the ventral fins are violet with white drops, and the tail and anal ones are a sort of tesselated work of blue, black, and white united with the greatest symmetry, and not unlike those ancient fragments of Roman pavements often found in this island.

This variegated fish is found in the rivers of Amboyna and Japan, and even there it is scarce; its flesh is white, firm, and well tasted, like our perch, but it does not grow so large; it is of a very voracious stomach, feeding on the young of other fish, some of which, two inches in length, have been found in its craw. The skin has both the appearance and smoothness of parchment. To the tremendous armour of its back, fins, and tail, this fish owes the name of Scorpion.

The Butterfly Fish is about six or seven inches long, and inhabits the Adriatic sea. In October he is not uncommon at Venice, where he is offered to sale among the great quantity of various fish which the coasts of Italy afford. He has no apparent scales, and is of a faint blue or ash colour; the dorsal fin is elegantly spotted with black, and the flesh is well tasted and tender. This fish bears some resemblance and appearent affinity to the Scorpion, the Gurnard, and Father-Lasher.

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THE TOAD FISH.

THE figure of the animal above has been correctly copied at the foot of Blackfriars Bridge in the month of May, 1812, from a specimen exhibited there for several days by the fishermen, who had caught it below the river; it is about three feet and a half long, the head forming more than the third part of the whole; the mouth is uncommonly large, and armed with several rows of white and sharp teeth, not very regularly set, and seemingly moving in the cartilaginous jaws. The tongue appears fleshy and broad, the pectoral fins widely extended, and placed a little below the eyes; and between them and the mouth a sort of suture in black stitches and in vandyke shape, appears very conspicuous upon the silvery white of the skin in this part The back is armed with several rows of the animal of tubercles; but the most curious peculiarity belonging to this ill-shaped citizen of the deep is that he seems to have received the gift of feet; for the ventral fins are exactly in that shape with divided

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toes, the use of which appears to be that of opening the ooze at the bottom of the sea or the sand on the shores, where this gluttonous fish conceals himself with his jaws wide open, to catch the imprudent flounder or sole, or any others which their giddiness leads to the dangerous abyss. The colour is brownish, and the scales hardly perceptible.

The Sun Fish. Unable to follow the inhabitants of the water down to the grottos that adorn the bottom of the ocean, and where their habits, their food, their pleasures are secreted, man had but little opportunity to study the nature of fishes; he therefore was, upon a transient view, obliged to describe them in haste, and to give them names alluding to their form; as he did to quadrupeds and birds by borrowing from their voice an analogous sound to denominate them. The shape of this fish is round, and surrounded with a fin which answers the purpose of nature, and brings to our mind the idea of the sun, as it is painted, encompassed with rays of light. This fish is also known by the name of Diodon. He appears like the upper part of the body of a very deep fish which had been amputated in the middle. The mouth is small with two broad teeth only in each jaw. When alarmed, he inflates his body to a globular shape of a great size, and is beset with large and sharp spines, which the animal can erect or depress at pleasure; by this manœuvre he defends or secures himself against the attacks of his enemies, and might have been named the hedge hog of the sea, if other fishes had not already obtained the name of Echini. The back of this curious marine animal is of a rich blue colour. He frequents the coasts of both the ancient and new continent, and has been found on the shores of Eng-

land. There are several species of this genus of fish but the difference between them is so inconsiderable that it would not be interesting to our readers to find here a minute description of each kind.



THE TRUMPET FISH

ABIDES in the Mediterranean, and is not more than three inches in length; he has a large snout, long and narrow at the end; the eyes are large, the irides red, and the body is covered with rough cinerous scales. The anterior part of the body has two bony substances like fins, and another situated on the belly. This fish is often found in the ocean, where he seems to be driven by storm, as he is seldom seen there in any other than tempestuous His breathing the water out of his snout weather. with a sounding noise, has occasioned our sailors to call him the *Trumpet*. This species belongs to the Centriscus order, which contains several families. many of them presenting very curious shapes. The Garfish is one of them; see page 287.

The Sea Adder a long, smooth, and slender body, without scales; its colour is green, tinctured with red, the eyes small; it is about the bigness of a goose quill, and no more than three inches long; it has only one fin, and that on the back.



THE TENCH

BELONGS to the elegant order of the cyprinus. It is of a thick short body and seldom exceeds ten or eleven inches in length. The irides are red, the back, dorsal and ventral fins, dusky; the head, sides, and belly of a greenish hue, mixed with gold, and the tail very broad. Although they delight in still water, in the muddy parts of ponds, where secure, as they suppose, from the voracious ramblings and dreadful proscriptions of the tyrant pike, and from the hook of the angler, they live nearly motionless, covered by the flags, reeds, and weeds that shade their place of retirement; this inactive life has enabled some individuals of this species to attain an extraordinary bulk, and tenches have been seen of an astonishing size comparatively with the common length and thickness of the fish. We have read, as a well authenticated fact, that, in the northern part of England, and in a piece of water, which, having been long neglected, was filled with pieces of timber, stones, and rubbish, a great number of

Tenches of good size had been found; and that one, in particular, that seemed to have been shut up in a nook, had not only surpassed in size the common ones, but had also taken the form of the hole in which it had been accidentally confined. The body was in the shape of a half moon, answering in the convexity of its outlines the concavity of the dungeon where this innocent sufferer had been immur-Did the water which the imed for several years. prisoned creature inhaled, carry in itself food enough not only to support, but even over-reach the cravings of nature, and produce superabundance of nourishment? Or did some kindred neighbour bring small insects or other aliment, in pity for the confined sister of the pond; an act of charity which has been often remarked in other individuals of the brute creation? However inaction and contentedness, two qualities which that Tench is supposed to have enjoyed in a great degree, are sufficient to create health and bulk in any animated being.



THE PERCH, OR, PEARCH,

SELDOM grows to any great size, and the largest of which we have any account is said to have weigh-

ed nine pounds. The body is deep, the scales rough, the back arched, and the side lines placed near the back. For beauties of colours, the Perch vies with the gaudiest of the inhabitants of the ponds, lakes, and rivers; the back glows with the deep reflections of the brightest emerald, divided by five broad stripes; the belly imitates the tints of the opal and mother of pearl, and the ruby nuances of the fins complete an assemblage of colours most harmonious and elegant. It is a gregarious fish and is caught in several rivers of this island; the flesh is firm, delicate, and much esteemed. They are generally boiled in wine or vinegar, which adds a considerable solidity and flavour to the flesh.



THE ROACH.

BELONGS also to the cyprinus order, and is remarkable for its numerous progeny. It is a deep yet thin made fish, in shape nearly resembling the bream, but approaching to the carp by the breadth and shape of its scales, which are large and deciduous. The soundness of the flesh is become proverbial, and pleases the taste by a peculiar delicacy of flavour. The belly fins are, like those of the perch, of a bright crimson, and the irides of the eyes sparkle like rubies and granate. The size of the

Roach is commonly between nine and ten inches, but attains sometimes a much greater bulk.



THE CHUB

Is of a coarse nature, and full of bones; it seldom exceeds the weight of five pounds. The body is of an oblong shape nearly round; the head, which is large, and the back, are of a deep dusky green, the sides silvery, and the belly white; the pectoral fins are of a pale yellow, the ventral and anal ones red; and the tail brown, tinged with blue at its extremity and slightly forked. This fish frequents the deep holes of rivers, but in the summer season, when the sun shoots his golden darts through the pellucidity of the crystal-like waters, to the smooth and resplendent pebbles that pave the bed of the stream, it ascends to the surface and lies quiet under the cooling shade of some trees that spread their foliage on the verdant banks; but yet, though it seems to indulge itself in slumbers, the fear of danger, that innate sense of self-preservation, one of the first laws of Nature, keeps the creature awake, and at the least alarm it dives with rapidity to the bottom. It lives on all sorts of insects; in March and April the Chub is to be caught with large red worms; in June and July with flies, snails and cherries; but in August and September the proper bait is good cheese

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pounded in a mortar, with some saffron and a little butter. Some make a paste of cheese and Venice turpentine for the Chub in winter, at which season this fish is much better than at any other, the bones are less troublesome, being more easily separated from the flesh in this season, and the flesh more firm and better tasted: the roe is also well flavoured in general. If the angler keeps his bait at the bottom in cold weather, and near the surface in the hot season, the fish is sure to bite soon, and will afford a much pleasing sport.



SEA UNICORN, OR NARVAL.

A CETACEOUS fish caught in the icy sea, and very remarkable for a horn or tooth of seven or eight feet in length, proceeding from the nose; it is white like ivory and curiously wreathed and twisted; the substance is still much heavier than ivory or any sort of bone, and seems to consist of a sort of calcareous matter: it is perforated to a great height towards the tapering end, and has often

been set with an elegant head and turned into a walking stick. This horn, which is the offensive weapon of this creature, must be tremendous in its violent thrusts, when, enraged with revenge, or stimulated by the still stronger power of love, the fish darts through the yielding waves, wielding his spear with ease, rapidity, and strength, and goring the breasts or sides of his rivals, or enemies with his irresistible lance. The skin of this fish is brown, spotted with browner speckles; it is smooth like that of an eel. The body is round and altogether in the shape of an egg. It is worthy of remark that the way in which this fish rids itself of the remains after digestion has not yet been found out. It has a semicircular hole on the head, communicating with the roof of the mouth, like other of the same genus ; but it is clear that the purpose of it is for spouting water. Perhaps, unlike the leech, this creature perspires in a peculiar manner what others void in the form of excrements. The ways of Providence are so extensive, and human sight so confined, that ignorance seems to be the fated attribute of man.

The Sea Fox, a large fish of the squalus kind, having a tail longer than the body, from whence it has received its common name. The body is nine or ten feet long and about fourteen inches in breadth at the widest parts; the skin is smooth and destitute of scales, the eyes large and of a globular figure, the back ash-colour, and the belly white; it is a native of the Mediterranean sea. Truth will laugh at several stories which have been related of this fish; as that of the dam, when in danger, swallowing her young; that of his having a scent resembling the

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obnoxious smell of the fox, and other ridiculous assertions, which cannot but lead astray the mind of the young observer of Nature.



THE GARFISH,

OF which the figure above is an exact representation, is of a most extraordinary form. The body is not unlike that of a mackerel for the shape and colour, but the nose or upper jaw, is protracted out in a kind of lance, nearly as long, in itself, as the rest of the body. It is a vulgar error that this fish precedes and leads the phalanxes of mackerels through the regions of the deep, and, as a faithful and well-informed pilot, traces to them the way, points out the dangers, and conducts them to their destination; since it is much doubted whether mackerels travel at all, and well ascertained that the habits of this fish are entirely different from those of the mackerel. Besides as the first belongs to the genus scomber, and the other to the centriscus species and the trumpet-fish family, they cannot have any affinity. A curious singularity is, that the bones of this creature are of a bright green colour; the flesh is not so firm nor of so good a flavour as that of the mackerel, but yet the fish sells well whenever it comes to market.

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DESCRIPTION OF SHELL-FISHES.



THE TORTOISE

Is a distinct genus of animals, of the class of amphibious, and of the reptile order. It is a quadruped, but with these two essential distinctions, that it is covered with a kind of strong arched crust or shell, and that it is oviparous. They are found of all sizes and dimensions, from one to five feet in length. It has a small head, four feet, and a tail, which the animal gathers within the shell in such a way, that the top part and the under one meet together, and so closely that the greatest strength cannot separate them. The eye is destitute of an upper lid, the under one serving to defend that organ. The upper shell, made up of eighteen compartments, is convex, and so strongly combined that a loaded cart can pass over it without injuring the creature inside; in winter they retireto some cavern under ground, which they line with moss, grass, and leaves, and where they pass in safe and solitary retirement the whole of the brumal season. The Tortoise is very tenacious of life, and one has been known to live, or however to shew signs of life, for the space of four and twenty days after the head had been severed from the body. It is no less remarkable for its longevity, as it is ascertained that one lived upwards of one hundred and twenty years in the garden of Lambeth Palace.

The Tortoise shell which is produced by this animal, as well as by the hawk's-bill turtle, is made use of in several articles of useful and ornamental utensils, and when of a good colour sells to a considerable price. It is often alluded to in poetry, as it is reported that Mercury, the inventor of the lyre, made it at first out of the shell of a Tortoise, as we see it carved in ancient bas reliefs, or on cameos.



THE SEA-TORTOISE, OR TURTLE,

Is reckoned a very delicate food, especially the green, and the logger head. Some of them are so

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large that they weigh near four hundred pounds, and some eight hundred pounds. They generally ascend from the sea, and crawl on the beach, either for food or for laying their eggs, (which are as big sometimes as those of a common hen), to the number of fifty or sixty at a time. The young ones, as soon as they are hatched, crawl down to their natural element. They are caught when sleeping on land, by turning them on their backs; for as they cannot turn themselves over again, all means of escape is denied them. The lean of the green Turtle tastes and looks like veal, without any fishy flavour. The fat is as green as grass and very sweet. They are common in Jamaica and in most of the islands of the East and West Indies.



THE OYSTER

HAS long been in favour with man for the delicacy of its food; the Lac Lucrin used to be as much in renown among the Romans for the choicest kind of Oysters, as the Cancale shores with the French, and the Colchester beds with us. It is a bivalve shell fish, and grows sometimes to a very large size; in the East Indies they sometimes measure near

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two feet in diameter. Fixed to a rock from the moment it has been spawned, the Oyster is deprived of loco-motion, and by that circumstance, as well as by the stony nature of its heavy shell, unites the confines of the animal kingdom to those of the minerals. It is supposed (and here with some appearance of reason), that the Oyster possesses the facul ties of both sexes, as the hermaphrodite flowers; but this is a mere analogical opinion, which remains still ungrounded and therefore uncertain.---A modern author has jocosely asked,

> "_____ but who can tell What thoughts amuse the Oyster in her shell; Whilst, lonely pendent from weed-fringed rocks, Unmov'd she dares the storm's tremendous shocks; Or when, the tide, fast ebbing from her bed, She views the sun-beams in her pearly shed? Does fear, with throbbings, shake her panting heart ? Does love at her e'er shoot th' unerring dart ? Or joyless, void of sense, and free from strife, Leads she a doubtful, dull, unconscious life? Z.

It is probable that, with all his ingenuity, man will never be able to solve this natural problem. However several modern naturalists are of opinion that through the whole of the creation, whatever enjoys sensitive life, is by Providence, proportionally endowed with the faculty of thinking, and, as far as this opinion may enlarge our mind, and increase our sense of admiration for the Creator, it is not to be rejected without consideration; but does the vine feel the pruning knife of the gardener, or the rose shrink at the fingers that nip it off from the stalk? Who can tell? All these are involved in an unravelable mystery.

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THE LOBSTER

HAS a cylindric body, the antennæ long, and a broad tail. This fish, for it is one of the crustaceous kind, begins the class of water insects. His large claws enable him to seize on his prey and to fix himself at the small prominencies of rocks in the sea, to resist the motion of the waves, and to fight his enemies. His tail is a fulcrum against which the Lobster makes a point when he wants to spring off. His procession is preposterous, as well as all of the crab kind. Besides his claws, he has four small legs on each side to assist him in his awkward movements. Under the tail the hen Lobster preserves her eggs till they are hatched. The flesh of the Lobster is sound and wholesome, and the tail and claws yield a most agreeable flavour. Although it has long been supposed that the Lobster was either male or female, some modern naturalists pretend that each individual possesses both sexes; a peculiarity belonging to this kind of animal, as well as to all the crustaceous fish, is that (bearing similarity in that respect to the subjects of the vegetable

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kingdom), if they lose a limb it is soon replaced by another of the same form. It is the water locust.



THE CRAY FISH

Is the lobster of fresh water, and is reckoned a very strengthening food. They are caught in shallow brooks, hid under large stones, out of which they crawl backwards, to seek for their prey, which consists of small insects; they are easily baited with liver or flesh, to which they nibble most greedily.



THE CRAB

Is an amphibious animal; living on land and in water. The common Crab obtains various sizes, u 3

some weighing several pounds and others not one ounce, all of different species. They move not forward, but on one side as it suits them best. They have no tail, which is a considerable and essential difference between them and the lobsters, prawns, shrimps, and the cray fish.

The Violet Crab of the Caribbees Islands is most singular for his habits; and their annual and regular caravans descending in order from the mountains, their natural abode, down to the sea shores, in order to bring forth their young, excites our curiosity but may be easily accounted for. This marine insect seems to have deserted for some unknown causes, the oozy bottom of the deep, and preferred the verdant summit of grassy mountains; yet unable to bring up his offspring on dry land, he comes back to what seems to have been his original destination, to the salt water, and after having performed the duty imposed upon him by nature, returns by choice to those haunts where he perhaps finds himself more secure from the voracity of the seatyrants. They form, in their stately procession, a body of fifty paces broad, wheeling along, three miles in depth. This battalion moves slowly but with regularity and uniformity, either when they descend or ascend the hills. They abound in Jamaica, where they are accounted as a great delicacy by the natives, and are common in adjacent islands.

The Crab has been admitted to the honour of being one of the twelve signs of the Zodiac, under the name of *Cancer*, in allusion to the apparent retrograde motion of the sun from the highest degree of its northern declension.



THE SOLDIER CRAB

Is a curious animal, and ought to be recorded here for the wonderful singularities of his habits. This animal, when divested of its shell, is somewhat like a lobster; it is about four inches in length, has no shell on the hinder part, but is covered down to the tail with a rough skin; it is armed with strong hard nippers. This Crab has not been provided, by nature with a shell, and is obliged to seek for one which can fit him, and has been deserted by its legitimate tenant; but as this covering does not proceed from himself, and does not grow of course proportionally with him, he is forced out of it by his increasing bigness, and finds himself under the necessity of looking out for a new one; it is curious to see him when in want of a new house, how he crawls from one empty shell to another, examining and trying his new habitation; and sometimes when two competitors happen to eye the same premises, a great contest arises, and of course the strongest gets the manor. They are very common on several coasts of England, and we had a fine opportunity of examining them at Exmouth, in Devonshire; where U 4
among the rocks and pebbles on the shore, a great quantity of these curious fishes are to be found. They live upon small vegetables, and smaller insects, which they find in the puddles which the tide leaves behind.



THE SHRIMP AND PRAWN.

THE first is a well known small crustaceous fish of the lobster kind. It has long slender feelers, between which are two projecting laminæ. It has three pair of legs and five fins, but no claws. All the sandy shores of Great Britain breed this insect and its flavour is very delicate.

THE PRAWN

Is not unlike the shrimp but exceeds it in size, being at least ten times as big, and in colour, having, when boiled, the most beautiful pink tint all over its body. The flesh is better tasted than that of the shrimp, and both seem to be the first attempts which nature made when she meditated the formation of the lobster.



THE MUSCLE AND ADMIRAL.

LIKE the oyster, the Muscle inhabits a bivalve shell, to which he adheres, as others of that species, by a strong cartilaginous tye. His name means in Latin a small rat, from the shape of the fish. The shells of several muscles are beautiful; some of them, chiefly those of the chama family, decorated with rays of red or yellow, diverging from the point where the shells unite and spreading themselves to the edges. The muscle possesses the property of locomotion, which he performs with that member called the tongue of the muscle; by this tongue he gets hold of the rock, and by moving it along, is enabled to change his situation; he has also the property of emitting some kind of threads, which fixing at the sides of the shell upon the ground, answer the purpose of cables to keep the body of the fish steady. The chama, which is a sort of muscle, was used by the ancients to engrave various figures upon, from which circumstance, those small bass-reliefs, so valued now, have obtained among the Italians and collectors the name of Cameos.

THE ADMIRAL,

A SHELL of the class of the Voluta, is called so for its uncommon beauty. The inhabitant of it is a slug, or snail, as most of those of the univalve kind. If Nature has taken a delight in painting the wings of birds, the skins of quadrupeds and the scales of fishes, she seems not to have been less pleased in pencilling the shells of these inhabitants of the deep. The variety, brightness, and versatility of the colouring, has been for a long space of time the deserving object of man's admiration, and in several places we cannot help being astonished at the richness which a cabinet of well-selected shells presents to the eye.

The manner of preparing the shells and of bringing out their beautiful colours is simple, and yet requires great attention. The crust must be rubbed gently with spirit of salt, and soon washed with clear water; this process will cleanse the shell and display the wonderful brilliancy which was hid under the first coat.



THE SNIPE AND WILK.

THE Snipe, a shell fish, so called on account of the curious length of a certain prominency coming out

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of the shell. It is surrounded with blunt prickles, and the colour of the whole is elegantly variegated.

THE WILK.

BELONGS to the family of the *Turbines*. It is the shell which the soldier crab generally adopts for his temporary abode; having not been furnished by Nature with those calcareous juices which produce a shell.



THE LIMPET

Is an univalve shell-fish, the shape of which is pyramidal; it adheres to the rock with such strength that no human force can make him leave his hold, unless it is crushed by a strong blow. The apex of the shell is sometimes sharp, sometimes obtuse, and often surrounded with points and sharp prickles. When cleaned by proper means the shell is found sometimes of a beautiful purple tint, sometimes emits rays of reflected light of an uncommon brilliancy. They are found on the rocks, which are incessantly beaten by the surges and breakers on the sea shores of almost every country in the world. The rays of variegated colours which issue from their centre-tops,

SOO A DESCRIPTION OF FISHES.

are sometimes found of the most vivid colours, and the animal that lives under this magnificent roof and versicolor canopy, is a kind of slug as disagreeable to the eye for his shape, as its flesh is for its taste insipid to the palate. It is not by any glutinous liquid, as it has been asserted, that this fish adheres so strongly to the rock but by the simple process of sucking the air between its body and the ground, to which it affixes itself.

The variety which Providence has thrown into the sum of animated beings is so wonderfully great, that Naturalists have reckoned thirty-six species of this genus of shell-fish; the difference arises merely out of the diversity of forms and colours.



SERPENTS.

" Their flaming crests above the waves they show; Their bellies seem to burn the seas below; Their speckled tails advance to steer their course, And on the sounding shore the flying billows force. And now the strand, and now the plain they held; Their ardent eyes with bloody streaks were fill'd, Their nimble tongues they brandish'd as they came, And lick'd their hissing jaws that sputter'd flame." DRYDEN'S VIRGIL, Æ. İK

THESE creatures constitute, by themselves a distinct class of Amphibia. The general character

is that they breathe, like quadrupeds, through the mouth by means of lungs; and are, like fishes, destitute of feet. They have neither fins like eels, or feet like the lizards, yet they resemble the former by the pliancy of their annulous bodies, and the latter by the texture of their skins, which are often covered with scales, and by their pointed tails. In their motions they look like worms, but have lungs which the worms have not. All Serpents are formidable to man, and it is the form of this animal which the Arch-fiend borrowed to seduce the woman. It is since an emblem of flattery and insinuation. Milton describes it most beautifully when he says:

> " ______ on his rear, Circular base of rising folds, that tower'd Fold above fold, a surprising maze, his head Crested aloft and carbuncle his eyes. With burnish'd neck of verdant gold, erect Amidst his circling spires, that on the grass Floted redundant; pleasing was his shape And lovely . . . Oft he bow'd His turret crest, and sleek enamell'd neck, Fawning, and lick'd the ground whereon she trod." PARADISE LOST, B. ix,

The mouth of the Serpent is generally very wide, but the eyes are comparatively small; they have no exterior nostrils nor ears, and yet some species are endowed with a very sagacious scent, and with conspicuous auditory ducts. A peculiarity which unites the serpent tribe with some kind of insects, is that they undergo a sort of metamorphosis in changing their skins, which circumstance happens twice a year. This painful operation is performed in this way: the old skin parts near the head, and the creature creeps from it by an undulatory kind of mo-

SERPENTS.

tion, arrayed in a new skin of a more vivid beauty. The anatomical structure of the body is admirable, and it seems as if nature had taken a special delight not only in framing, but also in colouring this animal, and yet what a lesson to man, if he consider that all these exterior charms cover and disguise the mortal poison which this most dangerous creature contains in its teeth. This contrast we may observe nearly all through the whole creation. The bee produces the sweetest food by collecting honey, and yet possesses a venomous sting. The rose exhales the finest perfume and its colour and beauty proclaim it the queen of the flowers, and yet it is surrounded with thorns.

The ancients paid great honours to serpents, and sometimes called them good genii; they abided by the sepulchres and burying places, and were addressed like the tutelary divinities of these places. We read in the fifth book of the Æneis, that, when Æneas sacrificed to his father's ghost, a serpent of this kind made his appearance.

and from the tomb began to glide
His hugy bulk on sev'n high volumes roll'd,
Blue was his breadth of back and streak'd with scaly gold.
Thus riding on his curls he seem'd to pass
A rolling fire along and singe the grass,
More various colours through his body run
Than Iris when her bow imbibes the sun.
Between the rising altars and around,
The sacred monster shot along the ground ;
With harmless play among the bowls he pass'd
And with his lolling tongue assay'd the taste :
Thus fed with holy food, the wond'rous guest
Withing the hollow tomb, retir'd to rest.

It is impossible to guess at the origin of this curious and, most likely, emblematic, superstition.

This reptile was extolled to the honour of being an emblem of prudence, and even of eternity, and is often represented for that purpose biting his tail and forming a circle, in Egyptian hieroglyphics. They are very numerous in Africa, and Lucan in his Pharsalia gives us a most extraordinary account of the different species, which he seems to have drawn partly from ancient Greek authors, partly from actual traditions. He says,

> "Why plagues like these infect the Libyan air; Why deaths unknown, in various shapes appear; Why fruitful to destroy the cursed land, Is temper'd thus by Nature's secret hand; Dark and obscure, the hidden cause remains, And still deludes the vain enquirer's pains.

> > ROWE'S LUCAN.

Unable to find out the natural cause which has peopled the African deserts with reptiles both so numerous and so poisonous, the poet refers their origin to a well-known fable, and thus leaves his reader pleased but not enlightened.

Serpents differ very much in size. The Liboya of Surinam grows to the length of thirty-seven feet. In the Isle of Java we are told of Serpents measuring fifty feet in length, and in the British museum there is a skin of one thirty-two feet long. Pliny the elder assures us that he saw the skin of that enormous Serpent which opposed the passage of Regulus and his army, on the banks of the Bagrada; it measured a hundred and twenty feet.

Many Indians, and some jugglers of the south of France, tame these creatures, and teach them to dance, an art very well known and highly esteemed among the ancients, who took it for a sort of sor-

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cery. David mentions it in the 58th of his Psalms, where he says: "They are like the deaf Adder that stoppeth her ear: which will not harken to the voice of charmers, charming ever so wisely."



THE VIPER

Is a venomous animal, a species of serpent that seldom exceeds the length of two or three feet; it is of a dirty yellow colour with black spots, and the belly entirely black; the head is nearly figured in the shape of a lozenge. Unlike all others of the serpentkind, the Viper is viviparous, yet it is said, and ascertained, that the eggs are produced and hatched in the body of the mother. This creature feeds on frogs, toads, lizards, and animals of the kind; it is even asserted that they catch mice and small birds, a food of which they seem very fond. The teeth of the Viper are surrounded with a small bladder containing the poison. There is no doubt but this poison which appears to have been infused in the jaws of the Viper and other serpents, by Providence, as a means of revenge upon their enemies, is so harmless to the animal himself that when swallowed by him it only serves to accelerate his digestion;

and indeed if the venom was hurtful to the Viper when he swallows it, how could he masticate frogs and mice without breaking the baneful bladder, and be injured by the poisonous liquor? The Viper is very patient of hunger, and may be kept more than six months without food. When in confinement, the Viper requires, or tastes, no food, and the sharpness of its poison decreases in proportion.

It is a native of many parts of this island, chiefly in the dry and chalky counties. The flesh of the Viper is often used for broth, which in many cases is a very wholesome medicine, particularly to restore debilitated constitutions. Here we cannot help admiring the wisdom of Providence, that knows how to extract out of a salubrious, healing substance, so keen, so mortal a venom as that of the Viper. The best remedy against the bite, is to suck the wound, which may be done without danger, and after that to rub it with sweet oil and poultice it with bread and milk.



THE HORNED VIPER.

THIS particular kind of Asp, has two small horns on its head; it is harmless and nearly do-

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mesticated in Egypt, where it enters the houses when the family are at table, picks up the crumbs from the floor and retires without doing any injury to the company. This is very likely the snake which gave origin to the fable of Æsculapius having appeared under that form in a small island of the Tyber.



THE SNAKE

Is the largest of all English serpents, sometimes exceeding four feet in length. The colour of the body is variegated with yellow, green, white, and regular spots of brown and black. They seem to enjoy themselves when basking in the sun, at the foot of an old wall, as if consciously exposing the beauty of their versicolor scales to the rays of light. This animal is perfectly innoxious, although many reports have been circulated and believed to the contrary; it feeds on frogs, worms, mice, insects, and others, and passes the greatest part of the winter in a state of torpidity. The Snake of warmer countries is not so harmless as that of this island, as will be easily perceived by what will follow.

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THE RATTLE-SNAKE

Is a native of the new world; it grows to five, and sometimes to six feet in length, and is nearly as thick as a man's leg; it is not unlike the Viper, having a large head and small neck, and inflicts a most dangerous wound. Over each eye is a large pendulous scale, the use of which has not yet been ascertained; the body is scaly and hard, variegated with several different colours. The principal characteristic of this justly-dreaded serpent, is the rattle, a kind of instrument resembling the curb chain of a bridle, and affixed at the extremity of the tail; it is formed of thin, hard, hollow bones, linked together and rattling at the least motion. When disturbed this creature shakes this rattle with a considerable noise and rapidity, striking terror into all other animals which are afraid of the destructive venom which this serpent communicates to the wounded limb with his bite. The wound he inflicts, through the uncommon sharpness and rapid fluency of his poison, does generally in the course of six or

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seven hours terminate the torment and life of the unhappy victim.

A snake of this kind exhibited in London, at a menagery of foreign beasts, in the year 1810, wounded a carpenter's hand, who was repairing his cage, and seeking for his ruler; the man suffered the most excruciating pain, and his life could not be saved, although medical assistance was immediately applied, and all efforts were made to prevent the dire effect of the poison. The proprietor was condemned to pay a deodand for the guilt of the serpent.



THE ASP

Whose name is so intimately connected with the memory of the Queen of Egypt, and her spontaneous and melancholy death, is found in Africa; its bite always occasions a speedy but gentle death. This animal is from three to six feet in length; it has two teeth longer than the rest through which the venom flows. The body is covered with small round scales, but the difficulty of procuring a sight of this animal is so great that it is almost impossible to give an exact description of its colour and habits.

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THE AMPHISBÆNA,

A serpent of a harmless nature, being destitute of those fangs which prepare the venom in similar animals. It moves backwards and forwards with equal facility, and each extremity of his body is of an equal thickness, which has given occasion to the story that this animal has too heads. Lucan in his poem gives us a poetical description of this and several other serpents and snakes found in Lybia, in which elegance of language, beauty of versification, and liveliness of fancy, have perhaps a greater claim than truth to the admiration of the reader.

> "With hissings fierce, dire Amphisbænas rear Their double heads, and rouse the soldier's fear. Eager he flies: more eager they pursue; On ev'ry side their onset quick renew; With equal swiftness face or shun the prey; And follow fast when thought to run away. Thus on the looms the busy shuttles glide, Alternate fly, and shoot at either side.

This serpent is covered with a hard skin of an earthy colour, and has been found also in South America.

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A

DESCRIPTION OF REPTILES.



THE LEECH

Is about three inches in length, and in its exterior form somewhat resembles the worm; it has a small head, a black skin edged with a yellow line on each The back is spotted with yellow, and the side. belly is of a reddish cast, with some faint yellow spots. The mouth of the Leech is of a most curious construction; there is there no jaws, tongue, or teeth, it is a kind of soft snout, applying close to the place it sets itself to, drawing up as through a syphon, the blood which this small animal feeds upon. The progressive movement of the Leech is effected by sticking, through suction, its mouth to a certain spot, then bringing its tail, which has the property of sticking also, to any place, ever so smooth, and then advancing its head farther on, quick followed by the tail, and so on. The common Leech is very frequent in brooks and rivulets; and often stings the legs of boys and men when bathing.

The blood which the Leech sucks out of the wound it makes, remains long in the body, congealed and blackened, and at last evaporates by the pores of the skin. When they are kept in a bottle full of water it is easily perceived that their ejections are performed by perspiration, and leave the skin as a kind of film bearing in some sort the shape of the body. They are also, when kept in a glass bottle with water, a good barometer, as they always come up to the neck of the bottle when rainy weather is approaching, remain in the bottom in dry weather, and move themselves anxiously up and down when the weather is stormy. Horse Leeches are larger than the common ones, more voracious, and narrower at each extremity. The use of the Leech is well known in medicine, as by its means the blood is extracted from the sickly parts with more ease, safety, and success than by the lancet.



THE SNAIL

Is furnished with four small horns; two of which are smaller than the others; at the end of those horns which the animal pushes out or draws back, like telescopes, as most convenient to itself, are the eyes, which look like black spots, one upon each of

the horns, and it is probable that the extending or contracting these tubes is in proportion with the size or distance of the object which the animal wishes to The mouth is under the two smaller ones; see. and is armed with eight teeth, to enable him to devour leaves, and other vegetable substances, its ordinary food. The reproduction of the snail is most curious, and, in spite of all observations of naturalists, still enveloped in great obscurity. They are supposed to be reciprocally hermaphrodites; it is said also that they void their excrements by a kind of vent at the side of the neck. The snail carries his shell upon his back, and crawls up the damp walls, leaving a silvery tract behind. This animal is oviparous; we have observed the process of the eggs, which a water snail, kept in a bottle of water, had deposited against the glass; with the help of a magnifying lens, the young Snail was seen in the egg, with its embryo shell on its back; we observed also two in one egg, each of them with the rudiments of the shell.

The Slug is a Snail without shell, and resembles it in all other points, except that the brown skin of the back is rougher and stronger than in the Snail. There are several species of this creeping animal, but they are generally so well known that it would be useless to describe each of them here. They are an emblem of tardiness and slowness; and our immortal Shakespeare introduces the snail very appropriately in his description of the Seven Ages of Man; when he says,

WORMS.

These creatures constitute a class by themselves, under the name of *Vermes*, in the voluminous works of nomenclators. They are generally divided into four orders, which embrace the whole of these innumerable tribes which swarm and pullulate nearly every where. The Worm is distinguished from the caterpillar and maggot, on account of its undergoing no change, and crawls by means of the annular or spiral shape of its body.

The Earth Worm has neither bones, eyes, ears, or brains, as far as we can judge; and breathes, like others, through several punctures on each side of the body. It is reported that, like the polypus, the Earth Worm being cut in two, the head in a few weeks produces a tail, and the tail part generates a head.

The Tania, or Tape-Worm, the shape of which is well expressed by its name, is bred in the inside of animals, and principally in the bowels of the human species. The author of these observations extracted, a few years ago, a Tape-Worm from the body of a ring-dove, to the length of more that three feet, at different times. The bird did not seem to labour under any uneasiness, although it lodged and boarded within itself so voracious and disagreeable a guest. Several other worms feed, like true parasites, within us when living, and when we are dead they devour our remains in the silent gloom of the grave. How then can Ambition, Pride, and Vanity place their throne in a heart, the present and future abode and prey of worms!!



"At once came first whatever creeps the ground, Insect or worm. Those waved their limber fans For wings, and smallest lineaments exact In all the liveries decked, of summer's pride With spots of gold, and purple' azure and green." PARADISE LOST, B. VII.

CATERPILLAR, CHRYSALIS, AND BUTTERFLY.

IT would be a considerable task to enumerate, and a much greater one to describe, every insect which obtains these names. Every bush, every tree, every plant, has its assigned Caterpillar, or an insect nearly of the same nature; and that which lives on the nettle could no more feed upon the elm or mulberry tree, than the ox upon raw flesh, or the wolf upon straw or hay. The Caterpillars are divid-

into two classes, the regular and the irregular ones. The regular have sixteen feet, two near the tail, eight along the body, (four on each side), and six about the forepart of the breast, which they use when they spin, to direct the thread which issues out of their mouths. The irregular ones have any other number, and some times as few as only six. Their metamorphoses have been from the earliest times a subject of admiration for the wisest observers of Nature; and their acquiring wings after passing through a state of apparent insensibility, generally received as an emblem of the immortality of the human soul. We shall give here the description of two or three of these insects, from which the reader will be able to acquire the knowledge of the particular habits of all the different tribes.

The Caterpillar which feeds on the nettle is about an inch in length, covered with bristles, and of a reddish brown colour; after having changed its skin three times when in the shape of a worm, it crawls up to a branching part of the stalk and hanging itself by the hinder part or tail, swells, and bursts in such a curious way, that the Caterpillar's skin drops to the ground and the Chrysalis, or Aurelia, so called from the golden tinges of its body, remains suspended, till after a fortnight of torpor and insensibility, it bursts its skin again, and escapes in the vast plains of the air under the beautiful form of a variegated Butterfly.

The Caterpillar of the apple and pear tree is very remarkable for its bigness, being about three or four inches in length, nearly half an inch broad, and of a beautiful green colour, covered at particular places with tubercles of a shining turquoise-blue colour, each armed with five black bristles; the peculiarity observed in this insect is the manner in which it dis-

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poses its silken tomb, spinning its thread in such a way, that, when it is turned into a chrysalis, no insect can get admittance within; and yet so contrived that when the butterfly is hatched it may, without much trouble, find its way out. The butterfly produced by this caterpillar is very large, measuring five inches in breadth; the wings are decorated with the resemblance of an eye, nearly in the same manner as on the tail of the peacock, and this Moth is called, for this reason, *Phalana Junonia*.

The Silkworm, or Bombix, is a caterpillar of the regular class, so well known that it hardly needs description; it goes through the changes of skin and the torpid state of the aurelia, or chrysalis, like the others, and becomes a butterfly which has very little to boast in point of beauty; but the produce of its silk is the object which man has in view in keeping, tending, and feeding this insect. The cone of the silkworm somewhat resembles a pigeon's egg, the thread is wound about in a very irregular manner, as it appears, but very likely according to some rules which have yet escaped the observations of the keenest naturalists. The whole length of the thread in one cone will sometimes measure three hundred yards, and is so fine, that eight or ten are generally united into one by the manufacturers. These creatures are raised artificially in many of the European countries, being kept in a place built for that purpose, and fed every day with fresh leaves from the mulberry tree; but in Syria, China, Tonquin, and other warm climates, they thrive in a state of Nature, without the assistance of man.

The Moth, or Phalæna, is the produce of the Caterpillar as well as the butterfly, and differs in the shape of the wings, which are straight, cutting a right angle with the body, whereas the other's wings are slightly bowed. The butterfly of the pear-tree, and of the Silkworm are real Phalænæ, and fly generally at dusk and in the night; the caterpillar of the nettle produces not a moth but a real butterfly; the wings are elegantly variegated with black, brown, red, white, and blue. The cabbage feeds a Caterpillar, the butterfly of which is well known by its Some of those insects that beautiful whiteness. float and flutter about us in the fields and meadows, are a great ornament to the plants upon which they set to sip the nectar of their chalices with their trunks, and sometimes can hardly be distinguished from the flowers which they plunder.

The Ephemera, or Day-Fly, is so called on account of the shortness of its life; it is a small moth originating from a Caterpillar feeding on the banks of rivers; after having remained several months in the creeping state, it bursts at four o'clock into the phalæna form, and dies soon after.

The butterfly, or moth, has four wings, two larger and two smaller ones, attached to the corselet; and six legs holding also to the same part of the body. The head is adorned with two or four antennæ, the form of which has often been a characteristic to distinguish the species; the eyes are large and beautiful, being composed of an immense number of small hexagon pieces, and the proboscis is spirally turned up to the mouth; the belly or hinder part is composed of rings and covered with hairs. The eggs of most part of these insects are laid in summer or autumn, and pass the winter season in that state.

It is curious to see the eddies which these small

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insects, and indeed all of the Moth kind, describe around a light in the evening, and almost impossible to guess what attracts them so powerfully to their own ruin. A modern author says:

> "Why flutter so? why, foolish, run to death Inevitable, in the perfid blaze Of yonder watchful lamp? does love prompt thee Under these lofty walls to rove, and seek, Through evening shades, thy carbuncle-ey'd mate, As learned sages tell? or by the light Suddenly dazzled, hast thou lost thy way To groves and meadows, where to lead, unseen, A safer life? or does thy little mind, With greater projects swoln, dare to explore This burning Ætna's mysteries? so did Empedocles, and in the flames expired.



THE LOUSE AND FLEA.

THE Louse is an insect of the order of the aptera, that is to say, those that have no wings. Several animals are pestred by that or similar kind of vermin, and every de is different according to the substance upon which it feeds. The human Louse deserves a particula notice. Its skin is very transparent so that when eximined by a powerful microscope you can see its blod and intestines in motion. The body is divided into three parts; the head, the corselet, and the belly. In the head are situated two black eyes, and over each a horn or antenna, composed of five joins, and surrounded with hairs; and

instead of a mouth, this teazing insect is armed with an instrument inclosing a piercer and a sucker, which it thrusts into the skin and through which it draws the blood and humours that constitute its principal support; this piercer is supposed to be seven hundred times smaller than a common hair! and is capable of being retracted or protracted. The breast is also transparent, and in it are situated the six legs, consisting of five joints each, and covered with a skin resembling shagreen. At the extremity of each foot are two claws of unequal size, covered with hairs; the skin of the belly is also like shagreen, and at the extremity are small prominencies as may be observed in several other insec.s. By the help of the microscope the whole process of its sucking the blood and humours is plainly seen, as well as the passing of them through the guts. They lay about an hundred eggs in twelve days and when the body upon which they feed is labouring under some disease, the fecundity of this insect is most astonishing. These eggs are naturaly hatched in six days, so that in the space of two nonths a female might have five thousand offsprings. This peculiar disease was more frequent amorgst the ancients than it is with us, which was owing to their using hardly any linen cloth next to neir skin. Their woollen toga, mantles, and othercoverings, which were but now and then sent to the scourer, harboured the vermin much more snig than our linen garments. Pherecydes, a philosopper of Seyros, who had the honour of being the mastr of Pythagoras, declared, in a letter which he wrot a few days before his death, " that he was covered vith lice," and did not seem to show any reluctanceat mentioning it.

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The best preventative against this pest is cleanliness.

What ought to astonish us is, that a child born in a clean and respectable house, distant from any place where this vermin may abide, will, however, be plagued with it, till attention and maternal care have destroyed the whole. Do the eggs fly in the air? are they so small as to be wafted from countries to • countries, and thrive when they alight on a fruitful ground? It is a consideration left to naturalists, and which might involve us in too long a discussion to find place here.

The Mite is a well known insect, which preys upon fresh and putrid substances, particularly where a sort of fermentation is excited by heat. It is a crustaceous animal, and, like the common louse, almost transparent. It has a sharp snout, two small eyes, and six legs. It is curious to see how their busy tribes work, in common, to hew down huge rocks and mountains of old cheese, in order to get at that particular spot where they can more comfortably feed themselves and deposit their eggs. which are so minute that, as it has been computed, a pigeon's egg exceeds the dimension of one of them thirty millions of times That life, instinct, and perpetuity of reproduction should exist in so small a being, is most astonishing, and yet the Mite is not the smallest of living creatures. The microscope has opened the eye of man upon a world of innumerable animalcules, which people the three inhabitable elements of Nature. Myriads of them dance with the motes in the sun-beams, they swim by millions in a dew-drop, brew and prepare the glebe for vegetation, and ebb and flow with the air of our breath.

These conceal'd By the kind art of forming Heaven, escape The grosser eye of man; for if the worlds, In worlds enclos'd, should on his senses burst, From cates ambrosial and the nectar'd bowl He would, abhorrent, turn; and in dead night, When silence sleeps o'er all, be stunn'd with noise." THOMSON'S SUMMER.

THE FLEA

Is another of those vexing and plaguing little creatures which mankind has been doomed to be tormented with. Less ignoble than the louse and of a livelier nature, it is nevertheless very obnoxious, as, by its leapings, it often escapes the catch of the fingers. It is oviparous, and the egg, which is hardly discernible with the naked eye, yields a small white worm, all beset with hairs; those eggs as well as those of the louse, are generally called nits. The Flea is an active, troublesome, bloodthirsty insect; it has a small head, large eyes, and roundish but compressed body, which is covered with a kind of armour resembling the tortoise-shell in colour and transparency; the plates of which this skin is composed, are also armed with spines or bristles; it has six legs, two of which are much longer than the other, in order to enable the insect to make such wonderous leaps, as to raise the body above two hundred times its diameter. It is observed that in one day the Flea will eat above ten times its own bulk. They suck the blood out of the small arteries and veins next to the skin, which they perforate with an instrument naturally contrived for this purpose, leave a red mark behind, and discharge the blood which they have digested in

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red spots upon our linen. Cleanliness is also the best preventative against Fleas.



THE BUG, ANT, GLOW-WORM, GNAT, AND ANTLION.

THE Bug is a worse insect than the two foregoing, for although it deserves death for its troublesome depredations on our very blood, yet he punishes us for the deed, leaving a strong and nauseous smell. They hide themselves so curiously in bed-posts and wooden partitions of houses, that when they have taken once their abode any where it is next to impossible to destroy completely their race.

The Bug has a large round body, about the eighth of an inch in diameter, a small corselet, and a smaller head. It is provided with the necessary apparatus to suck human blood, and is endowed by Providence with great fecundity: a female lays generally one hundred and fifty eggs. Although this insect does not appear to have wings, yet it is so cunning that it often drops from the ceiling or the tester of the bed, upon the face of the person asleep under it.

They have a most delicate and keen power of smelling, and snuff their prey at a great distance. Fumigations of aromatic plants have some times succeeded in charming them away, but they are so tenacious of their selected abodes that unless you fill up the room with the strong vapour of sulphur, they will not depart, or if they do, will soon return. Leaves and branches of rue strewed on the bed will also keep them aloof for some time.

THE ANT, PISMIRE, OR EMMET,

Is a well known insect in our country as well as in the rest of the world. They have no wings, but assume them when nature calls the males to the duty of wooing the females, from which circumstance they are styled by Entomologists, Hymenoptera. The colour of the ant is in general a dark red or brown, with a fine gloss on the belly. Some ants are furnished with stings for their defence, while others are wholly destitute of them. They are, like the bees, divided into three tribes, male, female, and neutral. The two former are in proper season, furnished with wings, but the latter are destitute of them, and are doomed to all labour and drudgery on the hill. This hill is constructed with a considerable deal of art and labour; it is raised, in general, in the form of a sugar-loaf, and composed of leaves, bits of wood, sand, earth, gum from the trees, which are all united in a solid compact, being perforated with galleries to give access to the numerous cells which it contains. From this hill there are several paths, worn by the constant passings

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and repassings of these creatures, and it is worthy the admiration of the naturalist to consider how busy the whole legion appears, in bringing bits of straw, dead bodies of other insects, or in carrying away their eggs, if some imminent danger threatens the republic. Their organ of smelling must be uncommonly keen, as they can find at a great distance from their habitations any food they are fond of. The scouts give notice to their respective tribes; they come in long procession, for the length of one or two miles, sometimes more, to commit their depredations on a ripe fruit, or on a pot of sweet meats. This insect has been long proposed as an instance of industry and economy.

First crept The parsimonious emmet, provident Of future, in small room large heart inclos'd; Patern of just equality, perhaps, Hereafter; joined in her popular tribes Of commonality. _____.

MILTON'S PARADISE LOST, B. VII.

But it has been lately discovered that the Ant is not so provident as it was supposed, against the dearth of the winter season; for indeed it does not want to hoard up, as it passes the whole of the brumal months in a state of torpidity.

THE GLOW-WORM.

THIS curious insect is a living phenomenon; the light, or phosphoric glow, which he emits from two spots placed at the interior part of his body, has

been long the admiration of all, and the puzzle of many naturalists. This light resembles so much in its colour, and perhaps in its nature, that which shines on putrid fish and rotten wood; that it might be nothing else but the fœces of the animal in a certain state of fermentation : and this appears the more probable, when we consider that the light appears in brightness and intensity in proportion with the worm's being more or less irritated. This insect's body is divided into twelve sections, or annulets, each covered with a scale of a black colour ; the head is flat and depressed, the body measures about an inch, and the worm is found upon banks on the sides of roads, and at the foot of hedges, where this bright lustre shines through the blades of grass, among which the creature creeps very The best observers pretend to have ascerslowly. tained, that the shining worm is the female of the species, and that the male is a small fly which, in its form, does not resemble the glow-worm. If it is so, it must be one of the greatest anomalies in nature, and especially in Entomology, where we have not yet found an union between a winged insect and a worm. The case of the ants, and other hymenoptery, is different; the males and females are the same in the shape of the body, except that the male is furnished with wings, that he may, with less trouble, and in a shorter time, single out and overtake the object of his love, for the grand end of nature. But here we are told that the fly is considerably smaller than the worm, and does not seem to be a kin to it. However, it is a mystery which is not yet unravelled; and if it is a fact, we find it

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very appropriately concealed under the mythological and elegant story of Psyche and Cupid; he, the lover, with wings, she following him with a lamp in her hand. The following lines allude to the fable:

> Thou, living meteor of the dewy bank That tip'st the glossy leaves and emeral'd turf With silver rays; bright Cicindela, tell, Oh! tell me how thy lovely mother once The gentle Psyche, on the eager wings Of fond desire, thro' all the world, in quest Of wanton Cupid, went; and brought from heav'n, This clear, translucid lamp, thou still preserv'st And hold'st up still, like her, in search of love, A faithful beacon to thy wand'ring mate.

THE GNAT

Is an insect which deserves the observation of the naturalist, not only for the most curious conformation of its lancet, which so quickly and powerfully cut our arteries and small veins, and through which it aspires our blood into its body, but also for the several metamorphoses it undergoes before it arrives to its winged state. The Gnat deposits its eggs upon the slimy surface of stagnant water, and sets them upright one against another in the form of a small boat; after floating upon the water for several days in the first warm weather in the spring, as soon as they feel the time of hatching, the worms, which the eggs contain, precipitate themselves to the bottom, and there feed for a fortnight; after which time they undergo another transformation: The result is a curious animal, with a kind of wheel

in incessant motion, through which it imbibes the air, at the surface of the water, to which it is obliged to repair every moment; having passed about ten days in that state, their increase being at an end, they assume another form, and keep longer near the surface, and at last the outer skin bursts, and the winged insect, standing upon the exuviæ he is going to leave behind, smoothes his new-born wings, springs into the air, and begins its depredations. The fecundity of this animal is so remarkable, that in the course of summer they might increase to the amazing number of five or six hundred thousands, if Providence had not ordered that they should become the prey of birds, who by this means prevent their multiplying more than they generally do. The fleam, or lancet, which this insect carries at its mouth, is a microscopic object, and affords thelover of natural wonders great subject for inquiries. Its trunk is in the shape of a scaly sheath, and so fine, that the extremity can scarcely be seen with the assistance of the best microscope; from this trunk it darts four small cutting instruments which inflict these troublesome wounds we feel so keenly, and which are attended with a local swelling, which is produced by a small drop of poison distilling down the lancet, and a drop of caustic liquid emitted at the hinder part of the body ; this swelling occasions the blood to rush to the wound, and the insect is seen to swell and become red, as the blood ascends into its body. These observations have been made with attention, and often repeated, by the Editor of this work. It is curious that this insect, which is called Cousin in vulgar French, as if, sharing some of the human blood, he were consanguineous to

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man, is called here Gnat, from Cognatus, a kin, a cousin.

THE ANT-LION

Is an insect of wonderful properties; it is hatched from an egg laid in soft moving ground, or sand; the insect increases soon in size, and assumes the shape of a small spider, with this difference, that his legs are constructed in such a way that he proceeds backwards; he has six feet, and the belly is in the shape of a heart, armed with small tubercles and bristles. The corselet to which the legs are attached is small, and the head is armed with two horns, not unlike those of the stag beetle, and two very sharp eyes. What must create our utmost admiration is, that this insect, which cannot move but in a retrograde direction, is doomed by nature to feed upon flies and ants, whose quickness and agility would at all times deprive him of his prey; but he has been endowed with an uncommon instinct, attended with stratagem : he makes a kind of funnel-like hole in a soft ground or sand, and placing himself at the bottom of it, waits there with the utmost patience, for several days, till an uncautious ant, or giddy fly, falls in the deathful-pit. Then all his skill is put in requisition; he throws out, by the shaking of his horns, a great quantity of sand upon and above the insect, to prevent its climbing up the steep sides of his hole; and, when the prey appears strong and nimble, he gives a general commotion, the whole construction crumbles down, and the imprudent insect, overwhelmed with the ruins, falls into the horns of the Ant-lion, which open as a pair

of forceps at the bottom. When he has sucked the blood and inside of his prey, he charges it upon his head, and, by a sudden jerk, throws the carcase, at a great distance, away from his abode. After passing several weeks in these watchings and troubles to get his food, he being then grown to a larger size, makes himself a kind of hall out of the sand, which he hangs inside with a shining kind of thread or silk. and remains there till he arrives at his second state, which is a sort of chrysalis, or larva, the appearance of which is between the past and the future form. From this larva, this shapeless, uncouth, ill-looking mummy-like being, arises a slender-waisted, winged insect, which, after fluttering about for a few weeks, performing the duty of nature, and depositing eggs in the sand, resigns its life, conscious, we may suppose, of having done all it was created for, and fulfilled the intention and will of God. The winged insect has a head of a chesnut colour; the body is of a pearly grey, the legs short, the wings long and greyish, and the superior ones marked with four brown spots. It is often seen fluttering about the sides of roads and dry banks exposed to the East, in the months of June and July-continues for a little time, and then entirely disappears. The Editor of this publication has kept for several years, many Ant-lions under his inspection, and can vouch for the truth of what is asserted above. This insect is very rare in this country; but in France and Italy there is not a bank on the sides of a public road, a sandy ridge at the foot of an old wall which does not harbour a great number of these insects.



THE COMMON FLY, SPIDER, AND DEATH WATCH.

THE Fly, although the most numerous, most common, and domesticated, is perhaps the least known of insects as to its general habits. They appear in a troublesome number in the beginning of warmweather, and remain with us, preying on tables, staining our mirrors and ceilings, till September, when they get benumbed, or what the vulgar call blind, and in a few days retire out of sight. Where do they hide themselves; where and what are the maggots which they lay for the next generation; how long do they live; whether they die in the course of winter, and are succeeded by a new set, are still problems in natural history. However it is certain they are oviparous, and carry their eggs, which are of a pink colour, under their belly. They feed upon any thing that comes in their way, and are particularly fond of any kind of sweets.

THE SPIDER.

THERE are several kinds of this insect, all accord ing with the following characters. Eight crooked
legs; eight eyes; the mouth furnished with two claws, and the arms provided with papillæ or nipples for weaving a web. This insect is very rapacious, and therefore endowed by nature with talents of a most curious kind to get its prey. Sagacity, industry, patience, and strength are the principal means through which he procures himself food. In this country spiders are not obnoxious; in warmer climates, the body is sometimes as big as an hen's egg, covered with hairs, and the bite is venemous. The eyes, which are set on the head to a number not exceeding eight, are destitute of lids, but defended with a horney substance, which is supposed to assist the sight. The extremity of each leg is furnished with three crooked claws, the other claw is less, placed higher up the leg, and serves it to adhere to the threads of the web. The web is wonderful in its formation.

" The Spider's touch, how exquisitely fine! Feels at each thread, and lives along the line." POPE'S ESSAY ON MAN.

He sits in the middle, and the least motion, caused by a fly or other insect rushing against it, soon gives him notice, and then he falls upon his prey, sucks the blood, and gets rid of the remains. This hunt is often attended with great detriment to his nets, which he is soon obliged to repair. The female lays generally from nine hundred to a thousand eggs, which are kept in a kind of bag, but the fowls of the air are ordered by Providence to check this tremendous population. The silk, which the

TREBE are several kinds of this insect, all accord

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Spider produces, has not consistence enough to be turned into any useful purpose, though, out of curiosity, gloves and stockings have been woven out of it.

THE DEATH-WATCH

Is not as common people have been supposing it, an insect that foretells our *exit* from this life. It is a small, harmless animal, somewhat like a woodlouse or a beetle; and the ticking noise it makes seems to be produced by the upper lip, and be the call of the male to the female. Many thanks ought to be given to that learned naturalist, Mr. Allen, who has discovered the cause of the noise, and has, thereby, considerably reduced the superstition of which, for centuries, this insect had been the object. His description of the animal will be found in the Philosophical transactions.



THE LOCUST, CRICKET, AND MOLE CRICKET.

THE Locust is a voracious insect well-known in Egypt and all the coast of Barbary, where they are

found in such a quantity, that when they take their flight they obscure the air, and appear like a cloud of several hundred yards square. Wherever they alight, devastation and misery follow them. They ruin all the hopes of the husbandman, and the effect of their unwelcome visits may be felt for several seasons. They are frequently mentioned in the Old Testament. The Locust is not unlike the grasshopper, except that it is of a brown eolour. In many parts of India they are used for food, being kept in earthen pots or pans, and appear like boiled shrimps.

Whether they are of the same kind with those that were the instruments of God's wrath upon the relentless king of Misraim, we are not able to decide. This plague is most beautifully alluded to in the following lines from the first book of Milton's Paradise Lost, where the sublime bard compares the fallen angels to them.

> " ——— to their general's voice they soon obey'd Innumerable. As when the potent rod Of Amram's son, in Egypt's evil day, Wav'd round the coast, up call'd a pitchy cloud Of Locusts, warping on the eastern wind, That o'er the realms of impious Pharaoh, hung Like night, and darken'd all the land of Nile; So numberless were those bad angels seen, Hovering on wings, under the cope of hell, 'Twixt upper, nether, and surrounding fires."

THE MOLE CRICKET

Is the largest of the genus, and is very particularly formed; the two fore feet which are placed very near the head, have the shape of wheels, and re-

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sembling those of the Mole, are contrived to help the insect in borrowing under ground,. It is very obnoxious to gardeners, as it attacks the roots of young plants and causes them soon to rot and die. The female forms a nest of clammy earth in which she deposits her eggs, like the grasshopper, to the number of one hundred and fifty, white, and not bigger than a small pin's head. The nest is carefully closed up on every side, to secure the brood from the incursions of the grubs and other subterraneous depredators. It has no particular voice, and is, as all other insects, composed of a head with two long antennæ, a hard corcelet, and a belly composed of several rings moving upon each other. It undergoes the same changes as do all the insects of the same species.

THE CRICKET.

There are two distinct kinds of these insects, the field crickets and the domestic ones; these generally abide in houses, selecting for their place of retirement the chimneys or backs of ovens; live upon any thing that comes in their way, flour, bread, meat, and especially sugar, of which they seem to be partially fond. The chirping noise, which they make nearly without intermission, is produced by a fine membrane at the base of the wings; they are generally of a brown rusty colour, and the organ of vision appears in them to be very weak and imperfect, as they find their way much better in the dark than when dazzled by the sudden light of a candle.

The field-cricket has the same form, and is of the same species, with the house one, except that it is of a true black colour, with a fine gloss. Its noise is heard at a great distance, and is so similar to that of the grasshopper, that it is difficult to distinguish the one from the other.



THE GRASSHOPPER

Is of a gay green colour, the head somewhat resembling that of a horse; the corselet is armed with a strong buckler; it has four wings and six legs, the hinder ones being much longer than the other, to assist the insect in leaping. As naturalists have found three kinds of stomach in the Grasshopper, they are led to suppose that it chews the cud like ruminating quadrupeds. They are oviparous and propagate to an immense number in the space of the summer season. This well known insect feeds generally on grass; and utters abroad a chirping note, which is supposed to be caused by the fluttering of the wings; if handled roughly the Grasshopper bites very sharply the hand which holds it.

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Lucretius, that great observer and immortal bard of Nature and her works, elegantly says:

Deponunt veteres tunicas æstate Cicadæ.

"When genial heat is conveyed on the wind, When Phœbus darts his burning summer rays, Gay Grasshoppers put off and leave behind The rusty coats they wore in winter days."

He was alluding to the metamorphosis which these insects undergo at the return of the warm season. The Grasshopper is oviparous, and towards the end of autumn the female deposits her eggs in a hole, which she makes in the earth for that purpose, by means of an instrument at her tail, with which she is furnished by the ever-admirable wisdom of Providence. These eggs sometimes amount to near a hundred and fifty; they are about the size of aniseseeds, white, oval, and of a horny substance. The female having thus performed the duty laid by the fundamental law of nature, that of propagating the species, soon languishes and dies, as if the lamp of her life was not to survive the lighting the torch of life for others. In the beginning of May following that living spark, put into motion by the warmth of the returning sun, hatches itself out, and a small white maggot issues out of each egg. The creature passes about twenty days under this humble and creeping form; but soon after, having assumed the shape of larva, whilst all the rudiments of the future Grasshopper are concealed under a thin outward skin, it retires under a thistle or a thorn bush, most likely to be more secure, and there, after a variety of laborious exertions, writhings and palpitations, the temporary covering divides and the sauterelle jumps

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out of her exuviæ, which she leaves under the friendly plant that gave her shelter in time of distress. How comfortable must be the study of nature to the christian observer, who in this metamorphosis, can easily find an exact type of the future life towards which religion turns and directs his most eager hopes, and in which glory and happiness, undisturbed through eternity, will compensate the humility of his station and his hardships in this world.

Virgil, and, before him, Theocritus, in their pastorals, often mention these insects, as in the following line:

" Et cantu querulæ rumpunt arbusta Cicadæ.

And creaking Grashoppers on shrubs complain. DRYDEN'S VIRGIL, GEO. iii. 329.



THE STAG BEETLE, OR LUCANUS,

Is a very curious insect, having upon its head two horns, not unlike the smaller prongs of a lobster's claw, which meet together at the end and pinch severely whatever they can get hold of. They have a largish corselet, armed on the sides with points, and the body contains on the back, the wings which are curiously folded under a case, composed of

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two valves, and the substance of which is transparent, and looks like fine tortoise-shell. They fly in summer evenings in groves and in lime-tree walks, and when caught keep alive for a long time without food. They were of course grubs at first, and then larvæ, before they parvened to the winged state.



THE WASP, BEE, AND LADY COW.

THE Wasp is a very fierce, dangerous, and most rapacious insect; it is much larger than the bee, and furnished with a powerful sting. The belly is striped with yellow and black. They make a curious hive, which they hang at the top of a barn or other place, and sometimes under the bark of a large tree. They live there nearly under the same regulations as the bees do, and the building of the interior of their nests is admirable, being composed of pillars, galleries, and cells, where they educate their young to swarm at the appointed time.

THE BEE

HAS been celebrated by one of the best poets that ever existed, in the fourth book of his Georgics, where the most admirable episode of the shepherd Aristeus gives a curious, but most errone-

ous relation of the origin of the Bee. This insect seems to have been ordered into life by nature to toil and work for the benefit of man. The Bee by her exertions affords us two of the principal necessaries of life, food and light; and although they appear to gather the honey and wax merely for their own comfort, yet the industry of man has turned their labour to his own advantage. The Bee is a small insect of a brown colour, covered on the corselet and belly with hairs; they have four wings and six legs, the thighs are also covered with long bristles, around which they gather the pollen of the anthera of flowers, which they bring back to the hive, and then work it, by a particular manœuvre, into the wax of which the combs are made. Every cell in the comb is an hexagon, this shape being calculated to leave no place unoccupied in the hive; the eggs which are produced by the mothers, or Queen-Bees (for it is surmised that there is sometimes more than one in the hive), are deposited there; when hatched and turned into maggots, they are fed by the neutral or working inmates with honey, till after changing into larvæ, and passing some weeks in that shape, they arrive at the perfection of a Bee; and, as this metamorphosis is atchieved nearly on the same day, after living a few days in the hive, they are either forced to, or naturally prepared for swarming. The swarm generally escapes from the hive before noon, and clouding the air, settle soon on the branch of a tree, or under the eaves of roofs and of walls; from whence they are shaken into an empty hive-basket, which being properly set, they soon adopt, and fill with the produce of their industry. The hive contains between three and

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four thousand bees; they live several years, swarming once in the summer, so that one hive can produce several others in a few years. The whole republic is composed of three kinds of insects, the mother, or queen bee, the drones, and the neutral or working individuals; these do all the drudgery of the community, under exact and strict regulations; the drones attend on the queen, and are perfectly idle; they are the males. The queen is the only female in the whole company, and is generally well attended. She is easily known by her being much larger than the drone and the neutral, who have neither sex.

MILTON'S PARADISE LOST, b. vii.

THE LADY-COW.

It would be curious to find the real etymology of the name of this small insect; it is well known, and often comes into our houses, and sits upon the hands and work of our ladies. It is perfectly harmless, and there are several species of them. They have a very small head, and a corselet, both black. The body and cases of the wings vary according to the different species; yet, in general, they are red, with black spots strewed upon them; some even present nearly a perfect representation of a death-head. It is a family of the numerous tribe of beetles or *Scarabai*, and, like the rest, they undergo the above-mentioned transformations.

[&]quot;______ Swarming next appear'd The female bee, that feeds her husband drone Deliciously, and builds her waxen cells, With honey stor'd :"_____

THE APHIS, OR TREE-LOUSE.

Two fundamental laws of nature rule the whole of animated beings. They have for their ultimate scope the preservation of the species in general, and that of every individual in particular. To the first of these admirable laws we must refer all the trouble which the female, in every kind of birds and insects, takes to fence her eggs, the repositories of her hopes, the caskets which contain the only treasure of her long or ephemerous life; some have been created with the industry of making a nest, the entrance to which is so constructed as to admit nobody but the real owners; some dig a hole in the sand and deposit their eggs there; others have woven bags, which they suspend, as well as they can, out of the sight or reach of the swallows and other depredators, and which contain the eggs; their apparent ingenuity in those necessary precautions are innate in them, constitute part of what is called their instinct, and ought to fill our breasts with awe and admiration. The species of Aphis, the egg and winged insect of which are represented above, lives upon the sweet-briar. In the first state the creature

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resembles the lady-cow, but is of a bright green and smaller. The second metamorphosis does not alter much the pristine form ; the insect seems only heavier and swoln, and the green is changed into grey-the last transmutation produces a curious being, an exact, but much magnified, figure of which has been placed at the head of this article. We have observed these Aphides several times, and the drawing was made after nature. The principal object of admiration we meet with, in the natural history of this creature, is the curious manner in which the female secures her eggs against other insects, crawling in search of food on the branches of the briar. Not unlike the spider, when he begins his web, she fixes on the bark a certain glue contained in her body, and which consolidates immediately at the first contact with the atmospheric air; drawing that sort of thread with her, she proceeds to the distance of about half an inch, and then expels the egg at the end of the thread. Immediately, that elastic substance restores itself from the bent occasioned by the recession of the insect, and rising, assumes the form of the club-headed moss. We took it at first for that minute species of vegetation, and it was not but after we saw a living insect come out of this white knob that we found our mistake. The eggs are hardly perceptible to the naked eye, and set together to the number of ten or twelve, waving at the top of the stalk, and presenting the most perfect appearance of the moss above-mentioned.

The Aphides are sometimes viviparous, and at other times oviparous, according to the season of the year. Those of the rose-tree have been particularly noticed, and of ten generations produced in

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one spring, summer, and autumn, the first generation was oviparous, the eight following viviparous, and the last oviparous. The first nine generations consisted of females only, but in the tenth there were some males. We should have supposed that the first and last generations, happening in colder weather than the intermediary ones, the young might have been more properly brought to light alive, the atmosphere being not warm enough to hatch the eggs; but Providence, inscrutable in her means, found the contrary system of more import to the grand end, and adopted it, smiling at the vain speculations of man.



THE BEETLE AND EAR-WIG

Scarabœus, is the generic name for the whole tribe of beetles. The characters of the genus are, two transparent wings, covered with cases; they are produced from eggs, in the shape of grubs, then change into chrysalises, and soon arrive at the form of beetle. There are many different species in the old and new continent, from the size of a pin's head to upwards of four inches in length.

THE EAR-WIG.

The natural history of this insect is not yet properly known. Some are of opinion, that the common shape we see it in, is the first of its transformations. Yet we are of opinion, that having been hatched, as maggots, out of the eggs, they are like the ant, of the order of the hymenoptera, and only assume their wings in the love season. In the common appearance, the animal is very nimble, and perfectly harmless, notwithstanding the charge which has been brought against it of entering the human ear, and depositing its eggs there, which of course would cause intolerable pain when they are hatched, and the maggots begin to gnaw the inside of the ear; but we are happy to find that this is a mere supposition, and that the Ear-wig does not intrude itself in a place, the natural construction of which would certainly prevent such intrusion; or, that if such event ever happened, the insect was not entering there for any other purpose but to shelter itself from danger.



THE CHAFFER

Is a kind of beetle, well known in this and other countries. It flies at dusk, with a rash and noisome

impulse; lives upon the first budding leaves of the elm tree, and when caught, is often tormented by children, who, placing a paper fixed with a pin at one of their legs, enjoy the cruel pleasure to see them turn around a small piece of wood! it is a great pity, that in our earliest days we are not properly taught, that pleasure to one of the creation should never be sought out of the pain felt by another. There is a sort of barbarity in tormenting animals, which is too often indulged in infants, and is generally the sad prognostic of a tyrannical disposition, which grows and increases by degrees .- Who ever thought that the boy, who, in the palace of the Cæsars, amused himself with the innocent pastime of torturing common flies with a pin, would, when a man, order his mother to death, and set fire to the imperial town of Rome? In these puerile trifles were concealed the dreadful stamina of the most execrable and most wanton cruelty.

ZOOPHYTES.

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THIS word is derived from the Greek Zoos, an animal, and *Phyton*, a plant, and signifies a body of organized matter, partaking of the nature of both an animal and a vegetable being.

To this order belong all those creatures which may be propagated by cutting the body asunder, and if the body be divided in two or more parts every one supplies out of it what is wanted to form a complete animal. Of these animal-plants we must distinguish two different species, and make this general division; those which like the polypus, can move from place to place, and those that, like the coral and madrepore, hold to the ground by an appearently vegetable root. The first division seems united to the crustaceous families by the curious property of reproducing a limb instead of one that has been lost, as do the lobsters, crabbs, &c. The others are next to those plants which are furnished with tendrils, in order to crawl or climb around any body that can serve them as a support : such is the vine, the peas, and several others seemingly endowed with the faculty of feeling, smelling, or seeing the circumstanding objects. Struck with this resemblance between the zoophytes and plants, a modern naturalist has conceived and published this ingenious hypothesis, that vegetables might be, like the coral, a curious aggregate of animalcules, working in common for the completion of a plant; and that the seeds are swarms, which, issuing from the

flower, as the bees do from the hive, emigrate to another spot, and begin there the works which they are destined to perform; but it is easily seen that this imaginary fabric is void of probability, and, indeed, we do not think that *Bernardin de St. Pierre* was ever serious when he made his system public.

THE POLYPUS.

THERE are two kinds of this water insect. The fresh-water Polypus is found hanging at the roots or branches of plants that grow at the bottom of ditches and pools. The marine Polypus is found in similar situations, but is much bigger than the fresh water one. They resemble the finger of a glove cut off at the bottom, and are surrounded with long hairs that serve them like arms or feelers, to catch their prey, which consists of small aquatic insects of all descriptions. It is sometimes the case, that when a larger Polypus disputes his prey against a smaller one, he swallows both the catching Polypus and the insect caught; and after having sucked what he can of the insect, throws off the Polypus uninjured. But the most extraordinary property of this curious animal is, that if you cut it into several pieces, each part, in a few days or weeks (according to its size, the larger the piece, the less time it requires), becomes a perfect individual. It matters not whether the animal is cut into ten, or ten hundred parts, each part is endued with the faculty of becoming a perfect Polypus. In the chain of nature this insect seems to form the link, and unite the animal with the vegetable kingdom; and this has been our motive for placing it here.



THE CORAL AND CORALLINES

HAVE been long supposed to be vegetable marine productions, and, indeed, their ramifications and progressive growth give to them so much the appearance of a plant, that it is no wonder if they have been, for so many centuries, classed among the children of mere vegetation. However, it has been discovered of late, and satisfactorily proved, that the Coral is not the produce of a vegetative power, but of several small animalcules set to work all together to raise that construction. When the coral is taken out of water, these insects die immediately, and the vital principle being entirely extinguished, the calcareous matter which these animalcules have worked, as the bees do the wax, naturally hardens into stone, and becomes a very strong and heavy substance.

The Coral is, as its name implies, the ornament of the sea, at the bottom of which extensive shrubberies, groves, and forests of this production, wave gently with the currents of the tides, which ebb and flow over their summits. We understand that white coral is found in great abundance on the shores of

350 A DESCRIPTION OF ZOOPHYTES.

Ceylon, where the lime for building is made by burning it. Black coral is very scarce.

The Corallines are sub-marine productions, resembling plants, consisting of stalks and branches, often beautifully ramified, and composed of joints of an oblong figure, inserted into one another. They are all the works and abodes of sea-animals.



THE ASTERIA, OR STAR-FISH,

ALSO a middle-being between vegetation and animality, is often found adhering to rocks on the sea shores. They have a slow and progressive motion, and, like the Polypus, if cut into several pieces, have the property of forming again new limbs, and thereby becoming a whole individual. The common species is furnished with five rays, and is of a yellow or red colour. They are commonly found on the beach among cast-off weeds after a tempestuous sea.

The whole is a compound of naked insects, in the form of a radiated star; the mouth, which is common to all the rest of the family, is in the center on the under part, and the tentacula extremely numerous. The great magellanic star-fish forms a circle of several feet in diameter. [351]

APPENDIX

AN

UPON

FABULOUS ANIMALS.

HAVING constantly kept in view, from the beginning of this work, the combined plan of uniting interest with amusement and truth unmixed with fables, we have rejected several animals that had intruded themselves upon the reader, although they had no real claim to existence, and therefore no place in "The History of Nature." Yet considering that some fabulous beings have frequently been made use of in poetry and allegorical paintings, we have thought it our duty to subjoin here an account of them, lest we might be accused, with some sort of appearent reason, of depriving infancy of instruction, youth of knowledge, and maturer age of entertainment. The Sphinx, the Dragon, and se-

veral others, meet the eyes of children and adults nearly every where; and since they do not find their names in the works of the historians of nature, and as there is no body at hand to satisfy the warm enquiries of those who thirst after knowledge, we have no doubt but a short explanation concerning these imaginary creatures will be deemed not only acceptable but most useful to the public. Imagination soars above the general paths of common things, and embodies often her own ideas. This has been the case with the ancients. Modern artists and authors, catching fire at the torch of fancy, have introduced the offsprings of the lively mind of the Greeks and Romans in their works, fostered them as their own, and embellished their productions with fabulous and allegorical anomalies. We shall take notice of those whose names occur most frequently in the course of our reading.



THE SPHINX.

Providence has ordered that the plains of Egypt, which on account of their latitude, and some other

FABULOUS ANIMALS.

causes, were not visited by showers, should be fertilized by the overflowing of the Nile. This noble river, which, like the hand of real and unostentatious generosity, conceals the origin of the good which it bestows, exceeds in fulness the height of its banks once a year, a little after the summer solstice. This annual phænomenon, bringing unfailing fertility in the vales of Delta up to Memphis, and under the basis of the majestic and venerable Pyramids, was of the greatest importance to the people of Mesraim, from the far-famed Pharos to the frontiers of Ethiopia. It was therefore their interest to find out and mark correctly the season, the month, and nearly the hour when the flood should begin; chiefly as the sudden invasion of the fecundating waters was dangerous to the inhabitants of the lower places, the meadows and the fens, and often destroyed the cottages, dragged in the flocks, and drowned the improvident villagers. The star Sirius was remarked to emerge from the blazing neighbourhood of the sun about the time of the rising of the Nile; it was a warning and it was called accordingly the dog star, as, if barking from the heavens to apprize the inhabitants of the vallies of the imminent swelling of the stream. Another mode was adopted, and they combined the signs of the Zodiac answering the two months during which the overflowing takes place. These signs happening to be Leo and Virgo, the natural taste of the Egyptians of those times could not allow them to unite the two figures in the same order as they stand in the solar belt, and having the good sense of inverting them, they composed the figure of the Sphinx, which is partly a young wo-

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man and partly a lion. This, indeed, was an enigma for the Greeks and Phœnicians who travelled as far as Egypt; they saw the monster but could not understand the real meaning. They returned to their respective countries, and, fraught with more fancy than reality, invented the fable of the Sphinx offering riddles at the gates of Thebes, and destroying those who could not unravel them; since they were very likely told by the supercilious sages of that nation, that who could not guess the meaning of the Sphinx were to forfeit their life in atonement for their ignorance. Long afterwards, the real sense of the symbol was forgotten, and Egypt, in her superstition, began to worship the emblem of which several remains are still found in that once flourishing and now degenerated country.

The Sphinx has been of late introduced in heraldry, to adorn the shields of those general officers who distinguished themselves against the French on the banks of the Nile; it has been admitted also to adorn our apartments, in various ways; and two very beautiful specimens of them are seen on the front wall of Sion House, at Brentford, the seat of his grace the Duke of Northumberland; they are reckoned of exquisite workmanship.

This chimerical figure is generally represented as if sitting and at rest; an attitude which, being the most graceful for such a compound, has been adopted by Egyptian sculptors, and imitated by the Greeks and Romans.

FABULOUS ANIMALS.



THE DRAGON.

THIS fabulous animal, well known in the works of ancient poets and romancers, was supposed the tuteary genius of fresh water springs in the bosom of dark forests and enchanted rocks. Dragons were har nessed to the car of Ceres; they were the guardians of the golden apples of the Hesperides; of the golden fleece of Cholchis, and in several parts of the world set as trustees to the carbuncles and other precious stones, hidden at the bottom of wells and fountains. They are represented as scaly serpent with webbed feet and with wings similar to those of a bat; having been, it seems, originally an hieroglyphic emblem of the dangerous influence of undue combination of air and water. Thus the serpent Python was the allegory of a pestilence, originating from an union of mephitic air and moisture. They have been long supporters to the arms of the city of London, as if the guardians of the wealth which commerce brings here from all the parts of the world. Four of them are placed in fanciful attitudes, and beautifully carved, on the pedestal of the monument on Fish-street Hill, Lon don. Aa2

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THE WIVERN.

THIS is also a fabulous animal, and much in shape as generally represented, like the dragon, except that instead of four, it has only two legs, which are armed with claws, and webbed. There is no doubt that this imaginary being was originally conceived in the brains of poets, of romancers of old, and especially in chivalresque times, when the Crusaders overflowed the plains of Palestine and Assyria. The heat of the climate in some vales at the foot of the mountains which intersect the deserts of those countries, bred naturally all sorts of serpents, and some of an immense size. The European soldiers of Godfrey and Richard, unaccustomed to such sights, whenever they met those monsters on the sedgy banks of small lakes, under the shades of cedars and palmtrees, where they appeared as if posted to guard the sacred waters, so precious in a country so hot, were easily frightened; and swelled, in their idle tales, when inactive in the camps, the bulk of the

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serpent they had seen. The castle of Lusignan, in the province of Poitou, was supposed to contain one of those winged serpents, and surely the story must have originated in the Levant, where the noble family of that name had long been so conspicuous for their exploits and bravery. It is a very ancient armorial bearing, and is now standing as supporter to the arms of several illustrious houses.



THE COCATRICE OR BASILISK.

THE fruitful imagination of man knows hardly any bounds. The being that bears the name of Basilisk was originally supposed to be a serpent, with a sort of comb or crown on its head: but that was not sufficiently marvellous. It was supposed also to be hatched from a cock's egg, upon which a snake had performed the duty of incubation; and then no wonder if the animal, the result of this monstrous connexion, had the head of a cock, and the wings and tail of a dragon. Hatched near a spring of water, the common resort of serpents, it was asserted, that, frightened at his own extraordinary shape, he soon precipitated himself to the bottom,

whence, by the mortal look from his fiery eyes, he had the power of killing whoever dared to gaze at him. The name of *Cocatrice* alludes to this heterogeneous origin; and the animal is also found among ancient armorial devices.

The Basilisk is mentioned with the asp in the 13th verse of the xcth Psalm, where, according to the Vulgate, it is said, Super aspidem at Basiliscum ambulabis, "thou shalt tread upon the asp and the Basilisk," a proof that a venomous serpent of that name was known in most remote times.



THE GRYPHON, OR GRIFFIN,

WAS originally an emblem of life. It was used to adorn funeral monuments and sepulchres. The anterior part of this allegorical animal resembles the eagle, the king of the birds; and the rest the lion, as the king of beasts, implying that man, an inhabitant of the earth, who lives upon its produce, cannot subsist without air. But in latter times, it was supposed, that the Gryphon was posted as a jailor at the en-

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trance of enchanted castles and caverns where subteraneous treasures were concealed. Milton compares Satan in his flight to the Gryphon, in the following most beautiful passage of his immortal poem :

> " As when a Gryphon through the wilderness With winged course, o'er hill or moory dale, Pursues the Arimaspian, who, by stealth, Had from his wakeful custody purloin'd The guarded gold; so eagerly the fiend, O'er bog or steep, through strait, rough, dense or rare, With head, hands, wings, or feet pursues his way And swims, or sinks, or wades, or creeps, or flies." P. L. B. II. V. 943.

The Arimaspians were supposed Asiatic wizzards, who, by strength of magic, used to obtain a know ledge of the places where the treasures lay hidden. Their incessant wranglings with the Gryphons about gold mines are mentioned by Herodotus and Pliny. Lucan says, that they inhabited Scythia, and adorned their hair with gold : that they had but one eye in the middle of the forehead, and lived on the banks of the gold-sanded river Arismapus.

Virgil, in his eighth Pastoral, mentions this animal, as if really existing, but does not give us any description of it; he says only: Jungentur jam Gryphes equis, as a sort of impossibility; and Claudian, in his Epistle to Serena, alludes to the supposed fact of their keeping watch over masses of gold in the bosom of northern mountains:

" From Hyperborean hills, and caverus drear, From snow-capt Caucasus and secret springs, To thee, the brightest crystal Lynxes bear, And loads of gold the faithful Gryphon brings." 359

Z.



THE MERMAID, or SIREN.

THE existence of an animal, half a man and half a fish, has long been talked of, believed, disbelieved, and doubted. Homer is the first who speaks of such beings, which he styles *Sirens*; but we do not find that he gives any description of their shape; however, it was soon asserted, that the Sirens were as delineated above, and Horace in his "Art Poetic," paints the monster in one line :--

> Desinit in piscem mulier formosa superne; Above a lovely maid, a fish below.

The Sirens were three sisters, whose voice was so delightfully harmonious, so enticing, that no resistance could be made against its powerful charms; but "'twas death to hear," for they led the navigators and their ships to certain destruction among the rocks which bordered the dangerous coasts which they inhabited, near the shores of Italy.

At different times the public credulity has been imposed upon by relations of Mermen and Mer-

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maids; but those facts are generally involved in circumstances so incredible, that they become doubtful. We are told that the king of Portugal, and the Grand Master of the Order of St. James, had a suit at law to determine which class of animals these monsters belong to, either man or fish !- This is a sort of inductive proof, that such animals had been then seen and closely examined; unless we suppose that, as in the case of the child, said to have been born with a golden tooth, the discussion took place before the fact was ascertained. In the year 1560, on the western coasts of the island of Ceylon, some fishermen have brought up at one draught of a net seven Mermen and Maids, of which several Jesuits, and among them F. H. Henriquez, and Dimas Bosquez physician to the Vicerov of Goa, are reported to have been witnesses; and it is added, that the physician who examined them, and made dissections of them with a great deal of care, asserted, that all the parts both internal and external, were found perfectly conformable to those of men. We have read of late in newspapers, and other periodical publications, accounts of Mermaids which can hardly be doubted; and the following, which is one of the most recent, carries with it an appearance of authenticity:

"A young man, named John Mc. Isaac, of Corphine, in Kintyre, Scotland, made oath, on examination at Campeltown, before the Sheriff-substitute of Kintyre, that he saw on the afternoon of the 13th of October, 1811, on a black rock on the sea coast, an animal of which he gives a long and curious detail, answering in general to the description given of the supposed amphibious animal, called a Mermaid.

He stated that the upper half of it was white, and of the shape of a human body-the other half, towards the tail, of a brindled or reddish grey colour, apparently covered with scales; but the extremity of the tail itself was of a greenish colour; that the head was covered with long hair-sometimes it would put back the hair on both sides of its head; it would also spread its tail like a fan, and while so extended, the tail continued in a tremulous motion, and when drawn together again, it remained motionless, and appeared to be 12 or 13 inches broad-that the hair was brown and long; that the animal was four or five feet in length; that it had a head, hair, arms, and body, down to the middle, like a human being ; that the arms were short in proportion to the body, which appeared to be of the thickness of that of a young lad, and tapering down gradually to the point of the tail; that when stroking its head, the fingers were kept close together, so that he could not say whether they were webbed or not; that he saw it for near two hours, the rock on which it lay being dry-that after the sea had so far retired as to leave the rock dry to the height of five feet above the water, it tumbled clumsily into the sea. A minute after he saw the animal above water, he observed every feature of its face, having all the appearance of a human being, with very hollow eyes. The cheeks were of the same colour with the rest of the face; the neck short, and it seemed to be constantly stroking and washing its breast with both hands; as the bosom was immersed in the waves, he could not determine whether it was formed like a woman's or not. He saw no other fins nor feet upon it but as above-described. It continued above water a few

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minutes and then disappeared. He was informed, that some boys, in a neighbouring farm, saw a similar creature in the sea, close to the shores on the same day. The Minister of Campbeltown, and the Chamberlain of Mull, attest his examination, and declare that they know no reason why his veracity should be questioned."

Although we have strong reasons to believe, that the sea contains, amongst its numerous inhabitants, some individuals which link, in the admirable chain of nature, the animal species with the fish; yet we were obliged, out of respect to truth, to place the Mermaid among fabulous and fancy-born creatures.



THE UNICORN.

This is another offspring of the lively and fruitful fancy of man. Surely there is variety enough in the real works of nature; why should we conceive monsters, and hatch them out of our imagination? The word *Unicorn* is found in the Psalms, and it is not certain what animal is meant by it, unless it is the Rhinoceros; however, the animal known now

A DESCRIPTION, &C.

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by this appellation, is a compound of the Horse and Antelope. The head and body belong to the equine species, but the hoofs are those of a stag, and the horn, the tuffs, and the tail, are anomalies. This animal holds a high rank in Heraldic lore, and is one of the supporters of the royal arms.

Another liberty has been taken with the horse. Mythology has added wings to this elegant figure, and called it *Pegasus*; he sprung from the blood of Medusa, when Perseus had cut off her head. He bears a close analogy to the *Ippogrifo* of Aroisto, and is often seen in coats of arms, as in the instance exemplified in the following engraving :--



FINIS.

Plummer and Brewis, Printers, Love-lane, Eastcheap.

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