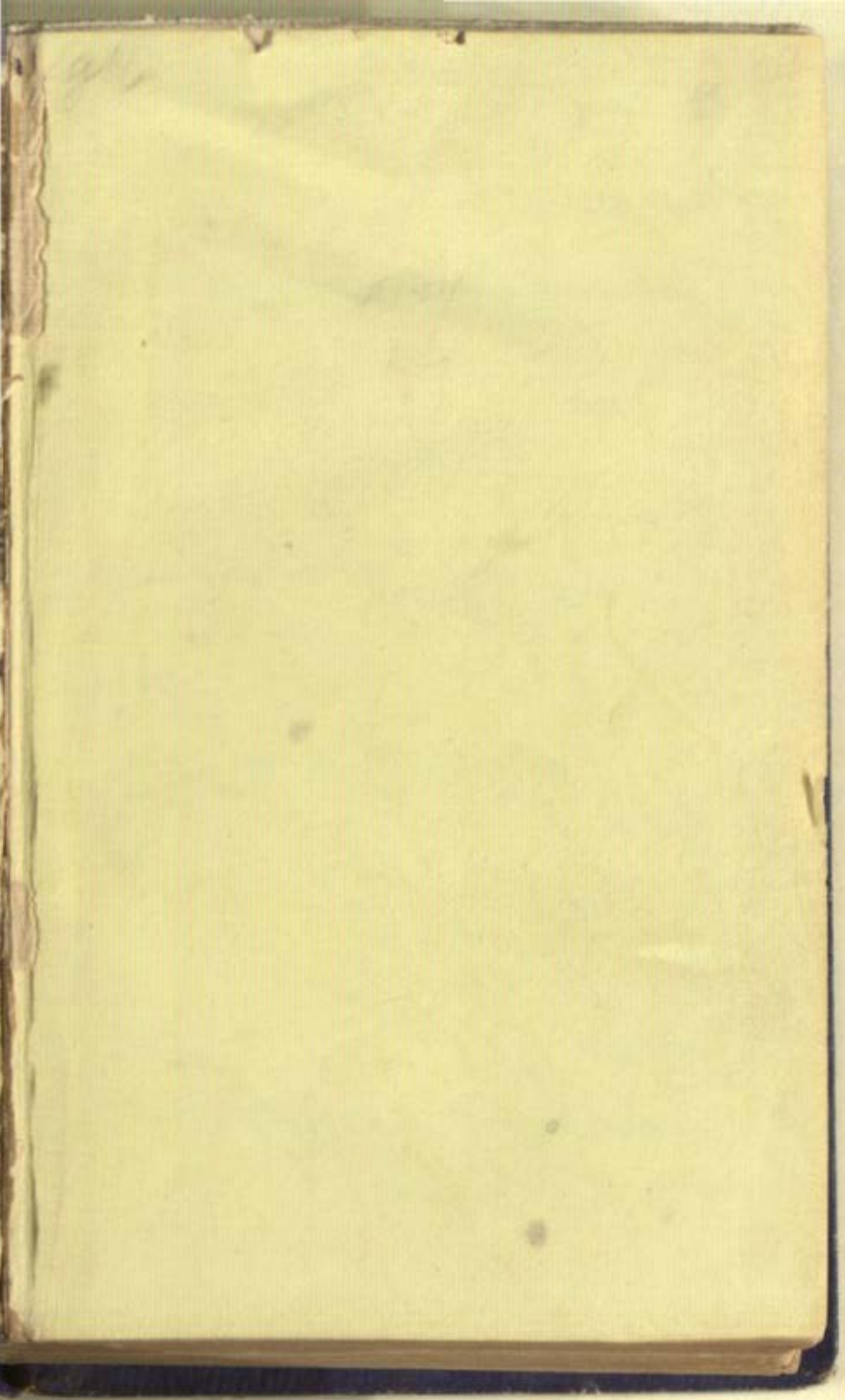


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THE
HISTORY OF THE DOG:

ITS ORIGIN, PHYSICAL AND MORAL
CHARACTERISTICS,

AND

ITS PRINCIPAL VARIETIES.

BY

W. C. L. MARTIN.

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ADVERTISEMENT.

THE following 'History of the Dog' has been written to carry forward the plan announced in the volume of 'The Elephant,' namely, to complete those works which have for their object to furnish very complete details of the three quadrupeds (the Elephant, the Dog, and the Horse) who have been the great instruments furnished by Divine Providence to man, to enable him to "replenish the earth and subdue it;" and who, by their remarkable sagacity, have, in various states of society, deserved to be regarded as his especial friends.

The first of this Series, 'The Elephant,' was written by the Editor of the 'Weekly Volume,' and was originally published in the 'Library of Entertaining Knowledge.' The present volume is composed by Mr. W. C. L. Martin, whose reputation as a Zoologist is well established; and he will also furnish the concluding 'History of the Horse,' which will be shortly published.

C. K.

THE HISTORY OF

The history of the world is a vast and intricate web of events, stretching across centuries and continents. It is a tapestry woven from the threads of human experience, from the dawn of civilization to the modern age. The story is one of constant change, of triumph and tragedy, of hope and despair. It is a story that shapes our lives and defines our world.

In the beginning, the world was a blank canvas, a vast expanse of land and sea. The first humans emerged, and with them came the first steps towards civilization. They built cities, created art, and developed the sciences. The world grew, and with it grew the complexity of human society. The story of the world is a story of progress, of discovery, and of the enduring human spirit.

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HISTORY OF THE DOG.

CHAPTER I.

ORIGINAL TYPE OF THE DOG.

It is a singular fact, of which many persons are not aware, that all attempts to ascertain the primitive origin, the wild stock, of our domestic quadrupeds, appear hitherto to have been unsuccessful.* Their primeval condition and characters are lost in the obscure of by-gone time, nor know we when, or under what circumstances, or by what nations, the several wild stocks were reclaimed from a state of freedom, and taught to submit to the bondage of man. With respect to our domestic poultry, the case is somewhat different. The primitive root of each species is, we think, fairly determined; yet we are equally in the dark as to the circumstances attending their first subjugation, and their early dispersion throughout various countries often remote from that in which the bird is naturally indigenous. The common fowl, for example, originally from India, existed in our

* The Buffalo used in Asia and Italy, if it can be considered as a *truly domestic* quadruped, is perhaps an exception. We may add the Yak and Gyll.

island before the invasion of Julius Cæsar. It would seem, indeed, as if a record of events and operations bearing intimately on the welfare of the human race, but destitute of that meretricious glare which surrounds the deeds of warriors crimson with blood, or of usurpers laying waste the towns and villages of a ravaged country, were unworthy of the pen of the historian, or even of his notice. So it has been in all ages. History is replete with the mighty deeds, perchance rather crimes, of mighty men;—it speaks trumpet-tongued of war, and the “*gaudia certaminis*,” the “rapture of the fight,” and the prowess of heroes,—but it is silent respecting the motives, the attempts, the failures, or the success of those who unobtrusively laboured in the domestication of wild animals, serviceable to our species, and valuable as property;—it is equally silent respecting the rise of metallurgy, the discovery of metallic ores, and of the modes adopted in obtaining and working the pure metal. Yet we know that at a very early period of man’s existence upon earth, there was “a keeper of sheep” and “an instructor of every artificer in brass and iron.”

As history, then, is silent respecting the primitive stocks of our domestic quadrupeds, the zoologist has nothing to guide him except observations and experiments. To these he has had recourse, but with little success. In the case of the dog, indeed, the difficulty of ascertaining its origin is peculiarly great. Various naturalists of profound research have diligently investigated it, and few have deduced from their labours the same opinions. Some have confidently referred the dog to the wolf, as its wild type,—others to the jackal; in both of which the pupil of the eye is circular (linear in the fox). Others,

again, contend that it is a factitious animal, descended from a mixture of various species; and most deny the existence of any aboriginally wild race of dogs at present in existence.

So great is the difference in form, size, hair, qualities, and disposition which the various breeds of the domestic dog exhibit, that it is difficult to believe, interbreed as they may together, that all are the descendants of one common parentage. We are among those who believe that, as there are degrees in the relationship of species to species, some may, although distinct, approximate so nearly as not only to produce, *inter se*, mules incapable of interbreeding, but a progeny of fertile hybrids capable of admixture, perhaps even to the most unlimited extent. That of such a mixed origin is the domestic dog was the opinion of Pallas, and to this circumstance he attributes its extensive varieties; for he observes that those domesticated animals which either do not intermix with other species, or which produce with others an unprolific progeny, are very little changed, however completely and anciently they have been under the dominion of man. Such, then, may be the origin of our breeds of dogs; but we must not forget the modifying effects of climate, diet, training, and domestication on an animal which is evidently peculiarly susceptible of impressions on its physical nature, no less than on its moral (if the term be allowed), from the thousand agencies connected with a state of the most complete subjugation, and those ever in active operation. But if we hesitate to receive the theory of Pallas, still more so do we to receive that of some naturalists who regard the wolf as the sole parent of the dog. This opinion is maintained by many able

zoologists, and among them by Mr. Bell, whose arguments are, it must be acknowledged, entitled to the greatest consideration. "In order," says this eminent naturalist, "to come to any rational conclusion on this head, it will be necessary to ascertain to what type the animal approaches most nearly, after having for many successive generations existed in a wild state removed from the influence of domestication, and of association with mankind. Now we find that there are several instances of dogs in such a state of wildness as to have lost that common character of domestication, variety of colour and marking. Of these, two very remarkable ones are the Dhole of India and the Dingo of Australia; there is, besides, a half-reclaimed race amongst the Indians of North America, and another, also partially tamed, in South America, which deserve attention; and it is found that these races in different degrees, and in a greater degree as they are more wild, exhibit the lank and gaunt form, the lengthened limbs, the long and slender muzzle, and the great comparative strength, which characterize the wolf; and that the tail of the Australian dog, which may be considered as the most remote from a state of domestication, assumes the slightly bushy form of that animal. We have here, then, a considerable approximation to a well-known wild animal of the same genus, in races which, though doubtless descended from domestic ancestors, have gradually assumed the wild condition; and it is worthy of especial remark that the anatomy of the wolf, and its osteology in particular, does not differ from that of the dogs in general more than the different kinds of dogs do from each other. The cranium is absolutely similar, and so are all, or nearly all, the other es-

sential parts; and to strengthen further the probability, the dog and wolf will readily breed together, and their progeny is fertile. The obliquity of the position of the eyes of the wolf is one of the characters in which it differs from the dogs; and although it is very desirable not to rest too much on the effects of habit on structure, it is not perhaps straining the point to attribute the forward direction of the eyes in the dogs to the constant habit for many successive generations of looking towards their master, and obeying his voice." To these remarks is added the fact that the period of gestation with the dog and the wolf is the same, viz., sixty-three days; in the jackal it is fifty-nine days. Now we at once admit that the theory laid down by Mr. Bell is not destitute of much that is worthy our deep consideration; we have consequently given our earnest attention to it; but we cannot say that we adopt it. It is at once conceded that the wolf and the dog will, under some circumstances, breed together,—so will the dog and jackal,—but the progeny of the wolf and dog, if at all fertile, as Buffon seems to prove, is so in a low degree, the mixed race failing and becoming by degrees extinct. With respect to the continuance of hybrids between a dog and jackal race, we have no data to found any assertions upon. But suppose the progeny of the dog and wolf, and of the dog and jackal, were fertile, *inter se*, for ever, what would be proved? This, in the opinion of some naturalists—that the dog, wolf, and jackal were one and the same species; but in our opinion, only that the species, truly distinct, were of very near affinity, as undoubtedly they are, and therefore capable of producing fertile hybrids. The fact, however, is, that no one can bring before

us a pure genuine descendant of the wolf and dog of the second or third generation, though a strain of the wolf and jackal may exist in various breeds. And here we may just glance at the character of the wolf, in order to see if the animal be such as would lead man in the earliest stages of human existence to select it as a guardian of the fold. The wolf is ferocious, but, after all, cowardly, recluse, skulking, and wary. It manifests no attachment to man. We knew a wolf belonging to the late celebrated anatomist Joshua Brookes, which roamed at liberty about his yard, and which while young was caressed by the students; it was familiar enough, and so continued till fully adult, when it showed itself in its wolfish colours, and instead of being docile became an object of terror. Mr. Bell, indeed, records an instance in which a female wolf at the Zoological Gardens was very gentle and familiar, and even brought out her pups to share in the caresses of those to whom she was partial; and he also adverts to the wolf whose history is recorded by M. Frederic Cuvier, and which evinced towards its master the most dog-like affection, displaying at the same time memory and intelligence. These are extraordinary cases, and may be paralleled with similar ones relative to the lion, tiger, hyæna, horse, and elephant; and certainly do not prove that the wolf and the dog, though closely related, are identical with each other. Besides we have yet to be shown (which experiments only can decide) that there is in the wolf that physical pliability, that susceptibility of modification in its organic and moral organization, which will permit its conversion into the mastiff, the hound, the setter, the spaniel, the lapdog, and the pug.

There is another point not entirely to be overlooked, though we would not lay much stress upon it, namely, the inveterate hatred which subsists between the dog and the wolf. It is said, and perhaps with truth, that he who leaves the party with which he was connected, and joins the opposite, is the most rancorous opponent of his former colleagues. But though this may apply to ourselves, we have no right to infer that it holds good with regard to a race of lower animals. The Esquimaux dog, which closely resembles the grey wolf of the high northern regions of America, as far as external appearance goes, dreads the latter animal, to which it often falls a sacrifice; on the contrary, it is eager in the chase of the bear. Captain Parry, in the Journal of his Second Voyage, says:—"A flock of thirteen wolves, the first yet seen, crossed the ice in the Bay from the direction of the huts, and passed near the ships. These animals, as we afterwards learned, had accompanied or closely followed the Esquimaux on their journey to the island on the preceding day; and they proved to us the most troublesome part of their suite. They so much resemble the Esquimaux dogs, that had it not been for some doubt amongst the officers who had seen them, whether they were so or not, and the consequent fear of doing these poor people an irreparable injury, we might have killed most of them the same evening; for they came boldly to look for food within a few yards of the *Fury*, and remained there for some time." He says in a subsequent page, "These animals were so hungry and fearless as to take away some of the Esquimaux dogs in a snow-house near the *Hecla's* stern, though the men were at the time within a few yards of them." Nor is it only in the dreary country

of the Esquimaux that this hostility between the wolf and dog exists; it is everywhere the same. Mr. Broke, in his travels in Sweden, says:—"During my journey from Tornea to Stockholm, I heard everywhere of the ravages committed by wolves, not upon the human species or the cattle, but chiefly upon the peasants' dogs, considerable numbers of which had been devoured. I was told that these were the favourite prey of this animal; and that in order to seize upon them with the greater ease, it puts itself into a crouching posture, and begins to play several antic tricks to attract the attention of the poor dog, which, caught by these seeming demonstrations of friendship, and fancying it to be one of his own species from the similarity, advances towards it to join in the gambols, and is carried off by its treacherous enemy. Several peasants that I conversed with mentioned their having been eye-witnesses of this circumstance." Captain Parry asserts the same respecting the Esquimaux wolf, and states that a Newfoundland dog belonging to one of the ships being enticed to play with some wolves on the ice, would have been carried off had not the sailors gone in a body to his rescue. From this it appears that the wolf does not acknowledge the specific identity of the dog with himself; for we believe that few animals habitually, and by preference, make their own species their prey.

If, because of a certain degree of resemblance, we are to regard the Esquimaux dog as nothing more than a domesticated wolf, faithful to his masters, who often treat him with blows and harsh usage, so must we for the same reason regard the Mackenzie River or Hare-Indian dog as a domesticated species of fox. This elegant dog



Australian Dog.



Dingo.

is characterized by an elongated pointed muzzle, sharp erect ears, and by a bushy tail, not carried erect, but only slightly curved upwards, and by general slenderness of contour. In its native country, the banks of the Mackenzie River, and of the Great Bear Lake, traversed by the arctic circle, this variety of the dog never barks; and the pair brought to England by Sir John Franklin and Dr. Richardson never acquired this canine language—this mode of expressing their feelings; but one born in the Zoological Gardens made his voice sound as loudly as any other dog of the same age and size. The hair of the Mackenzie River dog is full, deep, and fine; in summer it is marked by patches of slate grey, but in winter becomes white and more thick and furry. The animal is of great use to the natives of those bleak realms where the moose and reindeer are objects of the chase during the winter. This dog has not indeed strength enabling it to encounter these animals, but, from the lightness of its body and the breadth of its feet, it runs easily over the snow without sinking, if the slightest crust be upon the surface, and can overtake the quarry and keep it at bay till the hunters come up. Dr. Richardson says, that “it was perhaps formerly spread over the northern parts of America, but being fitted only for the chase, it has since the introduction of guns given way to the mongrel race sprung from the Esquimaux Newfoundland and this very breed, with occasional intermixture of European kinds. Now, if we admit, what some have contended for, that this graceful and intelligent dog is a descendant of the arctic or some other species of fox, and that the Esquimaux dog is the progeny of the arctic wolf, it follows that as these dogs breed together, their parent stocks

must be specifically identical. We doubt, however, the imputed origin of either of these dogs, whether from the wolf or fox. It is a remarkable fact that many wild or half-wild dogs, though wolfish in aspect, do not resemble the wolf in colour. They are, we believe, as a general rule, red. A brief notice of these wild or half-wild breeds of dogs may not be here out of place, as we shall find from it that though these animals be wolfish in aspect, they are not truly wolves,—they have sufficient characteristics of their own by which they are to be distinguished,—they are wild *dogs*. Let us look first at the Dingo, or Australian dog. Are we to consider this dog, of which packs roam through the wilds of Australia, preying upon the kangaroo and the flocks of the settler, as descendants of a domestic race, returned to a state of freedom,—or as an original wild race, of which the rude savages have rendered some semi-domesticated? If the former, we must confess that we are ignorant alike of the origin of this dog and of the circumstances attending its introduction. For ourselves we cannot help believing that the dingo is a true wild dog, constituting a distinct species indigenous in Australia. This dog, called by the natives of New South Wales “Warragul,” is about as large as a harrier, with the body firmly built, and the limbs very muscular. The head is broad between the ears, and the muzzle is acute; the neck is thick and powerful; the ears are short, pointed, and erect; the tail is moderate, somewhat bushy and pendulous, or at most raised only horizontally. The general colour is sandy red; the eyes are rather small and oblique, and have a sinister expression. The dingo is remarkable for agility and muscular powers, as well as for cunning and

ferocity. It never barks, but howls loudly, and hunts in small companies. Mr. G. Bennett, in his 'Wanderings in New South Wales,' comments on the cunning of the dingo, which he says are the wolves of the colony. They breed in the holes of rocks, and carefully watch their brood. A litter was found near the Yas Plains, which the discoverer failed to destroy, intending to return and catch the mother also, and thus extirpate the whole family; but the female must have been watching him, or ascertained by the scent that her lurking-place had been invaded, for on his returning a short time after, he found all the little dingos had been carried away; and he was never able, though diligent search was made in the vicinity, to discover their place of removal. Of their power of enduring pain, without manifesting any sense of suffering, he gives several instances:—"One had been beaten so severely that it was supposed all the bones were broken, and it was left for dead. After the person had walked some distance, upon accidentally looking back, his surprise was much excited by seeing the dingo rise, shake himself, and march into the bush, evading all pursuit. One supposed dead was brought into a hut for the purpose of undergoing decortication. At the commencement of the skinning process upon the face, the only perceptible movement was a slight quivering of the lips, which was regarded at the time as merely muscular irritability. The man, after skinning a very small portion, left the hut to sharpen his knife, and returning, found the animal sitting up, with the flayed integument hanging over one side of the face." The ravages made among sheep and calves by these dogs is in some districts very serious; and as they have in the in-

terior a vast range of unexplored territory, the extermination of the race seems hopeless. Mr. G. Bennett states that the dingo is not met with in Van Diemen's Land.

We have had the opportunity of seeing many specimens of this dog in the Zoological Gardens; and one which was bred there came under our special notice. It was about six weeks old when removed from the mother; and on being put into a room it immediately skulked into the darkest corner, and then, crouching, eyed us with looks of great distrust and aversion: as soon as left to itself it commenced the most melancholy howling, which ceased on any person's entrance. This was for some days its constant practice; and when placed in a kennel, the greater part of the day was so employed. It grew up strong and healthy, and gradually became reconciled to those from whom it received its food, but was shy towards others, retreating into its kennel at their approach. It never barked, nor, like other dogs, gave notice of the approach of strangers, and therefore, as a guard, was perfectly useless. A great part of every day was spent in howling, and that so loudly as to be heard at the distance of nearly half a mile. When the moon rose brightly it would sit and utter for hours its wild lamentations, not a little to the annoyance of the neighbourhood. With all its shyness, it was at the same time savage and cunning: it would never make an open attack, but several times snapped at persons when their back was turned, and immediately retreated to its kennel. So great was its strength, that, having one day got loose, though encumbered with a heavy chain, it leaped a wall of considerable height, and was not secured without difficulty. The dingo, we

believe, does not breed freely with any of our European domestic dogs; experiments in Paris have failed; but Mr. Cunningham notices a hybrid progeny of this race now established in New Holland. Granting the existence of this hybrid race, still we have no proof in it that the dingo is specifically identical with any of our European dogs. According to Pallas and Buffon the offspring of the goat and sheep are prolific. Mr. Hodgson (Proceeds. Zool. Soc. 1834, p. 107) states that the Jhâral goat of Nepâl "breeds with the domestic goat, and more nearly resembles the ordinary types of the tame races than any wild species yet discovered." Moreover, if the ideas of Mr. Eyton be correct respecting the specific distinction between the Chinese hog and the common European breed (founded on important osteological differences), the offspring of which are fertile *inter se*, we have an interesting case in point. See also Proceeds. Zool. Soc. 1831, p. 66, for an account of a hybrid between the hare and rabbit.

We know not on what grounds Mr. Bell regards the wild dogs of various regions as the emancipated descendants of a domestic race: if the wolf is the origin of the dog, might we not expect to find these dogs, no longer under the agency of man, return again to the wolf, and exhibit their genuine characters; might we not, in fact, have some reason to suspect that the wolves of some countries were nothing more than emancipated dogs, which have recovered their typical form and aspect? We think, however, that, setting aside the dingo, as occupying, in the opinion of many, though not in our own, a disputable situation, and a red wild dog stated to exist in Southern China, respecting which little is known,

genuine aboriginal wild dogs—not pariahs, not the masterless dogs of the villages and towns of the East—may be proved to exist; and though we do not claim any of them as the origin of the domestic dog, we feel the more assured that we have no need of looking to the wolf as the exclusive wild type of our domestic canine race. Besides, “*the wolf*” is somewhat vague, because there are various species of wolves, both in Europe, Asia, and America; and further, if each of these species has given origin to a breed of dogs, in the different countries where they are found, then, as all domestic dogs promiscuously breed together, the advocate of the non-admixture of species is plunged into a dilemma.

In India, wild dogs with specific characters have been discovered, and are tolerably well known. Of these we may notice the *Búánsú* (*Canis primævus*, Hodgs.), regarded by its describer as the origin of the domestic dog. It is a native of Nepál, the eastern and western limits of its range being the Sutlege and the Burhampootra; but “it seems to extend with some immaterial differences into the Vindya, the Ghauts, the Nilgiris, the Cosiah Hills, and in the chain passing brokenly from Mirzapore, through South Bahar and Orissa to the Coromandel Coast.” “Of this race, although so wild as to be rarely seen, Mr. Hodgson has succeeded in obtaining many individuals, some of which lived in confinement many months, and even produced young, having been pregnant when they reached him. . . . The *Búánsú* preys by night as well as by day, and hunts in packs of from six to ten individuals, maintaining the chase rather by powers of smell than by the eye, and generally overcoming its quarry by force and perseverance. In hunting it barks like a hound: but

its bark is peculiar, and equally unlike that of the cultivated breeds of dogs and the strains of the jackal and the fox. Adults in captivity made no approach towards domestication; but a young one, which Mr. Hodgson obtained when it was not more than a month old, became sensible of caresses, distinguished the dogs of its own kennel from others, as well as its keepers from strangers; and in its whole conduct manifested to the full as much intelligence as any of his sporting dogs of the same age." Proceeds. Zool. Soc. 1833, p. 111. This dog is stated by Mr. Hodgson to be remarkable for its dentition, there being a deficiency of the second tubercular molar of the lower jaw. In the same volume of the Proceeds., at p. 113, we find the following:—"A letter was read, addressed to the Secretary by W. A. Wooley, Esq., giving an account of a wild dog from the Mahabliwar Hills, now known as Malcolm's Pate, in the Presidency of Bombay: its local name is Dhale (Dhole?). The habits of this dog in a state of nature are described by Mr. Wooley: they accord with those of the Búansú of Nepál, as detailed by Mr. Hodgson." Most probably it is the same species.

In July, 1831, Colonel Sykes described a wild dog from the Mahrattas, termed by the natives Kolsun (*Canis Duckhunensis*, Sykes). "This," he says, "is the wild dog of Dukhun (Deccan). Its head is compressed and elongated, its nose not very sharp. The eyes are oblique, the pupils round, the irides light brown. The expression of the countenance is that of a coarse, ill-natured Persian greyhound, without any resemblance to the jackal, the fox, or the wolf; and in consequence essentially distinct from the *Canis Quao* or *Sumatrensis*

of General Hardwicke. Ears long, erect, and somewhat rounded at the top, without any replication of the tragus. Limbs remarkably large and strong in relation to the bulk of the animal; its size being intermediate between the wolf and jackal." In December, 1833, Colonel Sykes compared specimens of this Kolsun with those of the Búánsú of Mr. Hodgson, "and showed that the two dogs are perfectly similar in their general form, and in the form of the cranium; and that in his specimen, equally with that of Mr. Hodgson, the hinder tubercular tooth of the lower jaw was wanting. The only difference remarkable between the two specimens is in the quality and quantity of the fur; that of the Dukhun dog being paler and less dense than that of the individual from Nepál. These differences, depending probably on climate and individual peculiarity, cannot be regarded as sufficient to indicate a distinction between the two races. Identical as they are in form and habits, Colonel Sykes considers them as one species. Here, then, we have a genuine wild dog, called, in different mountain districts, Kolsun, Búánsú, and Dhole, of a sandy red or rufous colour. With respect to the absence of the last molar in the lower jaw, though this has occurred in the specimens of some skulls which we have examined, we are much disposed to consider it in general as resulting from age. In all dogs this tooth is very small; and in the skull of an English terrier of about two years old, now before us, it is absent on one side.

Colonel Baber, in a note subjoined to a description of this wild dog, by Colonel Sykes, in the Trans. Asiatic Society, states that it was often seen by him on the Western Coast, and in the Balaghát district, where it is

numerous. "As often," he adds, "as I have met with them, they have been invariably in packs of from thirty to perhaps sixty. They must be very formidable, as all animals are very much afraid of them. Frequently remains of hogs and deer have been brought to me, which had been taken overnight by these wild dogs. The natives assert that they kill tigers and chetahs, and there is no doubt of the fact. It is quite correct that they are found in the Nelageris, though only on the western parts. I myself was followed, while travelling between the Paitera river and Naddibaff, a distance of eight or nine miles, by a pack of them; and had I not repeatedly fired off my pistols they would certainly have carried away three or four terriers and Spanish dogs that were following me at the time. Two or three times I succeeded in getting young ones, but I did not keep them longer than three or four weeks, they were so very wild as well as shy. It was only at night they would eat, and then most voraciously." It would seem from this that the young dogs were captured, and not accustomed from their birth to domestic dogs and human keepers. We may here observe that the terms Dhole, and Quao, or Quyo, or Quihoe, appear to be given indifferently to distinct wild dogs, whence some confusion has arisen. Thus the Quyo or Qyo of Dr. Spry is identical with the Kolsun; but the Quihoe of Dr. Daniel Johnson, the Dhole of Captain Williamson (*Canis* [*Chryseus*] *Scylax*, H. Smith), appears to be distinct: it is more slender in form and higher on the limbs than the Kolsun, and has a sharper muzzle, and a longer and far less bushy tail. It lives and hunts in packs, and gives tongue during the chase, uttering a cry not unlike that of a hound, in-

termixed with snarling yelps. It has been seen to attack the wild boar. There is also a wild dog or dhole in Ceylon (*Canis Ceylonicus*, Shaw), of which, however, little is definitely known. With respect to the Sumatran wild dog (*Canis Sumatrensis*, Hard.), it is of small size, with much of the aspect of a fox, having a sharp muzzle and long black whiskers. Its colour is ferruginous, the eye is oblique, the ears erect and hairy, but considerably rounded at the tip. It is shy and restless. It would appear that a much larger wild dog is also indigenous in Sumatra.

A large wild dog (*Canis Javanicus*) exists in Java, and was brought to Europe by M. Leschenault. It equals an ordinary wolf in size, but has smaller ears; its colour is fulvous brown. There is in central India and the southern provinces a wild dog, or dhole, known under the name of *Wah*. It is robustly made, equal to a harrier in size, but heavier; the head is large, broad, and flat; the muzzle black; the whole expression very ferocious. The tail is rather short, the limbs muscular. The general colour is tanned, with white on the breast and under parts, and dusky at the tip of the tail. It is said to hunt in packs, uttering a deep growling bay.

In Beloochistan, the woody mountains of south-eastern Persia, and extending perhaps even to Caubul, there is found a wild dog, termed Beluch (Beluel of Avicenna?), of a red colour, shy, and very ferocious. It is said to hunt in packs of twenty or thirty, and to pull down and tear to pieces a buffalo or bullock with the greatest ease. Colonel C. Hamilton Smith says that a British officer who traversed this wild region saw a group of these red dogs barking on the edge of the forest, evidently on the

watch for game,—they withdrew into cover before he could fire at them, or completely examine them; they were however long, rather low on the legs, of a rufous colour, with a hairy tail, and of a powerful make. Their footmarks in the sandy soil were very distinct, and indicated that their feet were like those of a hound. The natives informed him that farther to the west existed a wild species of still larger size, which had so much white that the brown and black occurred upon its back in the form of spots.

It would appear that a wild dog exists in Natolia, which Colonel C. H. Smith supposes may be the Sheeb, or Schib, of Syria. He terms it *Canis (Thous) acmon*. "A well-known friend," he writes, "who long resided in Asia Minor, and is well known in his literary capacity, communicated to us part of his journal, where he had noted the discovery of a suspicious-looking animal in a chalk-quarry about six miles from Smyrna, much superior in size to a jackal, but not a wolf. He is, however, in doubt whether it is this species, or one of the Chryseis (*Canis*) Beluel." The following extract from Kitto's 'Physical History of Palestine' is interesting:—"There is an animal of which travellers in Arabia and Syria hear much, under the name of the Sheeb; which the natives believe to be bred between a leopard and a wolf. Its bite is said to be mortal, and to occasion raving madness before death. They describe it as being scarcely distinguishable in shape from a wolf, but with the power of springing like a leopard, and attacking cattle. In 1772 Dr. Freer saw and measured the forepart and tail of one of these animals, and supplied Dr. Russell with the description, which he has inserted in his book

(Nat. Hist. of Aleppo). The animal was one of several that followed the Basrah caravan from Basrah to the neighbourhood of Aleppo. Many persons in the caravan had been bitten, some of whom died in a short time raving mad: it was also reported that some persons in the neighbourhood of Aleppo were bitten and died in like manner; but the Doctor saw none of them himself. Dr. Russell imagines that the sheeb might be a wolf run mad; but this is a hazardous assumption, as it is doubtful that canine madness exists in Western Asia; and unless we conclude with Colonel Hamilton Smith that the sheeb is probably the same as the Thous Acmon, or the wild wolf-dog of Natolia, it is best to await further information on the subject. Burckhardt says that little doubt can be entertained of the existence of this animal, and explains its fabulous origin (between a wolf and a leopard) by stating that the Arabs, and especially the Bedouins, are in the common practice of assigning to every animal that is rarely met with, parents of two different species of known animals."

There is also in Egypt, and especially Nubia, a species of wild-dog, termed Deeb by the natives (*Canis anthus*, F. Cuv.; *Thous anthus*, H. Smith), of which Dr. Rüppel obtained specimens about Bahar-el-Azrak; and also observed a head taken from the catacombs of Syout, which appeared to belong to this species. "The head is rather deep at the jowl, the nose full at the point, the ears erect, the throat and breast dirty white; the body above of a mixed fulvous white, black, and buff, producing a series of small black spots, or pencils, caused by the tips of the longer hairs uniting in meshes." Professor Kretschmar is disposed to consider this as the

original whence the Egyptians derived their domestic dogs; but to this point we shall hereafter refer.

A wild dog exists in India under the name of the Jungle Koola, *Lyciscus Tigris* of H. Smith. "A specimen shot among the rocks on the sea-shore, near Vincovah, in the vicinity of Bombay, was in colour yellowish grey, brindled with blackish streaks; the head was sharp, the under parts dirty white, the tail not very hairy, whitish below; and the markings on the body so distinct that some young officers present conceived it to be a young tiger; but other persons immediately named it a 'jungle koola' (wild dog). It was killed in the act of searching for offals and putrid animal matter cast on shore by the sea."

Whether the species we have mentioned are all distinct from each other, or whether, as in the instance of the Kolsun and Búánsú, several are identical, we have no means of positively determining; but whether they be so or not, we have no reason for regarding them as originating from a domestic race—they are genuine wild dogs, and not marroon dogs (*chien maron*), or feral dogs, as those animals which have run wild from a domestic state are termed, and which always retain their characters of domestication.

Besides the Asiatic wild dogs which we have noticed, other species occur in various quarters of the globe. They exist in Congo, Guinea, and other parts of Africa, hunting in packs, and dwelling in caves and burrows. Clapperton met with them in the country beyond Timbuctoo. A wild dog termed Mebbia is described in the travels of F. Zuchi as resembling the hound, and associating in packs of thirty or forty, giving chase to all

sorts of quadrupeds. We here say nothing of the hunting-dog of the Cape (*Lycaon venaticus*; *Hyæna venatica*, Burchell), nor of a variety (or perhaps distinct species), the *simir* of Kordofan (*Lycaon pictus*, Temminck, not Desmarest), because, though these ferocious animals are true dogs in the form of the skull and in general contour, they have, as in the hyæna, only four toes on the anterior feet, and the same on the feet behind. These wild hunting-dogs are savage, fierce, and treacherous, of great strength, and hunt in packs, both by day and night. The fur is close and of a sandy red, irregularly clouded, and blotched with black and white. Individuals vary in the disposition of the markings. Height about one foot ten inches, or near two feet.

When America was discovered, from its north to Tierra del Fuego, and in the Caribbean Islands, the natives were found to be possessed of wild-looking domestic dogs, of very different aspect to any of our European races. "Those belonging to the savages of the Antilles," says Buffon, "had the head and ears very long, and resembled a fox in appearance" (see Hist. Gén. des Antilles, par le P. du Tertre: Paris, 1669). He also adds that the Indians of Peru had a smaller kind of dog, which they named Alco; and that those of the isthmus were ugly, with rough long hair and erect ears. "The semi-domesticated native dogs of South America are sufficiently tamed," says Colonel H. Smith, "to accompany their masters to hunt in the forest, without, however, being able to undergo much fatigue; for when they find the sport not to their liking, they return home, and await the return of the sportsmen.* In domesticity they are excessive thieves, and go to prowl in the forest.

There is a particular and characteristic instinct about them to steal and secrete objects without being excited by any well-ascertained motive. They are in general silent and often dumb animals; the cry of some is seldom and but faintly heard in the night; and in domestication others learn a kind of barking. None appear to be gregarious, but several are occasionally encountered in families. Although in company with man the domesticated will eagerly join in the chase of the jaguar, we have never heard that they are in the same state of hostility towards the feline race as are their congeners in Asia and Africa. The native Indians who have domestic dogs of *European* origin, invariably use the Spanish term *Perro*, and greatly promote the increase of the breed, in preference to their own, which they consider to be derived *entirely*, or with a cross, from the *Aguaras* of the woods; and by this name of *Aguara* it is plain, throughout almost all the interior of South America, that the whole group of indigenous canines is understood." Of late years, however, these indigenous tame dogs have been almost entirely replaced by dogs of European breeds, which in many places, as Hayti, and also in several parts of South America, have given origin to a feral or emancipated race, as have the horse and ox. In North America, besides the Hare-Indian dog, the Esquimaux, &c., there is the Techichi or carrier-dog of Mexico; the black wolf-dog of the Florida Indians, the ordinary dog of the North American Indians, with a heavy triangular head, and perhaps several others, decidedly of indigenous extraction. What, it may be asked, is the origin of these animals? With respect to the *Aguara* dogs, we have the natives' own accounts, viz., from

wild species still existing:—"There are many species," says Buffon, "which the natives of Guiana have named Dogs of the Woods (*Chiens des Bois*), because they are not yet reduced, like our dogs, to a state of domestication; and they are thus rightly named (*viz.* dogs), because they breed together with domestic races." These wild aguara dogs, which naturalists generally call foxes, are thrown into a group (*Dasicyon*) by Col. H. Smith, comprising the hoary aguara dog (*D. canescens*); the Falkland Islands aguara dog (*D. antarcticus*); the aguara dog of the woods (*D. sylvestris*), somewhat like a cur, of which he considers the Crabodage or Surinam aguara dog to be a domestic variety; and the Dunfooted aguara dog (*D. fulvipes*; *Vulpes fulvipes*, Martin). This last is a small stout foxy-looking animal, with short limbs.

With respect to the alco of Peru and Mexico, we know little more about it than what Dampier and Fernandez mention. The latter describes two breeds, *viz.* the fat Alco, or Michuacaneus, called by the natives Ytzcuinte porzotli; and the broad-footed Alco, or Techichi, which latter is, as we have said, the carrier-dog of Mexico. The fat alco appears to have been very small; a specimen, said to be an alco, was brought to this country from the neighbourhood of Mexico by Mr. Bullock; it was white, variegated with black and yellow, and was stated to have been obtained in the mountains of Durango, where it bore the name of Acolotte. Dogs resembling the alco were seen as early as 1492 in several of the West India Islands by Columbus, and were also found in Martinique and Guadaloupe in 1635 by French navigators. These dogs they de-

scribe as resembling the Barbary dogs without hair, adding that they were eaten by the inhabitants. All trace of them is now lost.

The dog of the North American Indians, called Caygotte by the Mexican Spaniards, is referred to a species termed *Lyciscus cagottis* by Colonel H. Smith, who places in the same genus with it the North American prairie wolf (*Canis* [*Lyciscus*] *latrans*); both "diurnal canines, not strictly wolves." The latter he regards as the origin of the black wolf-dog of the Florida Indians, on one side at least, the parentage being the Newfoundland dog on the other. "The Indian dogs closely resemble wolves," says Dr. Richardson, "so that it is difficult to distinguish them when seen at a short distance. They breed freely with a wild she-wolf;" but, excepting at certain seasons, "both male and female wolves devour the dogs as they would any other prey."

After this review of the wild dogs (animals neither strictly wolves, nor jackals, nor foxes) of Asia and America, we come with somewhat more precision to the consideration of the origin, or rather origins, of the domestic dogs. It is almost incontestibly proved that the aboriginal aguara tame dogs and others of the American continent, which on the discovery of its different regions were in subjugation to the savage or semi-civilised nations, were not only indigenous, but the descendants of several wild aguara dogs, or chiens des bois, existing contemporary with themselves in the woods or plains; and granting that a European race (as is the case since) had by some chance contributed to their production, the case is not altered, but the theory of the blending of species confirmed.

Now turning to the dogs of the old world: may not there have existed at an early epoch various closely allied species, whence the different races have sprung? Asia has still its genuine wild dogs; but species even more resembling our present dogs, and in fact their progenitors, may have existed; nor do we refuse to admit that in some of our tame races, notwithstanding their habitual enmity against the wolf, a strain of that animal, or even of the jackal, may obtain. Not, we contend, that the wolf has become a dog, and is the sole source of that valuable creature; but we are willing to allow that in some breeds a cross with the wolf may have taken place, whence a chien-loup, or wolf-dog, has resulted. From this chien-loup, or chienne-louve, and a dog of pure breed, a progeny might and perhaps did proceed; the descendants of this again would breed with pure dogs, and so the race would be perpetuated. Even occasionally repeated crossings with the wolf when the breed was established would not prevent its continuation. That such is the fact, and that it has modified the characters of the dog, is corroborated by the statements of Dr. Richardson and other naturalists. This seems to be more particularly evident in the high northern regions; while in the warmer climates of the East it is equally probable that in some of the races the blood of the jackal may be infused. In South and North America the old races were either exclusively derived from several half-wolf, half-dog like animals, or from wild aguara dogs, very like foxes, either directly, or by means of crosses with some foreign race.

CHAPTER II.

THE DOG OF ANTIQUITY.

FROM the earliest periods of time, as far as records go, the dog has existed as the friend and assistant of man. In the primitive condition of society such an animal, with high courage, strength, fleetness, sagacity, docility, and a physical and moral temperament susceptible of modification, would be invaluable; nor need we wonder that the ancients placed it in the starry heavens, or made it the deified symbol of abstract ideas. "The Egyptians," says M. Elzéar Blaze, "seeing in the horizon a superb star, which always appeared at the time when the overflow of the Nile began, gave it the name of Sirius (*Latrator*) because it seemed to show itself expressly in order to warn the labourer against the inundation. The Sirius, it is a dog, they said,—the dog renders us service;—it is a god! Its appearance corresponding with the periodical rise of the Nile, the dog was soon considered as the genius of that river: they represented this genius, this god, with the body of a man and the head of a dog. It had a genealogy,—it took the name of Anubis, son of Osiris; its image was placed at the entrance of the temple of Isis and Osiris, and afterwards on the gate of all the temples of Egypt. The dog being the symbol of vigilance, they thus intended to warn princes of their

constant duty to watch over the good of their people. It was honoured chiefly at Hermopolis the Great (Chemnis, or Ouchmounein, in modern Arabic), and soon afterwards in all the towns of Egypt. Juvenal says,—

‘Oppida tota canem Anubim venerantur, nemo Dianam.’*

At a subsequent period, Cynopolis, the city of the dog (now Samallout), was built in its honour; there the priests celebrated to it festivals in great pomp.” Anubis, Latrator, was the counsellor of Isis; its statue was of gold, or gilded, and earthly dogs of a black and white colour were alternately sacrificed to it. These were embalmed; and in modern days, mummies of dogs have been found in abundance: we have seen some of a red colour; and dogs and other animals of this colour are said to have been sacrificed to Typhon, as a token of abhorrence of the shepherd or Scythic conquerors, under whose dynasty the Israelites held possession in Egypt, but who were ultimately expelled, when the bondage of the Israelites commenced. Another Egyptian deity, Thoth, or Sothis, the Mercury of that nation, is represented with the head of a dog. “The dog star,” says M. Blaze, “was placed on the limit of the northern and southern hemispheres. As the equinoctial line seemed to cut it in two, it was divided into two personages, of which one ascended to heaven, the other descended to the infernal regions.” Plutarch says, “The circle which touches and separates the two hemispheres, and which, on account of this division, has received the name of horizon, is called Anubis. It is represented under the form of a dog, because this animal watches during the

* ‘Whole cities worship the dog Anubis; no one, Diana.’

day and during the night." The worship of the dog star, thus, as it were, divided, gave rise to the Greek Mercury, or Hermes, conductor of the soul to the abodes of the gods, and Cerberus, the triple-headed guardian of Pluto's gloomy realms. From Egypt, westward, the dog in one way or another was mingled up with the rites and ceremonies of many or most nations. Lucan says,

" Nos in templa tuam Romana accepimus Isis,
Semicanesque deos." *

Nevertheless the Romans sacrificed the dog to Anubis and the lesser dog star Procyon; the latter appears towards the end of July, arising for a short time before daybreak, as if to announce "the dog star's raging heats." The Romans deemed it the witherer of fruits, and sacrificed a red dog in propitiation, thinking thereby that the fruits already ripening would acquire maturity. In February, during the Lupercal feasts, they sacrificed a dog in honour of Pan; and hung and punished dogs on the anniversary of the failure of the attack of the Gauls on the Capitol, when the dogs slept, and the sentinels were roused by the cackling of geese. In Greece, Proserpine, Lucina, Mars, Hecate, and other imaginary beings were propitiated by the sacrifice of dogs.† In

* " We receive in Roman temples thy Isis,
And thy half-dog deities."

† One mode of punishing criminals in Madagascar is by putting them into a pit, and pouring boiling water over them—and it is believed by the Hovas that, if these tortured creatures have any charms which may enable them to resist death, the charms can only be neutralised by cutting off the head of a black dog, and throwing it, reeking with blood, into the hole among the agonizing victims before covering the mouth of the pit with the stone. When the sovereign happens to dream of a

ancient Denmark and Sweden numbers of dogs were sacrificed for several days running, every ninth year, during the winter solstice, and with these, men, horses, hawks, poultry, &c. Eastward, the ancient fire-worshippers of Persia portrayed the principle by which the power of darkness and his agents are repelled as a dog with the eyes yellow, and the ears white and yellow. We learn that the modern Parsees regard the dog with solicitude. In Japan it is said that the dog still figures as a deity. "Omysto, or rather Amida, the supreme king of the heavens and the realms of happiness, is represented mounted on a horse with seven heads, and covered with a royal mantle. He has the body of a man, and the head of a dog, and has a golden collar round the throat, representing probably the horizon." Devotees drown themselves with many ceremonies to his honour. Moreover, as a tribute of respect to this strange deity, the different streets of each town, according to Kæmpfer, contribute to the maintenance of a certain number of dogs: they have their lodgings, and persons are especially appointed to take care of them when sick. Formerly the Peruvians, according to Garcilasso de la Vega, adored the dog, and had its statue rudely sculptured in their temples. Notwithstanding this, however, they served up the dog as an excellent dish at their tables, and made a sort of trumpet of its skull, which was employed in the chase, in war, and in public festivals.

It was probably from the worship paid in Egypt to

person after execution, if the body be buried and not eaten by dogs, it is dug up, the head is cut off, and placed at the feet, and the head of a black dog put in its stead on the severed neck.

the deities Anubis, Sirius, Thoth, &c., that the Hebrew legislator condemned the dog to a place among the unclean animals, and fixed a stigma upon it, in direct contradiction to the honours bestowed upon that animal in various heathen nations; for if we are to trust historians, as Pliny and Plutarch, not only was the dog deified, but a certain tribe or nation in Ethiopia had a dog for their king. In royal vestments, with a crown on his head, his canine majesty, seated on a throne, received the homage of his subjects. He indicated his approbation by wagging his tail; he forbade by barking; he destined to death or punishment by growling; and conferred place and dignity by licking the favourite's hand. He had his priestly interpreters, who were, of course, the persons in whose hands the real power lay, and we may well believe they served their own interests. Among our Saxon forefathers, the wolf, from its powers and the dread in which it was held, was, with certain additions, assumed as a name by various chiefs and nobles, as Ethelwolf, Berthwolf, Eadwolf, &c. It would seem that, among some nations, the names of the dog, synonymous or indicative of power and elevation, were in like manner adopted. Col. H. Smith says, "The root Can, Khan in its acceptation of power, is evidently mixed up with the idea of a dog;" and in ancient Britain, from Cu, a dog, or head, we have the title Cunobelin, or Cynobelin, the head king, the solar king, the dog of the sun, &c. The element Can is found in Canute. The same eminent writer gives numerous examples to prove that the most ancient names of the dog were never confounded with those of the wolf, and adds that "a thorough philological inquiry would most assuredly show that in no language

and at no period did man positively confound the wolf, the jackal, or the fox with a real dog."

It was perhaps from the introduction of the dog into the mystic system of religion which prevailed in Egypt, that this animal was accounted unclean by the Israelites, or perhaps from its habits and propensities. Certain it is that the dog was despised by that people after their departure from Egypt, and its name passed into a term of opprobrium, and continues so to be among the Mohammedans of the East, who in their religious ritual have borrowed much from the Mosaic institutions. Still it would appear that throughout the East, time immemorial, there existed a race of masterless dogs, the property of none, which roamed over the country and about the streets, clearing them of offal of every description. Allusions to these dogs occur not only in the Scriptures, but in the classic writers of antiquity. In Exodus xxii. 31, we read, "Neither shall ye eat of any flesh that is torn of beasts in the field; ye shall cast it to the dogs." See also 1 Kings xxi. 19, and 2 Kings ix. 35, and elsewhere. Such passages as these, "In the place where the dogs licked the blood of Naboth, shall dogs lick thy blood, even thine," and "the dogs shall eat Jezebel by the wall of Jezreel," are in accordance with descriptive passages in the classics,* in which dogs and birds of carnivorous appetite are pictured as feeding on the dead—

* There is a savage race of wild or half-wild dogs in Madagascar, which frequent all the places where criminals suffer by spearing; their bodies are left there to be devoured, and in a short time nothing of the person executed is to be seen excepting a few half-gnawed bones.



Street-dogs of the East.

" Whose limbs unburied on the naked shore
Devouring dogs and hungry vultures tore."

Iliad, Pope's Trans. lib. i. lines 4 and 5.

And again—

" πολλοὺς δὲ κύνες καὶ γῦπες ἔδοντα
Τρώων. "—*Iliad*, lib. xviii. line 271.

Such scenes bring to mind the forcible lines of a modern poet, who had travelled in the Turkish dominions, and well knew the habits of the masterless dogs that "wander up and down for meat, and grudge if they be not satisfied:"

" He saw the lean dogs beneath the wall
Hold o'er the dead their carnival;
Gorging and growling o'er carcass and limb,
They were too busy to bark at him."

Byron's *Siege of Corinth*.

These dogs are generally termed Pariah dogs, and are peculiar in their habits. Owned by no one, tolerated, sometimes supplied by the compassionate with food, sometimes left entirely to their own resources, these dogs herd together in troops, and keep to their respective districts. They are of mixed breeds, some resembling curs, others mongrel greyhounds; and many, especially in Egypt, are almost destitute of hair, and also to a great extent of their teeth. "Their numbers in the principal towns of Western Asia are very great, and they seem greater in proportion than they really are, from the fact that all which the town contains are seen in the streets, none being, as in Europe, harboured in courts or houses. Indeed, the Moslems of the dominant sects count themselves defiled if a dog but touches their garments; † a fact

* " And dogs and vultures eat many Trojans."

† A law of Flaminius Dialus prohibited touching a dog or goat. An augur of Rome, who happened to touch a dog,

which seems perfectly well known to the animals themselves, at least they know they are not to come in contact with the clothes of persons in the streets, and the careful attention with which they avoid doing this, even in the most crowded streets, is truly admirable. Through this mutual avoidance, the defiling contact occurs too rarely to occasion much annoyance to the inhabitants, from the abounding presence, in their streets, of animals which they consider unclean. Indeed dogs are not by any means excluded from a participation in the kindness which the Turks at least exhibit towards all animals. Some charitable persons assign a regular allowance to the butchers and bakers, to make a daily or periodical distribution of food among the dogs of the district. The fact that they are to receive such donations soon becomes well known to the dogs, who repair with great punctuality to receive them at the appointed times. At Constantinople there was formerly a government officer whose business it was to see the dogs fed at the public expense. Many persons have left money by their wills for providing food for a certain number of dogs. The animals litter generally in the by-streets and in obscure corners, and we have noticed some small provision for the comfort of the mother and her young in the shape of a little straw, or even a rude construction of boards. Food also is sometimes placed near them at such times; they are protected by public opinion, which on different occasions has strenuously opposed all plans contemplated by the govern-

could not assist at the sacrifices without previous purification. Dogs and flies were prevented from entering the temple of Hercules. Formerly in Russia the dog was regarded as unclean and not to be touched.

ment for their removal or destruction. Yet with all this, the peculiar and distinguishing unfitness of the dog to be any *thing less than the real companion* of man and the object of his care, is evinced by the generally miserable condition of the street dogs of Western Asia. From living constantly in the dusty streets, and from feeding on all kinds of offal, the skin of these dogs becomes foul and sordid, and from the supply of food being generally inadequate to their wants, their appearance is lean, starved, and gaunt, and considering that a large proportion are eaten up with a kind of mange which sometimes degenerates into a sort of leprosy, they exhibit upon the whole a truly forlorn and battered appearance. Considering the heat of the summer climate, and the thirst which the dogs then suffer, it seems strange that they are not subject to hydrophobia. Indeed some distrust as to the popular ideas connected with that dreadful disease might be deduced from the fact that hydrophobia is least known in the warmest climates.* In Constantinople cases of this disease sometimes occur, although they are exceedingly rare; but they become increasingly unfrequent as we advance southwards, and in Egypt are altogether unknown.†

“The dogs divide the town which they inhabit into quarters, the right of inhabiting and prowling over which is jealously guarded by the animals born in it; they make

* Hydrophobia is not produced by heat or thirst, as is popularly believed. This disease occurs at all seasons of the year, and seems to be sometimes epidemical. In South America we believe it is not known.

† Hydrophobia was anciently known in Greece and Italy (see Celsus, lib. v. cap. 27, sect. 2). He advises the application, immediately after the bite, of the cupping-glass where

common cause against any presumptuous interloper, who seldom escapes without severe punishment. Franks, whom they distinguish by their dress, and particularly the hat, they seem to regard as much interlopers as strange dogs, and the Moslems are edified and amused by the antipathy they express.

“ In warm climates the street dogs render considerable service by the clearance which they make of the offal and carcasses of dead animals which the inhabitants leave in the streets or throw into them. If not prevented, they will devour human bodies under such circumstances.

“ Another service which they render without being taught, is the guardianship of our property, which they spontaneously assume. During the night, remarks Sonnini, they are the terror of thieves. Upon the wharfs, boats and timber, and in the interior of towns goods are intrusted to their vigilance. An admirable instinct, a natural inclination to make themselves useful to man, induces them to assume a superintendence which nobody confides to them, nobody points out to them; and it would be impossible to approach the property which these voluntary guardians have taken under their care.” (‘ Phys. Hist. of Palestine.’) Colonel Sykes, speaking of the Pariah dogs of the Dukhun, observes that they are very numerous, but are not individual property, and breed in the towns and villages unmolested. “ Amongst the

practicable, to draw out the venom, and the actual cautery; should the symptoms of the disease appear, he directs sudden immersion in cold water; and, if the patient can swim, he must be ducked in order to force him to take in the liquid—a useless torture! He calls this horrid disease “ *miserrimum morbi genus*.”

Pariahs is frequently found the turnspit dog, long-backed, with short crooked legs. There is also a petted minute variety of the Pariah dog, usually of a white colour, and with long silky hair, corresponding to a common lap-dog of Europe; this is taught to carry flambeaux and lanterns. The last variety noticed is the dog with hair so short as to appear naked, like the *Canis Ægyptius*. It is known to Europeans by the name of the *Polygar dog*."

But besides the Pariah dogs of the towns and villages, there is a Pariah race still more independent existing in the country; these dogs associate in troops, and frequent the jungles of India and the lower ranges of the Himalaya chain, hunting down their prey; they are of a rufous colour, long-bodied, and low on the legs, with erect pointed ears, a sharp nose, and a tail more or less fringed. Their voice is a loud yelping; they are easily tamed, and are doubtless the parent stock of the ordinary Pariahs of the villages. The Sheckarees train the latter for the chase, and find them very intelligent; indeed they display a marked instinctive proneness to attach themselves to man; often uniting with the palanquin bearers, as desirous of entering into the traveller's service.* The wild and village Pariah dogs follow armies,

"One of my followers," says Bishop Heber, "a poor Pariah dog, who had come with us all the way from Bareilly for the sake of the scraps which I had ordered the cook to give him, and, by the sort of instinct which most dogs possess, always attached himself to me as the head of the party, was so alarmed at the blackness and roaring of the water, that he sat down on the brink and howled piteously when he saw me going over. When he found it was a hopeless case, however, he mustered courage and followed; but, on reaching the other side, a new distress awaited him. One of my faithful sepoy had lagged behind, as well as himself, and, when he found the usual num-

and hover round the encampment; in the colder and mountain districts of India the fur of the wild Pariah dog is both fuller and darker than in the forests of the South. Are we to consider these dogs the descendants of a domesticated breed, as curs returned to a state of independence, or the type of a true and genuine wild race, indigenous in India? It is difficult to answer this question. Their uniformity in size, form, aspect, and colouring are arguments in favour of the latter theory, viz., that they are an aboriginal wild race. Nor does the facility with which they are trained or reclaimed militate against it. In the village or tame Pariahs there is, as might be expected, some admixture with other races, still their origin from the wild breed is evident; nor is the line of distinction rigidly marked out between the village and wild breeds, for of the former there are troops in remote or thinly-peopled localities which are almost as independent as those of the forests and mountains. It appears to us, then, that the Indian Pariah dog is a species; that it exists in a state of primitive wildness, as well as more or less domesticated; and that the domesticated race has proceeded from the former.

From all that we can learn, the original dog of the South Sea Islands (New Zealand, Society, and Sandwich Islands, &c. &c.), which was found there on the arrival

ber of my party not complete, he ran back to the brow of the hill and howled; then hurried after me as if afraid of being himself left behind, then back again to summon the loiterer, till the man came up, and he apprehended that all was going on in its usual routine. It struck me forcibly to find the same doglike and amiable qualities in these neglected animals as in their more fortunate brethren of Europe."—*Narrative of Journey, &c.* vol. ii. p. 206.

of Europeans, was closely allied to the Pariah dog of India. It was of small size, indolent, with short crooked legs, erect ears, sharp muzzle, and of a reddish colour. This dog, the Poé dog (*Canis pacificus*, H. Smith), was fed upon bread, fruit, and other vegetable diet, and its flesh was regarded as a delicacy. It is now scarce, a European race, which from feeding on flesh is not eaten, having usurped its place. According to Mr. Frederick Bennett, whose note is given by Colonel H. Smith, "Amongst the Society Islands the aboriginal dog which was formerly eaten as a delicacy by the natives, is now extinct or merged into mongrel breeds by propagating with many exotic varieties. At the Sandwich group, where the inhabitants have been more remarkable for the use of this animal as food, and where that custom is pertinaciously retained (owing probably to the scarcity of swine and spontaneous fruits of the earth), the pure breed of the Poé dog has been better protected, and although becoming yearly more scarce, examples of it are to be met with in all the islands, but principally as a delicacy for the use of the chiefs. As late as October, 1835, I noticed in the populous and well civilized town of Honoruru, at Oahu, a skinned dog suspended at the door of a house of entertainment for natives, to denote what sumptuous fare might be obtained within."

The late Mr. Williams, speaking of the Samoa or Navigator's group of islands, observes, that in the mountains of Savaii and Upolo there exists a wild dog: "I regretted," he says, "exceedingly, that I could not obtain one; from the description I received, it appears to be a small animal of a dark dirty grey or lead colour, with little or no hair, and large erect ears." We have seen

a small shy red dog, with a sharp nose and long erect pointed ears, which was brought back from Western Africa by the officers of the late Niger expedition; for some time it neither barked nor wagged its tail, but at a subsequent period learned both these modes of indicating its feelings. Mr. Fraser informs us that this breed is kept at Cape Coast, and along the borders of the Niger, for one sole purpose, that of affording a much relished food; and that a fat and handsome English dog belonging to one of the officers was, after many attempts on the part of the natives, and tempting offers, positively stolen; the gentleman missing his dog, went immediately in quest of it, but arrived in time only to see it dead, and preparing for the table of the king at Coomassie.* From this naturalist we learn that there are no indigenous dogs in the island of Fernando Po, but that the natives prize such dogs as are brought over from Europe very greatly, setting great store by them; very few, however, live; they become weak, fevered, and thin, and waste away.

We may here by way of parenthesis state, that it is not only among the negroes, and the natives of the South Sea isles, that the dog is eaten; this taste prevails among many uncivilized people, and even among the Chinese, who fatten dogs for the table on vegetable diet, and sell them in the markets or shops. Among the ancient Greeks and Romans the dog was served up at table, and

* In Guinea dog's-flesh is in high estimation; and we are informed by Capt. Clapperton that this animal constitutes the favourite food of the Beddites, a persecuted tribe in the centre of Africa. Humboldt says, that though the custom of eating the dog is disused on the banks of the Orinoco, it still exists in some parts of Guiana and Mexico.

according to Pliny roasted puppy-dogs were considered exquisite. They were served up at sumptuous feasts, and at the festivals in honour of the consecration of the pontiffs. Dogs were regularly fed by the Romans for the table, and roast dog was one of the dishes most in vogue.*

Though from the earliest period there existed a race of Pariah dogs, either quite wild or masterless, in the East, there were tame dogs of various breeds, which had definite owners, and were regarded as property. Even among the Jews, who, as we have said, regarded this animal as unclean, such was evidently the case. In fact, the services of the dog in the chase render it an indispensable auxiliary. Dr. J. Kitto (*Phys. Hist. of Pa-*

* In May, 1842, a butcher of Besançon was sentenced by the tribunal of correction to three months' imprisonment for selling *dog* instead of *kid* to his customers.—How the tastes of men differ! Forster, in his 'Voyage round the World,' thus expresses himself:—"In our cold countries, where animal food is so much used, and where to be carnivorous perhaps lies in the nature of men, or is indispensably necessary to the preservation of their health and strength, it is strange that there should exist a Jewish aversion to dog's-flesh, when hogs, the most unclean of all animals, are eaten without scruple. Nature seems to have expressly intended them for this use, by making their offspring so very numerous and their increase so quick and frequent." Mr. Wilson, who transplants the above into his 'Essays on the Origin and Natural History of Domestic Animals,' makes the following remarks:—"There is no reason why it should not be more extensively practised in Europe. We know, for example, that Capt. Cook's recovery from a serious illness at sea, if not entirely owing to, was at least greatly ameliorated by, the broth and flesh of a dog." He might have added, that in cases of blockade, dogs, horses, rats, and other animals have been eaten. Mr. E. Blaze says, "J'ai mangé plusieurs fois à l'armée du chien et du chat: je préfère cette viande à celle du cheval."

lestine) does not consider that the low estimation in which this animal was held by the Jews arose from the circumstance of its being placed among unclean animals, any more than the ass, of whose services that people freely availed themselves, but must be referred to other causes, "and may possibly be founded on the inferences deduced from the passage which declares the hire of a harlot and the *price of a dog* to be inadmissible offerings. It is possible that this passage rather refers to men stigmatised as dogs from their vile propensities, than to the animal itself. But, even if literally understood, it intimates that dogs were private property, and objects of value to be bought and sold. With respect to hunting dogs, in particular, we are aware of no passage which expresses the use of them; but their use in hunting is implied in that passage which precludes such game as was in itself fit for food, to be used as such if *torn of dogs*. This shows that dogs were used in hunting, and that game seized on by them might be eaten, but not if they had mangled it. This was less a stigma on the dog, than a consequence of the law against eating blood. It is thus we understand that passage; and our understanding is deduced from the actual Moslem law on the subject, which, with many other laws, is obviously framed on the *practices* of the Jews, and which, therefore, embody Jewish interpretations of the Mosaical law." A passage in the New Testament, describing the dogs beneath the table eating the children's crumbs, shows, moreover, that dogs were admitted even into the house. Still the dog was not a favoured animal; and though the Moslems have hunting-dogs and others, as sheep-dogs, &c., the more bigoted Moslems, and such as are the constant in-

habitants of great towns, "do not much attend to the distinction in their favour."

Very differently was the dog, as we have said, estimated in ancient Egypt; and, from various representations of this animal still extant, we are enabled to form a good idea of the prevailing breeds of that country between two and three thousand years ago—

"When the Memnonium was in all its glory,
And time had not begun to overthrow
Those temples, palaces, and piles stupendous,
Of which the very ruins are tremendous."

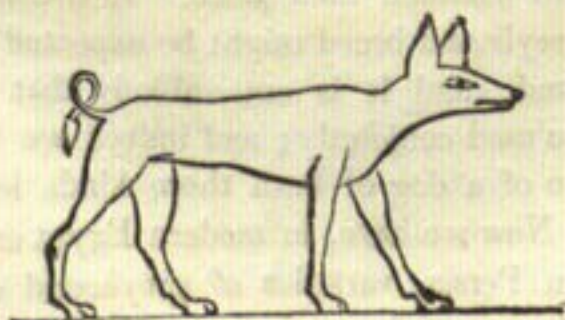
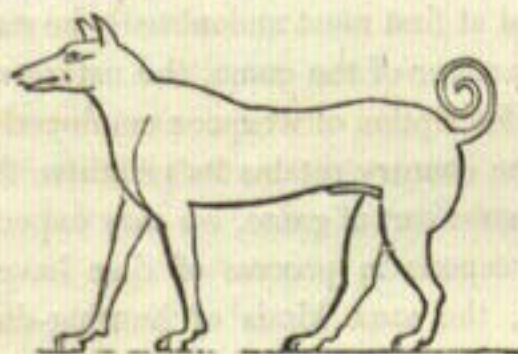
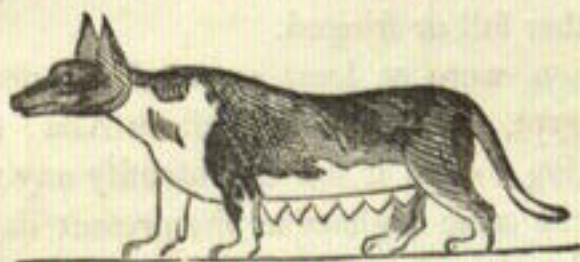
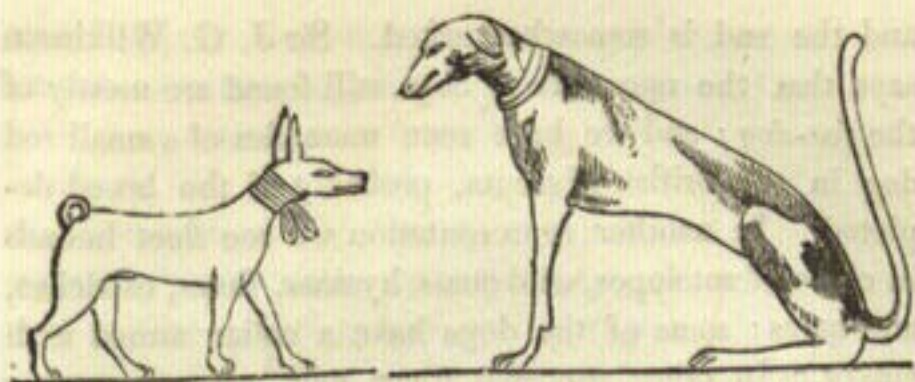
Several good copies of these specimens of Egyptian animal drawing, which is always far superior to their delineations of the human figure, are before us. In a leash are coupled a light tall hound, marked not unlike our hound, with pendent ears, and a greyhound with sharp erect ears and pointed muzzle. Besides these, there is a small dog with erect ears, and a tail curled up like that of a pug-dog, but with a sharper muzzle; it has an ornamental collar round its neck, and was probably a pet or favourite house-dog. There is also the figure of a hound sitting in the usual attitude; and a low, long-backed, short-legged dog, with erect ears, a sharp muzzle, and particoloured dark, or black and white. It resembles the old turnspit of our country, and was most probably of the same breed. There is a tall stout dog, compact and muscular, with high shoulders and broad chest, most probably a watch-dog; its ears are small and sharp, and its tail curled like that of a pug-dog; the muzzle is moderately sharp. There is also a small slender dog, with a narrow sharp muzzle, and large, erect, and pointed ears, broad at the base; the tail makes a single loop or curl,



Egyptian with two Dogs in leash.



Dogs from Egyptian Paintings.



Dogs from Egyptian Paintings.

and the end is somewhat tufted. Sir J. G. Wilkinson says that the mummies of dogs still found are mostly of the *fox-dog*; and we have seen mummies of a small red dog in the British Museum, probably of the breed depicted. In another representation we see fleet hounds in chase of antelopes, wild goats, hyænas, foxes, ostriches, and hares: some of the dogs have a collar armed with spikes. In other representations men are carrying or leading captured antelopes, and porcupines and hares in cages. In some delineations, the tail of the greyhound appears rather full or fringed.

Such, then, were at least some of the domesticated races of Egypt, and doubtless Western Asia; and it will be interesting to see if we can identify any truly tame breeds of the same regions in the present day as exhibiting similar characters. With respect to hunting-dogs, a choice would at first most undoubtedly be made, according to the character of the game, the nature of the country, and the description of weapons employed; and where the face of the country retains its primitive features, and presents the same sort of game, we may expect that, even though the weapons in process of time have undergone modifications, the same kinds of hunting-dogs, more or less improved, or, on the other hand, more or less deteriorated, will maintain their place. In the flat plains of Egypt, a greyhound breed might be expected; so might a fleet hound; and it is not unlikely that these two breeds were used conjointly; and indeed we have a representation of a dog of both these kinds led coupled together. Now we have, in modern Egypt and Arabia, and also in Persia, varieties of greyhound closely resembling those on the ancient remains of art; and it

would appear that two or three varieties exist,—one smooth, another long-haired, and another smooth, but with long-haired ears resembling those of a spaniel. In Persia the greyhound, to judge from the specimens we have seen, is silk-haired, with a fringed tail. They were of a black colour; but a fine breed, we are informed, is of a slate or ash colour, as are some of the smooth-haired greyhounds depicted in Egyptian paintings. In Arabia a large, rough, powerful race exists; and about Akaba, according to Laborde, a breed of slender form, fleet, with a long tail, very hairy, in the form of a brush, with the ears erect and pointed,—closely resembling, in fact, many of those figured by the ancient Egyptians. In Roumelia a spaniel-eared race exists. Colonel Sykes, who states that none of the domesticated dogs of Dukhun are common to Europe, observes that the first in strength and size is the Brinjaree dog, somewhat resembling the Persian greyhound (in the possession of the Zoological Society), but much more powerful. North of the Caspian, in Tartary and Russia, there exists a breed of large rough greyhounds. We may here allude to the great Albanian dog of former times, and at present extant, which perhaps belongs to the greyhound family.

As, then, we can clearly trace the greyhound for full 3000 years, we cannot easily assent to Buffon's opinion that it sprung originally from a cross between the *mâtin* and sheep-dog (nor, indeed, that the latter is the parent stock of the various breeds of dogs); indeed, we believe that the true greyhound deduces its lineage from an original root, of high antiquity and distinctness—nor do we think we should hazard too much to say *specific distinctness*. Instead of following the quarry by the scent,

which in this race is feeble, it follows by the eye more or less exclusively, and in this respect is alone among dogs of the chase. Nor is such a peculiarity, when we consider how developed the organs of scent are, as a rule, in the canine race, to be disregarded as less important than external characters.

With respect to the dogs represented like slender, tall, deep-chested hounds, with pendent and rounded, but not very large ears, and which were led in a leash, Colonel H. Smith is inclined to believe them identical with the ancient Elymæan race, and known to the classical writers more by report than by personal information. The Elymæi were a tribe of the deserts bordering on Bactria and Hyrcania; but the dogs extended into Egypt, or were introduced either "by the shepherd conquerors" or "by Sesostris after his Asiatic expedition to the Oxus." From the Elymæi, it has by some been conjectured that the modern term "Lyemer" (in French, *Limier*) arose, and which has been applied to hounds formerly used for tracking large game, such as the boar, while held by the huntsman in a lengthened lyemme or leash, from which it was slipped when it came upon the lair of the quarry. We may perhaps consider this Elymæan Lyemer as the parent of the present Oriental hound, used by the chiefs in some parts of Persia,* and which does not differ from the modern hound of Syria. We have already alluded to the representation of a chase in which these Elymæan hounds are conspicuous. According to Sir J. G. Wilkinson, "The Egyptians frequently coursed with dogs in the open plains, the chasseur following in his chariot

* More attention is paid to dogs in Persia than in any other Mohammedan country.

and the huntsman on foot. Sometimes he only drove to cover in his car, and, having alighted, shared in the toil of searching for the game, his attendants keeping the dogs in slips, ready to start them as soon as it appeared. The more usual custom, when the dogs threw off in a level plain of great extent, was for him to remain in his chariot, and urging his horses to their full speed, to endeavour to turn or intercept the objects of the chase as they doubled, discharging a well-directed arrow whenever they came within its range. The dogs were taken to the ground by persons expressly employed for that purpose, and for all the duties connected with the kennel (the *κυνάγωγοι* of the Greeks), and were either started one by one or in pairs, in the narrow valleys and open plains; and when coursing on foot, the chasseur and attendant huntsman, acquainted with the sinuosities and direction of the torrent beds, shortened the road as they followed across the intervening hills, and sought a favourable opportunity for using the bow, or marked with a watchful eye the progress of the course in the level space before them. For not only was the chasseur provided with a bow, but many of those who accompanied him; and the number of head brought home was naturally looked upon as the criterion of *his* good day's sport. Having with eager haste pursued on foot, and arrived at a spot where the dogs had caught their prey, the huntsman, if alone, took up the game, tied its legs together, and hanging it over his shoulders, once more led by his hand the coupled dogs, precisely in the same manner as the Arabs do at the present day. This, however, was generally the office of persons who followed expressly for the purpose, carrying cages and baskets on the usual

wooden yoke, and who took charge of the game as soon as it was caught: the number of these substitutes for our game-cart depended, of course, on the proposed range of the chase, and the abundance they expected to find. Sometimes an ibex, oryx, or wild ox (Bekr el Wash), being closely pressed by the hounds, and driven to an eminence of difficult ascent, faced round and kept them at bay with its formidable horns; and the spear of the huntsman, as he came up, was required to decide the success of the chase. It frequently happened, when the chasseur had many attendants, and the district to be hunted was extensive, that they were divided into parties, each taking one or more dogs, and starting them on whatever animal broke cover. Sometimes they went without hounds, merely having a small dog for searching the bushes; or laid in wait for the larger and more formidable animals, and attacked them with the lance. Besides the bow, the hounds, and the noose (lasso), they hunted with lions, which were trained expressly for the chase, like the cheetah or hunting-leopard of India; but there is no appearance of the panther having been employed for this purpose,* and the lion was always the animal they preferred. It was frequently brought up in a tame state; and many Egyptian monarchs are said to have been accompanied in battle by a favourite lion, as we learn from the sculptures of Thebes and other places, and from the authority of Diodorus."

Turning from the ancient dogs of Egypt to those of

* In a painting in the British Museum, a fowler in a canoe on the marshes appears to have a trained cat in his service: it has seized one bird in its mouth, it holds another down beneath its fore-paws, and another between its hind-paws.

Greece and Italy, we soon find ourselves embroiled amidst a host of the names, without being able in most instances to obtain a clear and definite idea of the characters of the breeds they designate. Some were used in the chase of the wolf and wild boar, others in pursuit of the stag or roe, others as guardians of the flock, and others as watch-dogs in fortresses and citadels. The Greeks appear to have had greyhounds, and wolf-like hounds with erect ears, and watch-dogs of wolfish aspect, with erect ears also. In fact, in the early periods of Greece and Rome, no pendulous-eared dogs appear to have been cultivated by the Greeks and Romans; for it was not till a later age that they became acquainted with the true mastiff; and, accordingly, all the more ancient representations of dogs in statuary or in medals show them with erect ears, sometimes in later periods with ears semi-pendulous; but it is not till the middle of the Roman empire, or its decline, that hounds like the modern race are delineated. Among the more celebrated breeds of great antiquity were the Chaonian and the Molossian: the former, a large kind of dog of a wolfish aspect, and said to be of wolfish origin; the latter, of which its fabulous creation in bronze by Vulcan, and its animation by Jupiter, is humorously described by M. Elzéar Blaze, appears to have been used both for hunting and as a guard. Virgil styles it *acer Molossus*, and Lucretius notices its resounding bark. Most of this breed were of a slate colour. In later days the mastiff or bulldog was called Molossian; but the ancient *acer Molossus* was distinct and very different. There was a race of Arcadian dogs, said to be descended from lions, probably from the circumstance of their being large and

powerful. Certain Spartan and Laconian races, termed *Alopecides* and *Castorides*, were said to be of a mixed breed between the dog and fox. There was besides a race of dogs called *Cypseli*, or footless,—perhaps very swift greyhounds. Aristotle alludes to a hybrid race of Indian dogs, between the dog and tiger. This, if not a large brindled dog, may have been a cheetah or hunting-leopard; but it does not appear that this animal, whatever it might have been, was introduced into Greece, and the same observation applies to the *Elymæan* hound. The breeds of Greece, as in all countries, though at first distinct, would soon produce numerous mixed races, varying in size, colour, and other qualities; and to these the Romans, as they extended their empire, added from time to time, carefully selecting from other countries the most courageous and powerful, both for the pursuit of game and the sanguinary combats of the amphitheatre.

Of dogs for the chase, the Etruscan and Umbrian were valued. Another celebrated dog was the Gaulish or Celtic, which, according to Pliny, was between the dog and female wolf; it was termed *Lycisca*, and was a valuable guardian of cattle, and useful in the chase. When we talk of the chase, in ancient Greece and Italy, it must not be supposed that the packs of dogs consisted, as in the present day, all of one breed; they were assemblages of dogs of every sort disposed to hunt, and of various qualities. Look, for example, at *Actæon's* pack, described by Ovid, and which no doubt was such as was to be seen every day in Italy in the Augustan age:

“ ——— primusque Melampus
Ichnobatesque sagax, latratu signa dedere:
Gnosius Ichnobates, Spartanâ gente Melampus.

Iode ruunt alii rapidâ velocius aurâ ;
 Pamphagus, et Dorceus, et Oribasus, Arcades omnes.
 Nebrophonosque valens, et trux cum Lælape, Theron,
 Et pedibus Pterelas, et naribus utilis Agre,
 Hylæusque, fero nuper percussus ab apro,
 Deque lupo concepta Nape, pecudesque secuta
 Pæmenis, et natis comitata Harpyia duobus ;
 Et substricta gerens Sicyonius ilia Ladon,
 Et Dromas, et Canache, Sticteque, et Tigris, et Alce,
 Et niveis Leucon, et villis Asbolus atris ;
 Prævalidusque Lacon, et cursu fortis Aëllō
 Et Thous, et Cyprio velox cum fratre Lycisce,
 Et nigram medio frontem distinctus ab albo
 Harpalos, et Melaneus, hirsutaque corpore Lachne,
 Et patre Dictæo, sed matre Laconide nati
 Labros, et Aglaodos, et acutæ vocis Hylactor." *

Metam., lib. iii. Fab. ii.

What would a modern sportsman, proud of his high-bred hounds, endowed with wonderful endurance and courage, say to such a pack? Yet in days not long passed by,

• "and first Melampus

And quick-scented Ichnobates gave the signal by their bark ;
 Ichnobates of Gnossian, Melampus of Spartan breed.
 Then others rush on, swifter than the rapid wind ;
 Pamphagus and Dorceus and Oribasus, all Arcadians ;
 Strong Nebrophonos, and savage Theron, with Lælapis ;
 And Pterelas, useful with his feet, and Agre, with his nostrils ;
 And Hylæus, lately wounded by a wild boar ;
 And Nape, sprung from a wolf ; and Pæmenis, used to
 follow cattle ;
 And Harpyia, accompanied by her two sons ;
 And Sicilian Ladon, with his compressed flanks ;
 And Dromas, and Canace, and Sticte, and Tigris, and Alce ;
 And Leucon with snow-white hair, and Asbolus with black ;
 And powerful Lacon, and Aello strong in the chase ;
 And Thous, and rapid Lycisce with his Cyprian brother ;
 And Harpalos distinguished by a white spot in his black
 forehead ;
 And Melaneus, and Lachne with his shaggy body ;
 And, sprung from a Dictæan father and Laconian mother,
 Labros and Agriodos and acute-voiced Hylactor."



Roman Watch-Dog.

such mixtures of dogs were associated in the chase, and are so still in the East.

At Pompeii a mosaic pavement has been discovered on which is represented a Roman watch-dog, with a spiked collar, and fastened by means of a chain; underneath his feet is written *Cave canem*, Beware the dog. It is remarkably stout and muscular, with a tail somewhat fringed, a large head, long and broad muzzle, and sharp erect ears. The general aspect is wild and savage; but if this dog be one of the Chaonian or Molossian breed,

we do not wonder that the Romans confessed the superiority of the dogs obtained in Britain.

With respect to the mastiff race, it would appear that Alexander the Great first made it known in Greece, having met with the breed during his march to the Indus. He received presents of dogs of gigantic stature, which were no doubt Thibetian mastiffs, dogs of the ancient Indi and Seri (the Seri were the people of Afghanistan). To these dogs Aristotle applied the name of *Leontomyx*. An allied breed, perhaps the same race, existed in England before the Roman conquest, as did also a breed of large bulldogs. These were highly valued in Rome for the combats of the circus. Col. H. Smith, indeed, thinks there was only one of these breeds anciently in England, viz., a large bulldog, nearly equalling the mastiff in size, and that the latter was brought to our island by the Cimbric Celtæ. Probably he is correct. Another foreign dog with which the Romans became acquainted, and to which they were very partial, was the beautiful Maltese, with long silken hair. This is now extinct, or has merged into other breeds. It was a favourite with the ladies. Besides these, the Romans procured a spaniel breed, the *Canis Tuscus proles de sanguine Ibero*, from Spain; the Phasianian, from Asia; the Petronian, from the Sicambri beyond the Rhine; and the Althamanian, from Macedonia, noticed for its cunning and wiles.

CHAPTER III.

THE PHYSICAL AND MORAL CHARACTERISTICS OF THE
MODERN RACES OF THE DOG.

FROM the dogs of ancient Greece and Rome, of which, after all, very little is definitely known, let us now turn to those of the modern day, which have ramified into countless races, and are ever producing new combinations, new varieties, new forms of canine existence. As we look over them, one thing strikes us, namely, that in contradistinction to the dogs of early periods of antiquity, which had, as a general rule, the ears erect, and the head wolfish, our modern breeds are mostly characterized by pendent ears; even in the terrier they are naturally nearly, if not fully, pendent; and, moreover, in all high breeds the eye is large, full, and expressive. With regard to the Esquimaux and similar dogs with sharp ears, we may regard them as almost wild, and we see in them what the dog is when only one step removed from a state of nature. In a certain sense man may be said to be the god of the dog, and according to the civilization of man will be that of the dog, over which both morally and physically he has such influence: the dog of the savage will be a savage also; but the dog of civilized man will be intelligent, open, animated, and in voice, actions, aspect, and manners evince a decided elevation above the prowling dog of the wild man of the forest or

plain. There is something in the dog, wherever we find it, that impels it to attach itself to man; but it is only among civilized races that the dog displays the strength, the exuberance of its attachment, and acquires those varied qualifications which, originally resulting from education, become permanent and characteristic; but which, so far from rendering it more independent, bind it still closer to its imperial master. It is, we say, from education acting upon a moral and physical temperament peculiarly susceptible, that permanent effects have resulted. Here we may be permitted to quote a passage from ourselves. "In taking a review of the various breeds of the domestic dog, we cannot fail to observe that they are endowed respectively with qualifications or habits, certainly not innate, but the result of education, at least originally; which education, continued through a series of generations, has produced permanent effects. For example, no dog in a state of nature would point with his nose at a partridge, and then stand like a statue motionless, for the dog would gain nothing by such a proceeding. Man, however, has availed himself of the docility and delicacy of scent peculiar to a certain breed, and has taught the dog his lesson; the lesson thus learned has become second nature. A young pointer takes to its work as if by intuition, and scarcely requires discipline. Hence, therefore, must we conclude that education not only effects impressions on the sensorium, but transmissible impressions, whence arise the predispositions of certain races. Education, in fact, modifies organization; not that it makes a dog otherwise than a dog, but it supersedes, to a certain point, instinct, or makes acquired propensities instinctive, hereditary, and, therefore,

characteristics of the particular race. The effect of this change of nature is not to render the dog more independent, nor to give it any advantage over its fellows, but to rivet more firmly the links of subjection to man.

“It is not to the pointer alone that these observations apply; all our domestic dogs have their acquired propensities, which, becoming second nature, make them one way or another valuable servants. No one, we presume, will suppose that the instinctive propensities implanted by nature in the shepherd's dog make it not a destroyer but a preserver of sheep. On the contrary, this dog, like every other, is carnivorous, and nature intends it to destroy and devour. But education has supplanted instinct to a certain point, and implanted a disposition which has become an hereditary characteristic, and hence a shepherd's dog of the true breed takes to its duties naturally. But a shepherd's dog could not, delicate as its sense of smell is, be brought to take the place of the pointer in the field, even though it were subjected to training from the earliest age; nor, on the other hand, could a pointer be substituted with equal advantage in the place of a shepherd's dog as the assistant of the drover. Each is civilized, but in a different style, and education has impressed upon each a different bent of mind, a different class of propensities.” (*Pict. Mus. of Anim. Nat.* vol. i. p. 199.)

To these remarks we may add that the wild dog and the semi-domesticated dog either never bark, or utter but an imperfect sort of barking, whereas the truly domestic dog not only barks, but gives expression by difference of intonation to its feelings: the bark of joy is easily discriminated from that of warning or of hostility. Thus then

is the very barking of the dog the effect of domestication ; it is, in fact, a sort of language, an attempt to indicate feelings by sounds, and is manifested only by the civilized race ; it is an acquired, not an instinctive faculty, and results from an intimate association with man. This faculty is lost in dogs reduced by neglect to a state of original wildness, or condemned to associate with savage tribes ; but it is speedily regained by their reclaimed young. Man is destined to progressive advances in the scale of social and civil life ; and it would appear that at an humble distance the dog is destined also to something like the same progression. Were it not so, though he might be the servant or bondsman, he could not be the friend and companion of man. And here, perhaps, we may be permitted to glance at the moral and physical characteristics of this faithful animal, to which, in the infancy of society, man must have been deeply indebted.

Carnivorous by nature, the dog is formed for a life of rapine ; and is fleet, active, powerful, and courageous : unlike the feline tribe, which steal upon their prey by surprise, he chases it down in open day, and in united packs overcomes the most formidable quarry. We believe all wild dogs hunt by the scent, unless their prey is in full view ; and so do all domestic breeds, with the exception of the greyhound, in which the sense of smell, so exquisitely acute in many breeds, is at a comparatively low ratio ; but in quickness of eye, and in rapidity, the greyhound excels all other dogs. The muscles of the jaws and neck are very voluminous in the dog, and its limbs are vigorous : the larger breeds are serviceable in drawing burdens and sledges ; from the flexibility of the spine, however, and the form of the limbs, the dog

is not adapted to carry heavy weights on the back—it is not a beast of burden—and often has our pity been excited at seeing the shafts of a heavily laden dog-cart pressing upon the back a poor animal, which from that very cause could not exert its full strength at the draught. A dog will lift a weight with its jaws which it cannot bear on its back; moreover, the easy progression of the dog is accompanied by gentle flexures of the spine, which, so to speak, works spring-like: now a weight on the back, besides oppressing the creature, prevents this spring-like action, and gives a stiffness to the dog's mode of going along, the spine being prevented from acting in concert with the limbs. It is to be desired that the unsuitability of the dog to bear pressure on the back were more generally known; none but a brute would willingly treat his dog cruelly, and with such it is of no use to reason.

The appetite of the dog is voracious; in a state of nature it has to undergo long fasts, and is therefore endowed with a huge appetite and great powers of digestion. After a full meal the dog curls himself up and lies down, while the digestive process goes on, and at that time he should never be put into violent exercise. In drinking the dog laps: his tongue is smooth, soft, very flexible; along the middle line of its under surface runs what is popularly called "the worm." This is a fibro-cartilaginous substance, slender, pointed at its extremities, and free excepting at its anterior apex, which serves for the attachment of transverse muscular fibres; it is enclosed in a sort of sheath, or canal, and by its elasticity aids very greatly the movements of the tongue. It has been ignorantly considered as the cause of hydrophobia,

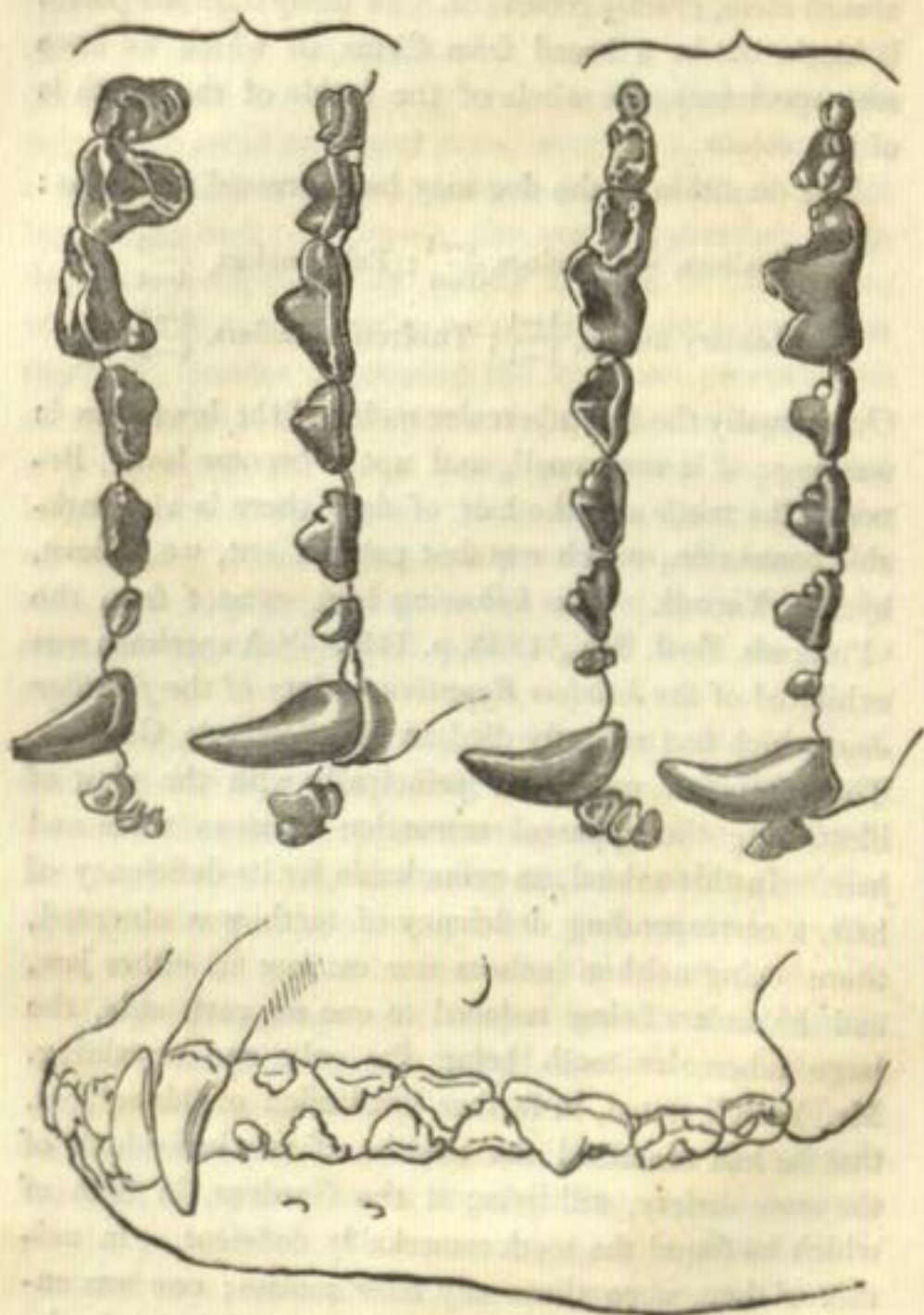
and many dog-fanciers, from this belief, or from some absurd ideas, cruelly remove it. In many dogs the palate is black, but in a breed from China, of which we have seen specimens, the whole of the inside of the mouth is of this colour.

The dentition of the dog may be expressed as follows :

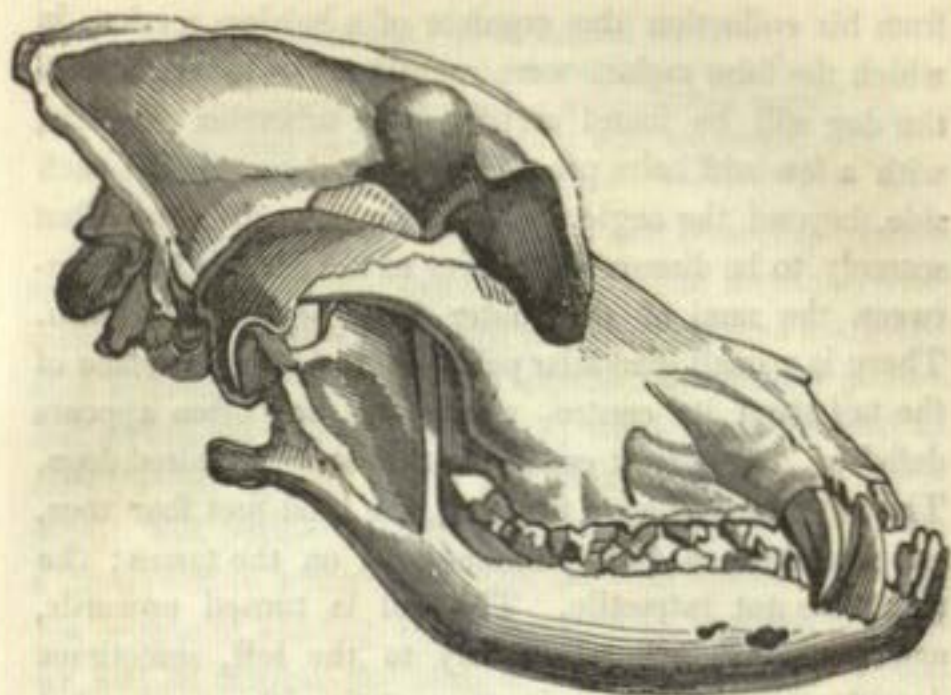
Incisors, $\frac{6}{6}$; Canines, $\frac{1-1}{1-1}$; False molars, $\frac{3-3}{4-4}$

Laniary molars, $\frac{1-1}{1-1}$; Tubercular molars, $\frac{2-2}{2-2}$

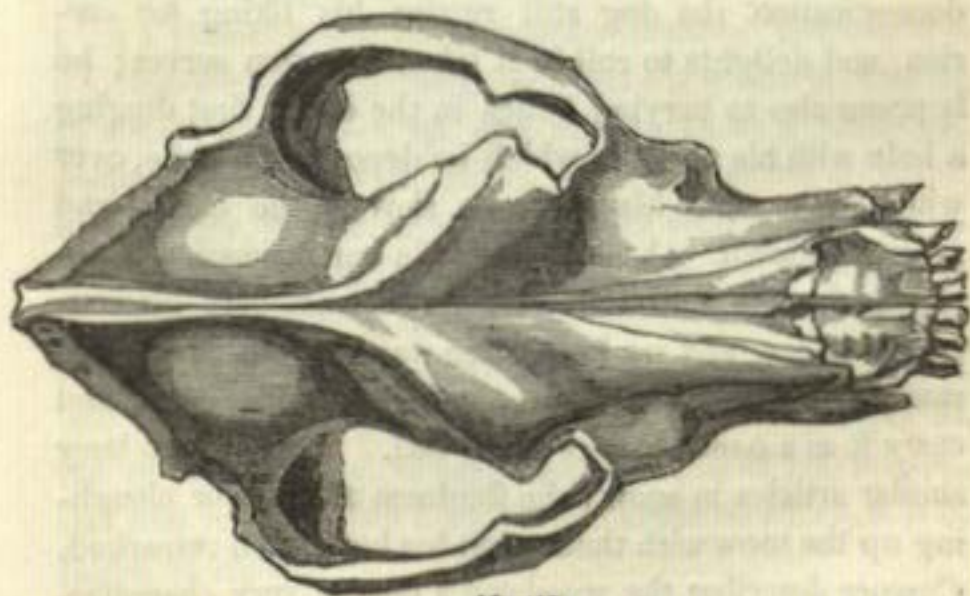
Occasionally the last tubercular molar of the lower jaw is wanting; it is very small, and apt to become lost. Between the teeth and the hair of dogs there is a remarkable connexion, which was first pointed out, we believe, by Mr. Yarrell. The following is an extract from the 'Proceeds. Zool. Soc.,' 1833, p. 113:—"A specimen was exhibited of the *hairless Egyptian* variety of the *familiar dog*, which had recently died at the Society's Gardens. The exhibition was made principally with the view of illustrating the apparent connexion between teeth and hair. In this animal, so remarkable for its deficiency of hair, a corresponding deficiency of teeth was observed, there being neither incisors nor canines in either jaw, and the molars being reduced to one on each side, the large tubercular tooth being the only one remaining. Mr. Yarrell stated, in further illustration of this subject, that he had examined the mouths of two individuals of the same variety, still living at the Gardens, in both of which he found the teeth remarkably deficient. In neither of them were there any false molars; one was entirely destitute of canines also, these teeth being in the other short of the usual number; and the incisors were also in both deficient in number. He also exhibited



Teeth of Dog.



Mastiff.



Mastiff.

Skulls of Dogs.

from his collection the cranium of a hairless terrier, in which the false molars were wanting." On the face of the dog will be found certain little tubercles or warts, with a few stiff hairs proceeding from them, one on each side, beyond the angle of the mouth, a smaller one often scarcely to be discovered nearer to the ear, and one between the rami of the under jaw, beyond the chin. There is a small glandular patch on the upper surface of the tail about its centre, where the hair often appears deficient. It is most conspicuous in smooth-haired dogs. The anterior feet have five toes, the hind feet four toes, and sometimes a fifth (rudimentary) on the tarsus; the claws are not retractile. The tail is turned upwards, and generally inclined slightly to the left, sometimes considerably; and this is connected with a somewhat oblique mode of progression, the right shoulder being rather more advanced than the opposite. In a state of domestication the dog still retains his liking for carrion, and delights to roll in it when occasion serves; he is prone also to burying bones in the earth, first digging a hole with his nose, in which he deposits the bone, over which, also with his nose, he shovels the earth, and presses it down. A small terrier in our possession is notorious for this procedure; he well remembers his concealed stores, and we have often watched him go deliberately and directly to the spot, disinter his bone, and carry it as a *bonne bouche* to his bed. He will also bury similar articles in snow; the fondness of dogs for ploughing up the snow with their snout has been often remarked. Cowper describes the woodman's dog in very characteristic lines:—

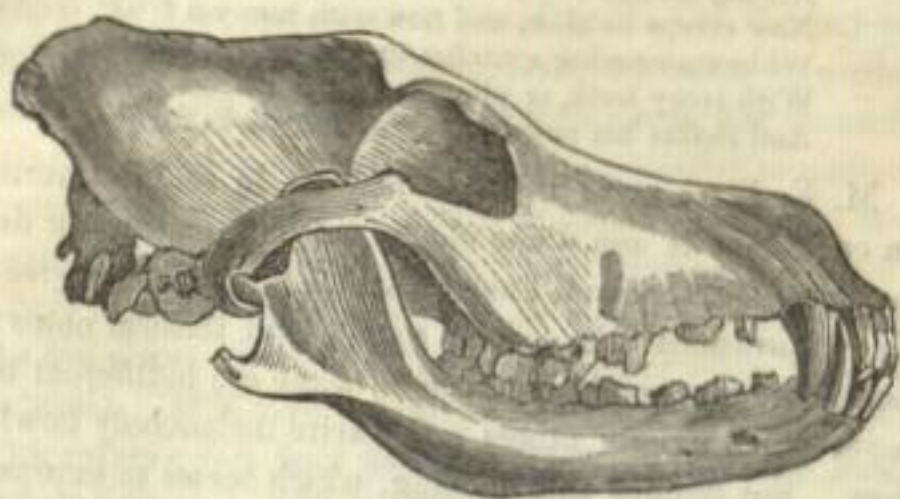
Shaggy and lean, and shrewd, with pointed ears
And tail cropp'd short, half lurcher and half cur,

*His dog attends him ; close behind his heel
Now creeps he slow, and now with many a frisk
Wide-scampering snatches up the drifted snow
With ivory teeth, or ploughs it with his snout,
And shakes his powdered coat, and barks for joy."*

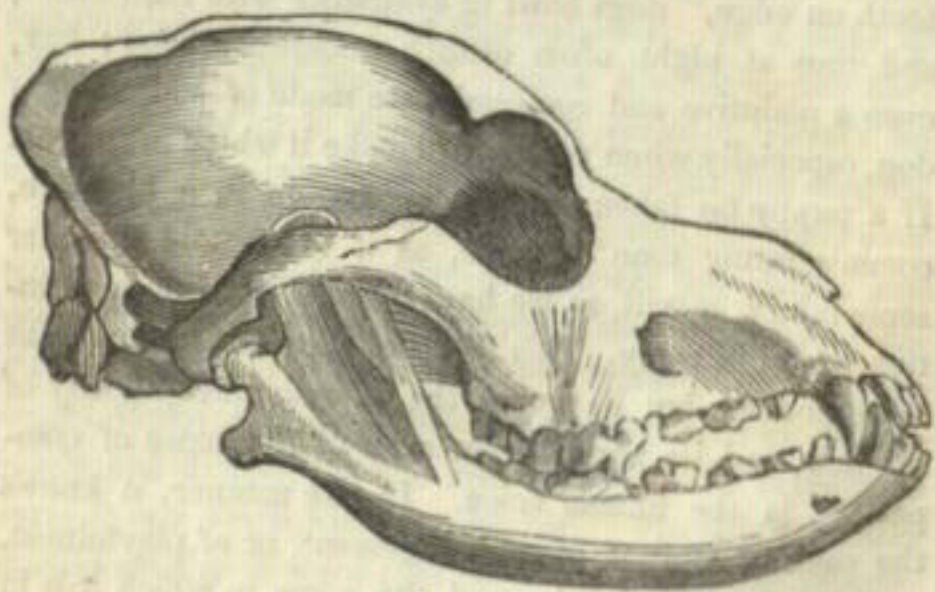
M. E. Blaze says : " Cet animal est le seul qui hurle en entendant le son d'une cloche, ou d'un instrument de musique."* It is well known that dogs receive disagreeable impressions from certain sounds and musical notes : but all are not similarly affected ; some are indifferent to tones which agitate others and excite melancholy howlings. But besides this howling, which seems to express a disagreeable affection of the nervous system through the organs of hearing, somewhat similar, perhaps, to what we feel on hearing the filing of a saw, and other noises, which, to use the common mode of expression, " set our teeth on edge," dogs howl in sympathy with each other, and thus at night often disturb a neighbourhood ; nay, even a plaintive and compassionate mode of addressing a dog, especially when young, will make it whine in answer. If a puppy be taken up, and spoken to in a plaintive, commiserating tone of voice, as if to console it under some injury, it will, as we have often seen, utter a plaintive whine in reply. This fact may seem too unimportant to be noticed, but it proves the nervous susceptibility of the dog, and its appreciation even of the tones of compassion in the human voice. In like manner, it knows the voice of reproof, of encouragement, or of playfulness, and that before it has learned the name to which it is in future to answer.

Buffon, always eloquent, often incorrect, says, in a

* " This is the only animal that howls on hearing the sound of a bell or a musical instrument."

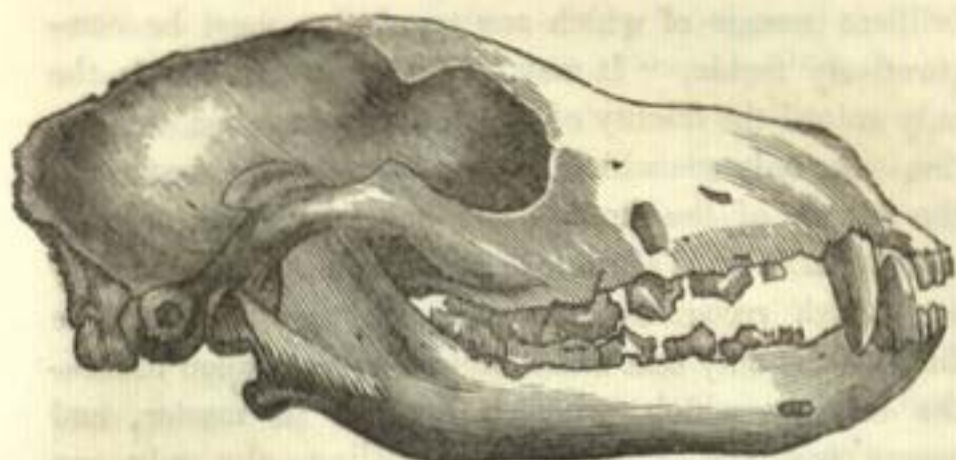


Dingo.

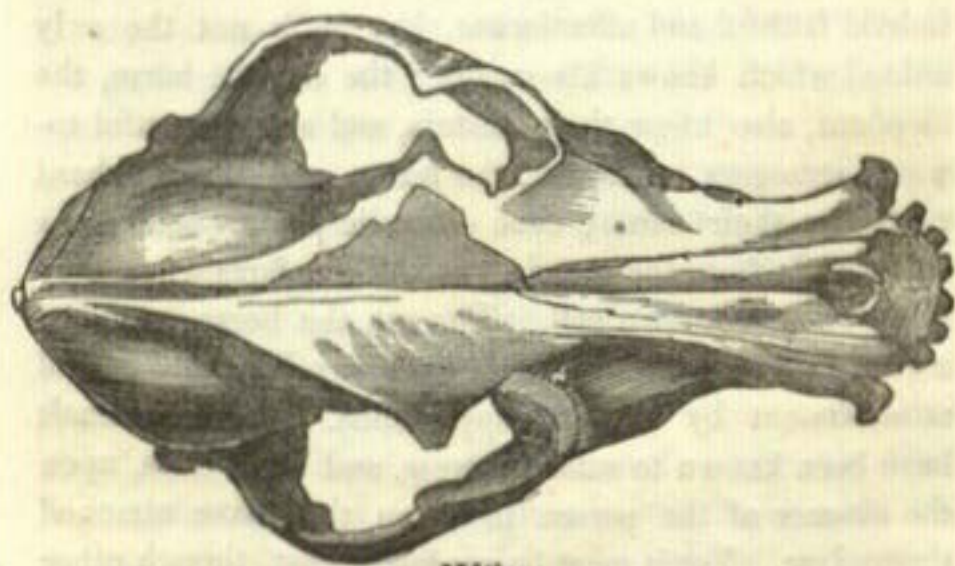


Spaniel.

Skulls of Dogs.



Mâtin.

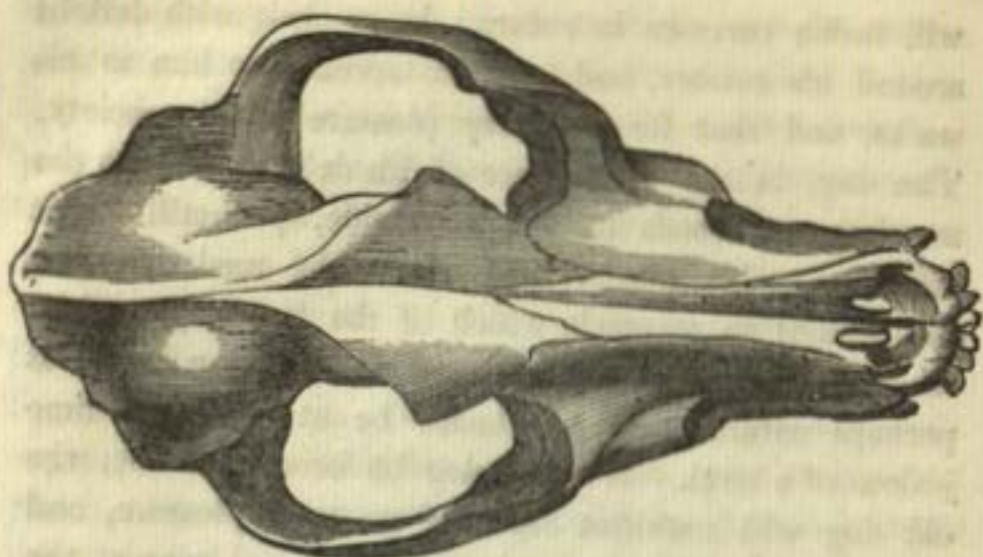


Mâtin.

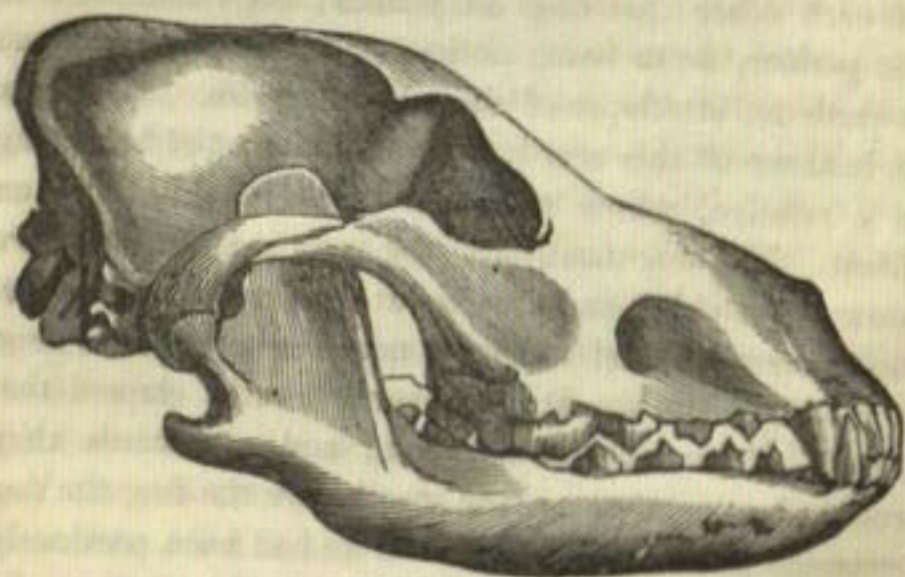
Skulls of Dogs.

brilliant passage of which any translation must be comparatively feeble, "It may be said that the dog is the only animal the fidelity of which is proof against temptation—the only one which constantly knows its master and the friends of the family—the only one which, when a stranger arrives, is sensible of the circumstance—the only one which recognises its name and the voices of the family—the only one which does not rely upon itself—the only one which, when it has lost its master, and cannot find him, calls him by howling—the only one which, after a long journey, made once only, remembers the road, and finds again the route—in fine, the only one of which the natural talents are evident, and of which the education is always successful." Most of the above sentences contain more or less of error. The dog is indeed faithful and affectionate, but he is not the only animal which knows his master; the cat, the horse, the elephant, also know their masters, and are distrustful towards strangers. The cat, the horse, and the elephant recognise their name; even domestic poultry will come trooping in from the premises around the farm when they hear the well-known call. The cat, the horse, and the ass have retraced the road only once travelled, and caused astonishment by their re-appearance. Other animals have been known to suffer distress, and utter cries, upon the absence of the person to whom they have attached themselves. Yet it must be confessed that, though other animals display these indications of more than instinct, these qualities which we so much admire, the dog is superior to them all. The dog claims to be part of the family; he understands even the looks of those with whom he is familiar; he is fond of being caressed, and

will lavish caresses in return ; he gambols with delight around his master, and loves to accompany him in his walks, and that for the very pleasure of his society. The dog, in the exuberance of his delight, courses the meadows or woods by the road side, yet still keeps attentive to his master, and where the road diverges, there stops to ascertain which of the two ways will be taken. Intelligent and devoted as the dog is, it is perhaps natural that he should be at the same time jealous of a rival. If a new dog be brought home, the old dog will manifest signs of great displeasure, and either sulkily refuse to notice or snarl and snap at the stranger ; and even when two dogs are brought up together, and are on the most friendly terms, if one be noticed, the other puts in his claim also. Nor is it only of each other that dogs are jealous ; dogs habituated to the parlour, or to much notice, entertain jealousy even towards an interloper of the human species. We knew an instance of this sort in a handsome spaniel belonging to a relative, whose wife had presented him with an infant. The dog manifested the most marked ill-nature towards the child, and growled at it whenever the opportunity occurred, and would, if not prevented, have done it mischief ; nor was it till several months elapsed that this fit of resentment subsided ; and afterwards they would play together on the rug before the fire, the dog becoming as fond of the child as he had been previously inimical to it. M. E. Blaze alludes to the instance of a dog dying of consumption because its mistress received home an infant which had previously been out to nurse. He growled whenever she kissed the child. Occasionally the jealousy of savage and powerful dogs has led to



Shepherd's Dog.



Shepherd's Dog.

Skulls of Dogs.

serious results. In the Paris papers of 1841 appeared the following tragical narrative: "A dreadful misfortune has thrown the family of Sieur M——, carpenter, Rue de Vaugirard, into consternation. The gatekeeper of the establishment yesterday evening, towards ten o'clock, according to custom, unloosed the yard-dog, a kind of bulldog, which is always chained up during the day. All at once the animal, after having taken a few turns about the timber-yard, finding the room-door of the gatekeeper half open, entered, and made a furious attack upon the unfortunate child of the latter, aged six years, and which its mother was then engaged in undressing. A horrible struggle then ensued between the mother, endeavouring to extricate her child from the jaws of the dog, and the animal, which had seized his victim by the throat. At the cries of the mother, the proprietor and the gatekeeper ran to her, but could not deliver the child until they cut the dog open; but too late, the little Léon P—— was dead, so violent had been the gripe on its throat. This morning Dr. Payer, surgeon of the Municipal Guard, detailed in the presence of the commissary of the police of the district the numerous and horrible wounds produced by the bite of the dog. It is supposed that the ferocious act of the animal was caused by a fit of jealousy towards the child, which never dared to come near him, but was in the habit of caressing in his presence another little domestic dog, which belonged also to the house."

The dog is intelligent, but some breeds are far more so than others, and some individuals are elevated above their fellows. Greatly indeed does the cerebral development vary in different races (and consequently the cranial capacity relative to the rest of the skull), as may

be seen by comparing the skulls together. The superiority in this respect of the skull of the spaniel over that of the bulldog is most decided,—and it is in the spaniel, and those breeds most nearly related to it, that we observe the greatest intelligence and tractability. In the bulldog and mastiff, on the contrary, the bold interparietal and occipital ridges of the skull demonstrate the force and volume of the muscles of the jaw and neck. It is in these dogs that we find the most indomitable courage and the most combative disposition. M. Elzéar Blaze says, “Le chien est courageux, mais son courage augment beaucoup en la présence de son maître, soit qu’il veuille le défendre, soit qu’il se sente plus forte d’un tel appui, soit enfin qu’il veuille mériter son estime.”* The fact is, that so utterly subjugated is the dog and so dependent on man, that he looks to his master for support and encouragement, and even the most pugnacious dogs fight more resolutely when they are encouraged by their master’s voice. In South America, the large sheep-dogs which guard the flocks display courage only when in charge of the sheep. The following extract from Mr. Darwin’s journal is very interesting:—“While staying at this estancia (in Banda Oriental) I was amused with what I saw and heard of the shepherd-dogs of the country. When riding, it is a common thing to meet a large flock of sheep guarded by one or two dogs, at the distance of some miles from any house or man. I often wondered how so firm a friendship had been established. The method of education consists in sepa-

* “The dog is courageous, but his courage increases in the presence of his master; whether it be that he wishes to defend him, or that he feels himself stronger with such assistance, or that he desires to merit his approbation.”

rating the puppy when very young from the bitch, and in accustoming it to its future companions. An ewe is held three or four times a-day for the little thing to suck, and a nest of wool is made for it in the sheep-pen. At no time is it allowed to associate with other dogs, or with the children of the family. The puppy moreover is generally castrated; so that when grown up, it can scarcely have any feelings in common with the rest of its kind. From this education it has no wish to leave the flock, and just as another dog will defend its master, man, so will these the sheep. It is amusing to observe, when approaching a flock, how the dog immediately advances barking,—and the sheep all close in his rear as if round the oldest ram. These dogs are also easily taught to bring home the flock at a certain time in the evening. Their most troublesome fault when young is their desire of playing with the sheep, for in their play they sometimes gallop their poor subjects most unmercifully. The shepherd-dog comes to the house every day for some meat, and immediately it is given him he skulks away as if ashamed of himself. On these occasions the house-dogs are very tyrannical, and the least of them will attack and pursue the stranger. The minute however the latter has reached the flock, he turns round and begins to bark, and then all the house-dogs take very quickly to their heels. In a similar manner a whole pack of the hungry wild dogs will scarcely ever (and I was told by some, never) venture to attack a flock guarded even by one of these faithful shepherds.* The whole account appears to me a curi-

* To these dogs Azara alludes in the following passage:—
“ Among the dogs, the ovegeros, or sheep-dogs, are particularly

ous instance of the pliability of the affections of the dog race; and yet, whether wild, or however educated, with a mutual feeling of respect and fear for those that are fulfilling their instinct of association. For we can understand on no principle the wild dogs being driven away by the single one with its flock, except that they consider, from some confused notion, that the one thus associated gains power, as if in company with its own kind. F. Cuvier has observed that all animals which enter into domestication consider man as a member of their society, and thus they fulfil their instinct of association. In the above case the shepherd-dogs rank the sheep as their brethren; and the wild dogs, though knowing that the individual sheep are not dogs, but are good to eat, yet partly consent to this view, when seeing them in a flock, with a shepherd-dog at their head." It appears to us that the shepherd-dog in this instance regards the sheep as his supporters and his care, and feels exactly what a house-dog feels when strangers or strange dogs intrude upon the premises. We have frequently seen a large dog under such circumstances retreat before one of inferior power, which he would not

deserving of notice, because in this country, where there are no shepherds, they act in the place of the latter, and take charge of the flocks. Early in the morning they drive the flocks from the fold, conduct them to the plain, accompanying them the whole day, and keeping them united;—and when numerous they surround the flock, defending them from birds of prey, from wild dogs, and other beasts, and even from man, and from every kind of injury. At sunset they conduct the sheep back to the fold, when they lay themselves down upon the ground and sleep, and pass the night in their watchful care over them. If any of the lambs lag behind, they carefully take them up in their mouths, and carry them for a time, returning again and again, if need be, until none remain."

have done otherwise. The wild dogs spoken of by Mr. Darwin are dogs left to themselves, and which, like the horses and cattle, have resumed a life of independence; but perhaps they have not learned the power which union gives, and each thinking only of itself individually, fears to attack a champion who stands so boldly on the defensive. The circumstance of the dog regarding itself as one of a flock of sheep, and as the guard of those sheep, and not the friend and servant of one master, is not without a parallel under other circumstances, in which the animal attaches itself not to one, but to a collective number of individuals, which together constitute a master. We say nothing of the fireman's dog, of which everybody has heard;—there are other examples upon record. “In the first regiment of the Royal Guards,” says M. Blaze, “we had a dog called *Bataillon*. Entertained by the soldiers at the guard-house, he always remained there; his masters changed every twenty-four hours; but that gave him no uneasiness. Sure of his pittance, there he stayed. He would follow no one to the barracks: but looked upon himself as the humble servant of twelve soldiers, two corporals, a sergeant, and drummer, whoever they might happen to be; and without being uneasy about the matter. During the night, when it froze hard, the centinel frequently called *Bataillon*, and took his place to warm himself at the stove: the dog would have suffered death rather than have passed beyond the door. When we changed garrison, the dog followed the regiment, and immediately installed himself in the guard-house of the new barracks. He knew all the soldiers, he caressed them all, but would take no notice of those who did not

wear our uniform. To this dog the regiment was a master, an individual whom he loved. His feeling was for blue dresses with amaranth facings,—he despised all other colours.”

It is owing to the difference amongst the varieties of the domestic dog in some respects, as in docility, strength, size, speed, keenness of scent, ferocity, &c., and their similarity in others, as attachment to their masters, fidelity, &c., that there is scarcely any purpose to which the dog has not been put. Like man he follows different occupations; the street dogs are the lazzaroni of their race. In the earliest times, the dog, like his master, was a mighty hunter. The chase of the ferocious or of the swift was his occupation; he brought the wolf, the wild boar, and the lion to bay; or tired down the deer and antelope. Soon, however, war became a game at which kings played, and *Væ Victis!* for war in a semicivilized state of society is unmitigated by moderation or humanity. Then was the dog called from the chase, or from guarding against savage brutes the peaceful flocks and herds, to assist human brutes in the destruction of each other; the dog became a warrior, and a most formidable one, either in the citadel, the intrenched camp, or the battle-field. Shakspeare's expression put into the mouth of Anthony, “Cry havoc, and let slip the dogs of war!” is by no means metaphorical. Dogs of war had long been used before, and were so long after the time of the first bald Cæsar.

Watch-dogs were not only kept within the citadel of Rome, but in all the fortresses of the Grecks. The citadel of Corinth was guarded externally by an advanced post of fifty dogs placed ‘en vidette’ on the

sea-shore. One night the garrison slept, overcome with wine: the enemy disembarked, but were received by the fifty dogs, who fought with indomitable courage till forty-nine fell. The survivor, named Soter (*Σωτηρ*)—history has preserved his name—retreated from the field of battle to the citadel, and gave the alarm; the soldiers were roused, and the enemy was repelled. The senate ordained that Soter should wear a silver collar, with this inscription: "Soter, defender and preserver of Corinth." A monument of marble was erected in honour of the dogs which fell, on which their names, with that of Soter, were engraved. According to Herodotus, the Satrap of Babylon kept so many Indian dogs, that four considerable towns in the plain were exempted from all taxes on the condition of providing food for those animals. M. Blaze regards these as war-dogs belonging to Cyrus; but Herodotus does not say so, and it is most probable that they were hunting-dogs. The ancient Cimbri, the Celts, the Gauls, and other tribes made use of trained dogs in war; and when the Cimbri were defeated by Marius, the women and baggage were defended so vigorously by dogs, that a fresh contest had to be commenced.

War-dogs were armed with spiked collars, and sometimes with coats of mail. An antique bronze found at Herculaneum, and now in the museum of Naples, represents mailed dogs attacked by soldiers armed with various weapons. M. Blaze says, "The Knights of Rhodes placed dogs at all the advanced posts, and no patrol set forward without being preceded and followed by a dog. We do the same thing at present in Algeria." The Spaniards, in their battles with the Indians of America, employed fierce dogs. Robertson, speaking

of a war carried on by Columbus against the natives of St. Domingo, or Hayti, says, "The body which took the field consisted only of two hundred foot, twenty horse, and twenty large dogs; and how strange soever it may seem to mention the last as composing part of a military force, they were not, perhaps, the least formidable and destructive of the whole, when employed against naked and timid Indians." He afterwards alludes to the fierce onset of the dogs as carrying consternation. From these dogs has originated a feral race still existing in that island, and very different from the dog known as the Cuban bloodhound or mastiff, of which several specimens have from time to time existed in the gardens of the Zoological Society. When we thus find that dogs were trained to war, it will not surprise us to learn that they were also trained for the combats of the amphitheatre. But to this we have already alluded. It is not only for the chase, the defence of flocks, war, and the amphitheatre, that dogs have been trained; they were taught to drive birds to the nets, and to raise them for the falconer; and since the introduction of the fowling-piece the pointer and setter breed mark the covey or pack in aid of the sportsman. The retriever, the spaniel, the cocker, and the water-dog have all their use. In Italy a breed of dogs is employed for finding truffles. Formerly the turnspit, now not very common, was used as an aid to the cook: introduced into a sort of treadmill, like a squirrel in a cage, the dog trotted along, and the spit went round. Dogs have been trained as smugglers; and for some time these animals carried on business between France and Belgium, and transported lace and other commodities across fields and rivers, in spite of the

exertions of a cordon of douaniers, gaining at length their home in safety.

It would appear, from official reports, that it was only since the suppression of smuggling by horses, in 1825, that dogs were employed. The first attempts at this extraordinary use of animal sagacity were made at Valenciennes. The system afterwards spread to Dunkirk and Charleville, and subsequently extended to Thionville, Strasbourg, and Besançon. The dogs trained to play the smuggler's part were conducted in packs to the foreign frontier, where they were kept without food for many hours; they were then beaten and laden, and in the beginning of the night started on their travels. They reached the abodes of their masters, which were generally selected at two or three leagues' distance from the frontiers, as speedily as they could, where they were sure to be well treated, and provided with a quantity of food. The dogs engaged were conducted in leashes of from eight or ten to twenty and even thirty individuals; they went very unwillingly, well aware of the starvation and harsh treatment which awaited them. They were for the most part dogs of large size, and as on their return they usually travelled direct across the country, they often did much mischief to agricultural property; and, moreover, according to the Report, from being hunted about by the custom-house officers, and subjected to excessive fatigue and various deprivations, they were very liable to hydrophobia, and frequently bit the officers, one of whom died in consequence in 1829. Tobacco and colonial products were generally the objects of this illicit trade; sometimes cotton twist and manufactures. In the neighbourhood of Dunkirk dogs have been taken with a

value of 24*l.*, 25*l.*, or even 48*l.* In 1833 it was estimated that 100,000 kilogrammes were thus introduced into France (a kilogramme is equal to 2 lbs. 8 ozs. 3 dwts. 2 grs. troy); in 1825, 187,315 kilogrammes; in 1826, 2,100,000 kilogrammes: but these estimates are reported as being under the mark. The burden of each dog has been regarded as averaging two and a half kilogrammes; but sometimes they carried ten or even twelve kilogrammes. The above estimate supposes that in certain districts one dog in ten got killed, in others one in twenty; but this is a matter of uncertainty, and the officers were of opinion that not above one dog in seventy-five was destroyed, even when notice had been given and the canine smugglers were expected.

Among the measures proposed for the suppression of this mode of smuggling a premium of three francs per head was allowed upon every "chien fraudeur" destroyed; but though the sum paid has been considerable, viz., 440*l.* per annum before 1827, and 600*l.* since that period, when the premium was allowed in the Thionville district, the success was not equal to what was expected. Yet it appears that between the years 1829 and 1830, 40,278 dogs were destroyed, and premiums paid to the amount of 4833*l.* Various severe measures of police were at different times proposed, in order to check the exportation of large dogs from France into the Belgian territories, but the plans proved ineffectual. We are not aware as to what extent such smuggling is now carried on, but we have read nothing lately in the public papers concerning it.

Dogs, as we see every day in the streets of the metropolis, are taught to lead the blind, which they do with

great judgment, carrying at the same time a little bowl, by means of a leather thong, in their mouth, to receive the alms of the charitable. The intelligence of these slow-moving melancholy dogs is very remarkable, and we wonder that they should be able to pilot their master so well through crowded thoroughfares. Montaigne says, "I have seen one of these dogs along the ramparts of a town leave a smooth and uniform path, and take a worse, in order to lead his master from the edge. How could this dog have been made to conceive that his duty was to look solely to the safety of his master, and to neglect its own accommodation to serve him? And how came he to have the knowledge that a road broad enough for himself, was not so for a blind man? Can he comprehend all this without a train of reasoning?" At Rome, says M. Blaze, the dogs of the blind conduct their master to the places where the most company is assembled; they visit the various churches; but if on their road they come to a handsome house, where they observe the solemn pomp of a funeral, they never fail to stop there, counting upon the alms which their master will surely receive upon such an occasion. To this he adds the following anecdote:—"I was travelling in a diligence. At the place where we changed horses, I saw a good looking poodle-dog (*chien caniche*), which came to the coach-door, and sat up on its two hind legs, with the air of one begging for something. 'Give him a sou,' said the postilion to me, 'and you will see what he will do with it.' I threw to him the coin; he picked it up, ran to the baker's, and brought back a piece of bread, which he ate. This dog had belonged to a poor

blind man, lately dead :—he had no master, and begged alms on his own account.”

Another work of humanity to which the dog has been trained, is to find out and succour those who have lost their way, and are perishing amidst the Alpine snows. These dogs not only do their utmost themselves to revive the unfortunates, and to conduct them to safety, but by their loud barking they call assistance. How different this duty to the combats of the battle-field or the arena ; yet who can doubt but that these large dogs would be terrible in conflict ! In their arduous work of mercy these noble dogs display great courage, promptitude, and prescience of impending consequences : nor are these qualities undisplayed by other dogs under different circumstances, either in behalf of human beings or each other. Colonel H. Smith says, that he has personally witnessed a water-dog unbidden plunge into the current of a roaring sluice, to save a small cur maliciously flung in ; and also an instance in which a Pomeranian dog belonging to the master of a Dutch bylander vessel, sprang overboard, caught up a child which had fallen into the water, and swam ashore with it, before any person had discovered the accident. As an instance of great intelligence and benevolence towards a companion, M. Blaze relates the following : “ Three dogs belonging, two to M. G. and the other to M. P., of Saint-Bonnet sur Galaune (canton de St. Valier, department of the Drôme), went to the chase without their masters : having pursued a rabbit almost to an extremity, which took refuge in a burrow, one of the dogs of M. G., carried forward by eagerness, shoved himself so deeply into this subterranean

asylum, that retreat became utterly impossible. After having scratched to no purpose in the hope of extricating him, the two companions returned home in such a state of sadness and dejection, as to be noticed by their masters, who knew not to what to attribute the cause. The next day came a fresh disappearance of the two dogs, which had found the means of joining each other; they were seen to return in the evening to their respective domiciles harassed with fatigue; to refuse every sort of nourishment, their paws bloody, and their bodies covered with earth and sweat. At first no attention was paid to what took place, but the same procedure being repeated the next and on succeeding days, and M. G. not finding his dog return, the absence of which began to make him uneasy,—surprised, moreover, at the daily disappearance of his second dog, which only came back at night, and that in the most frightful state,—mentioned the circumstance to M. P., who declared to him that his dog had done the same thing for a week. Finally, the day following, M. G. was wakened early in the morning by the cries of several dogs, who scratched at his door; he came down to see what was the matter, and what was his astonishment when he saw his dog which he thought lost, feeble, languid, and like a mere skeleton, escorted by its two liberators to the residence of its master, and which, seeing it in his care, went to sleep tranquilly on a bundle of straw, scarcely able to move their stiffened limbs. M. G. made researches to discover the place where this touching scene occurred. He found, in fact, that the narrow opening into which his poor dog had forced itself was transformed into a large cavity, the working out of which was evidently due to the intelli-

gence of the two other dogs." A gamekeeper to whom this account was related, exclaimed with enthusiasm, "Si j'avais ces deux chiens-là, je les ferais encadrer!"* The dog acts as an assistant to the drover, the ratcatcher, the warrener, and even to the salmon-fisher the dog plays an important part,—nay, there are instances of dogs fishing for their own amusement. Jukes, in his 'Excursions in and about Newfoundland,' says: "A thin short-haired black dog belonging to George Harvey came off to us to-day; this animal was of a breed very different from what we understand by the term Newfoundland dog in England. He had a thin tapering snout, a long thin tail, and rather thin but powerful legs, with a lank body, the hair short and smooth. These are the most abundant dogs of the country, the long-haired curly dogs being comparatively rare. They are by no means handsome, but are generally more intelligent and useful than the others. This one caught his own fish; he sat on a projecting rock beneath a fish-lake or stage, where the fish are laid to dry, watching the water, which had a depth of six or eight feet, the bottom of which was white with fish-bones. On throwing a piece of codfish into the water, three or four heavy clumsy-looking fish, called in Newfoundland sculpins, with great heads and mouths, and many spines about them, and generally about a foot long, would swim in to catch it. There he would 'set' attentively, and the moment one turned his broadside to him, he darted down like a fish-hawk, and seldom came up without the fish in his mouth. As he caught them he carried them regularly to a place a few yards off, where he laid them

* "If I had those two dogs, I would have them framed."

down; and they told us that in the summer he would sometimes make a pile of fifty or sixty a-day just at that place. He never attempted to eat them, but seemed to be fishing purely for his own amusement. I watched him for about two hours, and when the fish did not come I observed he once or twice put his right foot in the water, and paddled it about. This foot was white, and Harvey said he did it to *toll* or entice the fish; but whether it was for that specific reason, or merely a motion of impatience, I could not exactly decide."

It is not only to useful and beneficent occupations that the dog may be brought up; he can be taught amusing tricks, to pick out letters or numbers at command; to play at dominoes; to act the mountebank; or take his part on the stage. We have ourselves seen some admirable performances by a white poodle in Paris, at the exhibition of the Ombres Chinoises; and, at one of the theatres, the really clever acting of two Newfoundland dogs, in the drama entitled 'Les Chiens du Mont St. Bernard.' But beyond these exhibitions proving the teachableness of the more intelligent races of dogs, these animals have been drilled into histrionic performances of the most complex kind, and in which human actors did not take a part.

Thus, then, is the dog a hunter, a fowler, a fisher, a keeper of sheep, a centinel and soldier, a guardian of property, a dispenser of acts of charity and benevolence, a mountebank, an actor, and, more than all, man's most disinterested friend. Nay, it is not to his master while living only that his attachment is limited; he continues his affection to him when dead and in the grave. Does any one doubt it? Let him take the following confirmation, related by Napoleon, who witnessed the circumstances

after one of his great battles in Italy, when he passed over the field of the slain, before the bodies were interred. "In the deep silence of a moonlight night," said the emperor, "a dog, leaping suddenly from the clothes of his dead master, rushed upon us, and then immediately returned to his hiding-place, howling piteously. He alternately licked his master's hand and ran towards us, thus at once soliciting and seeking revenge. Whether owing to my own peculiar turn of mind at the moment, the time, the place, or the action itself, I know not, but certainly no incident on any field of battle ever produced so deep an impression on me. I involuntarily stopped to contemplate the scene. This man, thought I, has friends in the camp, or in his company; and here he lies forsaken by all except his dog! What a lesson nature here presents through the medium of an animal! What a strange being is man, and how mysterious are his impressions! I had without emotion ordered battles which were to decide the fate of the army; I had beheld with tearless eyes the execution of those operations by which numbers of my countrymen were sacrificed; and here my feelings were roused by the mournful howlings of a dog! Certainly at that moment I should have been moved by a suppliant enemy. I could very well imagine Achilles surrendering up the body of Hector at the sight of Priam's tears."*

There is on record a touching narrative respecting the affection testified by an Irish greyhound to its master, slain in the battle of Aughrim, or Kilconnell, as it was called by the French, from the old abbey on the left of the Irish position. The bodies of the Irish

* Journal of the Private Life and Conversation of the Emperor Napoleon at St. Helena, by the Count de las Cases.

were left where they fell, "to the birds of the air and the beasts of the field." Among them was an Irish officer; he was killed and stripped in the battle. But his faithful dog discovered his remains, and guarded the body day and night; and though he fed with other dogs on the slain around, yet he would not allow them or any thing else to touch that of his master. When all the dead bodies were consumed, the other dogs departed; but this used to go in the night to the adjacent villages for food, and presently return to the place where his master's bones only were then left. Thus he continued from July, when the battle was fought, till January following, when one of Colonel Foulk's soldiers, who was quartered in the neighbourhood, happening to go near the spot, the dog, fearing he came to disturb his master's bones, rushed upon the man, who unslung his musket on the instant, and shot the poor animal dead. He expired faithful as he had lived.

Bochart, in 1660, relates an account of a dog which had followed his master's bier to the churchyard of St. Innocent, Paris, and had then remained there for three years: he continued on that grave to the end of his days. In the last half-century a similar case occurred at Lisle. The admiration of the neighbourhood, says Colonel H. Smith, was so great, that a hut was built for the faithful dog on the grave of his master, and food regularly supplied. A most affecting instance of attachment in a spaniel is narrated in Daniel's 'Rural Sports,' and quoted by Mr. Bell. We may be pardoned for repeating it: "A few days before the overthrow of Robespierre a revolutionary tribunal had condemned M. R., an ancient magistrate and a most estimable man, on

pretence of finding him guilty of conspiracy. His faithful dog, a water-spaniel, was with him when he was seized, but was not suffered to enter the prison. He took refuge with a neighbour of his master, and every day, at the same hour, returned to the door of the prison, but was still refused admittance. He, however, uniformly passed some time there, and his unremitting fidelity won upon the porter, and the dog was allowed to enter. The meeting may be better imagined than described. The jailer, however, fearful for himself, carried the dog out of prison; but he returned the next morning, and was regularly admitted on each day afterwards. When the day of sentence arrived, the dog, notwithstanding the guards, penetrated into the hall, where he lay crouched between the legs of his master. Again, at the hour of execution, the faithful dog is there: the knife of the guillotine falls, but he will not leave the lifeless and headless body. The first night, the next day, and the second night alarmed his new patron, who, guessing whither he had retired, sought him and found him stretched on his master's grave. From this time, every morning for three months, the mourner returned to his protector merely to receive food, and then again retreated to the grave. At length he refused food; his patience seemed exhausted; and with temporary strength supplied by his long-tried and unexhausted affection, for twenty-four hours he was observed to employ his weakened limbs in digging up the earth that separated him from the being he had served. His powers, however, here gave way; he shrieked in his struggles, and at length ceased to breathe, with his last look turned upon the grave." We need make no comment upon this nar-

rative, and we pity the man who can read it without emotion.

Wordsworth, in a beautiful poem, has given an affecting instance of the fidelity of a dog whose master had accidentally perished. We have quoted the poem in the 'Pictorial Museum of Animated Nature,' and its repetition here may not be unacceptable :

"A barking sound the shepherd hears,
A cry as of a dog or fox ;
He halts, and searches with his eyes
Among the scatter'd rocks.
And now at distance can discern
A stirring in a brake of fern,
From which immediately leaps out
A dog, and yelping runs about.

The dog is not of mountain breed,
Its motions, too, are wild and shy,
With something, as the shepherd thinks,
Unusual in its cry.
Nor is there any one in sight
All round, in hollow or on height :
Nor shout nor whistle strikes his ear—
What is the creature doing here ?

It was a cave, a huge recess,
That keeps till June December's snow ;
A lofty precipice in front,
A silent tarn below.
Far in the bosom of Helvellyn,
Remote from public road or dwelling,
Pathway, or cultivated land,
From trace of human foot or hand.

There sometimes does a leaping fish
Send through the tarn a lonely cheer :
The crags repeat the raven's croak
In symphony austere.
Thither the rainbow comes,—the c'loud,—
And mists that spread the flying shroud,—

And sunbeams,—and the sounding blast,
That if it could would hurry past,
But that enormous barrier binds it fast.

Not knowing what to think, awhile
The shepherd stood ;—then makes his way
Towards the dog, o'er rocks and stones
As quickly as he may :
Nor far had gone before he found
A human skeleton on the ground,—
Sad sight ! the shepherd, with a sigh,
Looks round to learn the history.

From those abrupt and perilous rocks
The man had fallen,—that place of fear !
At length upon the shepherd's mind
It breaks, and all is clear.
He instantly recall'd the name,
And who he was, and whence he came :—
Remember'd too the very day
On which the traveller pass'd this way.

But hear a wonder now, for sake
Of which this mournful tale I tell ;
A lasting monument of words
This wonder merits well.
The dog, which still was hovering nigh,
Repeating the same timid cry,
This dog had been through three months' space
A dweller in that savage place.

Yes, proof was plain, that since the day
On which the traveller had died,
The dog had watched about the spot,
Or by his master's side.
How nourished here through such long time,
He knows who gave that love sublime ;
And gave that strength of feeling, great
Above all human estimate.'

It is about forty years since the fatal accident happened which furnishes a subject for the above poem. The circumstances were recently detailed to a tourist,

by one of the guides who conducts visitors to the summits of Skiddaw and Helvellyn. The unfortunate man who perished in these solitudes was a resident of Manchester, and periodically in the habit of visiting the Lakes; and who, confiding in his knowledge of the country, had ventured to cross one of the passes of Helvellyn late on a summer's evening, in company with his faithful dog. Darkness, it is supposed, came on before his expectation; he wandered from the track, and fell over the rocks into one of those deep recesses where human foot but seldom treads. The body, still watched by the dog, was found accidentally after many weeks' fruitless search. The man who told the story had never heard of the poem; but the sentiment of natural piety with which it concludes was on his lips—"God knows how the poor beast was supported so long!"

The dog dreams; he pursues in sleep his wonted avocation, and gives chase to the fancied game, or gambols around his master. Nor is the dream always dispelled on awaking: Lucretius says,

"Venantumque canes in molli sæpe quiete
Jactant crura tamen subito, vocesque repentè
Mittunt, et crebras reducunt naribus auras
Ut vestigia si teneant inventa ferarum;—
Expergifactique sequuntur inania sæpè
Cervorum simulacra, fugæ quasi dedita cernant;
Donec discussis redeant erroribus ad se."^{*}

De Rer. Nat. iv. 988-994.

* "And dogs of the chase, in soft sleep, often
Move their limbs suddenly, and send forth hasty sounds,
And draw in frequent inspirations with their nostrils,
As if they were keeping the tracks of game;
And, aroused, often follow the empty images
Of stags, as if they saw them in flight;
Till, their errors dissipated, they return to themselves."

We shall not attempt to enter into the theory of dreams, further than to observe that they are impressions on the mental part of our mysterious being during sleep, which impressions are believed to have a real and present existence; and they follow each other according to associations over which we have at that time no control. The very circumstance that the dog dreams proves the comparatively great perfection of those powers which we term collectively mind. It remembers, it reflects, it imagines; it is animated by hope or joy, and depressed by fear or anxiety.

Dogs certainly acquire some knowledge of time. Mr. Southey, in his 'Omniana,' relates two instances of dogs which were able to count the days of the week. One of these he says belonged to his grandfather, and was in the habit of trudging two miles every Saturday to cater for himself in the shambles. "I know," he adds, "a more extraordinary and well authenticated example. A dog which had belonged to an Irishman, and was sold by him in England, would never touch a morsel of food upon Friday." We have heard of a dog which was in the habit of attending church with the bailiff of a gentleman in a parish some distance from Edinburgh. When the family resided at Edinburgh, the dog being with them, he would start off on a Saturday to the bailiff's house, that he might not lose his privilege, and would punctually return. M. Blaze says, that a dog belonging to M. Roger set out every Saturday, at two o'clock precisely, from Locoyarne to go to Hennebon (about three miles distant). On arriving, he went straight to the butcher's, because they killed on that day, and he was sure of having a good dinner of offal. At this same gen-

tleman's, family worship was conducted every evening, and the dog would listen very quietly to the Paternosters, which, however, did not seem much to edify him, for the moment that the last Paternoster was begun, he would get up and place himself at the door, ready to go out as soon as it should be opened. It was evident that he knew how to count the number of prayers which were ordinarily repeated. Many instances of a similar nature might be collected; but the repetition of such in proof of a point which few acquainted with dogs will contest, is not requisite.

Sir Walter Scott was, we believe, impressed with the opinion that dogs understand, to a great extent, human language or conversation; and we believe it. A dog from his master's conversation will know that he is about to walk out, or take a journey; and if he has reason to believe that his company is not wished for, will make his escape, and join his master on the road when at too great a distance for him conveniently to turn back. We have two dogs, a spaniel and a terrier, both of small size; and if, by way of trial, in the course of conversation we say, in the ordinary tone of voice, and without looking at them, "I am sure there must be a cat somewhere about the house," they are instantly excited, and search in every place for the animal, to which they bear instinctive hatred. Dr. Gall says that dogs learn to understand not merely separate words or articulate sounds, but whole sentences expressing many ideas. In his treatise '*Sur les Fonctions du Cerveau*' is the following passage:—"I have often spoken intentionally of objects which might interest my dog, taking care not to mention his name, or make any intonation or gesture which might

awaken his attention. He however showed no less pleasure or sorrow, as it might be; and, indeed, manifested by his behaviour that he had perfectly understood the conversation which concerned him. I had taken a bitch from Vienna to Paris; in a very short time she comprehended French as well as German, of which I satisfied myself by repeating before her whole sentences in both languages." Without going so far as Dr. Gall, we cannot help thinking that dogs understand more of what is said than is generally suspected; not that they can follow out a conversation, or any train of reasoning, but they can pick up a simple sentence here and there which more particularly relates to them. If a sportsman asks his servant whether or not his gun is cleaned, the dog will most probably rise up, in expectation of the sport; and a few orders respecting dress, powder, shot, &c., will be caught up, and received as intimating that his service is about to be required. This is not more unlikely than that the dog should understand the accents of praise or disapprobation. That dogs communicate their ideas to each other, and contrive plans for their mutual benefit, seems to be generally acknowledged; and we read of dogs insulted and tyrannized over by others of superior strength combining with several friendly dogs, or with one of great prowess, to punish the aggressor. The story of a dog, whose broken leg had been set and cured by a benevolent surgeon, bringing to the gentleman's house another dog whose leg had been broken also, has been often told. There are two versions of this story, in one of which the surgeon is described as living at Leeds; in the other, the surgeon was Morand, a celebrated practitioner in France. Two dogs belonging to

M. Blaze, a hound called Triomphaux, and a pointer called Médor, were in the habit of absenting themselves occasionally from home, for several days together, and on their return they were always in good condition, and by no means hungry, but rather overfilled, and desirous of going to rest. On one occasion, when these two canine friends marched off together, their master followed, and at some distance watched their movements. They carried on the business of poaching for their own benefit. Médor crouched in a trench, along which Triomphaux in full cry drove the hare, which the former suddenly seized as it passed; the two then proceeded to make a good dinner.

The dog, and indeed it is the case with other domestic



Lion and Spaniel.

animals, sometimes forms a friendship with other creatures of the lower order, of a different species from himself. Instances, indeed, of this friendship between the dog and the horse are not uncommon, and have come under our own notice; and we have heard of others in which a dog and lion or lioness displayed towards each other the warmest attachment.

In Montagu's supplement to his 'Ornithological Dictionary' is an account of a friendship between a pointer and a Chinese goose, which commenced under rather extraordinary circumstances, at least on the part of the goose. It appears that the dog had killed the mate (gander) of the goose, and was not only severely punished for the misdemeanour, but had the dead bird tied to his neck. The solitary goose, attracted to the kennel by the sight of her dead companion, for the loss of which she was greatly distressed, seemed determined to persecute Ponto by her constant attendance and continual vociferations. By degrees, however, her feelings underwent a change, and in a short time a strict amity and friendship arose between these incongruous animals. "They fed out of the same trough, lived under the same roof, and in the same straw bed kept each other warm; and when the dog was taken to the field, the inharmonious lamentations of the goose for the absence of her friend were incessant."

One of the most extraordinary cases on record of a friendship between two most dissimilar animals, a spaniel and a partridge, is narrated by a writer in whom implicit confidence may be placed:—"We were lately (in 1823) visiting in a house, where a very pleasing and singular portrait attracted our observation: it was that of a young lady, represented with a partridge perched upon her

shoulder, and a dog with his feet on her arm. We recognised it as a representation of the lady of the house ; but were at a loss to account for the odd association of her companions. She observed our surprise, and at once gave the history of the bird and the spaniel. They were both, some years back, domesticated in her family. The dog was an old parlour favourite, who went by the name of Tom ; the partridge was more recently introduced from France, and answered to the equally familiar name of Bill. It was rather a dangerous experiment to place them together, for Tom was a lively and spirited creature, very apt to torment the cats, and to bark at any object which roused his instinct. But the experiment was tried ; and Bill, being very tame, did not feel much alarm at his natural enemy. They were of course shy at first, but this shyness gradually wore off ; the bird became less timid and the dog less bold. The most perfect friendship was at length established between them. When the hour of dinner arrived, the partridge invariably flew on his mistress's shoulder, calling with that shrill note which is so well known to sportsmen, and the spaniel leapt about with equal ardour. One dish of bread and milk was placed on the floor, out of which the spaniel and bird fed together. After their social meal, the dog would retire to a corner to sleep, while the partridge would nestle between his legs, and never stir till his favourite awoke. Whenever the dog accompanied his mistress out, the bird displayed the utmost disquietude till his return ; and once, when the partridge was shut up by accident a whole day, the dog searched about the house, with a mournful cry which indicated the strength of his affection. The friend-

ship of Tom and Bill was at length fatally terminated. The beautiful little dog was stolen; and the bird from that time refused food, and died on the seventh day, a victim to his grief."

Such, then, is a sketch of the general properties of the dog, so varied in external configuration, so varied in acquired propensities and habits, so uniform in attachment to its master. "The guardianship so trustworthy of dogs, their attachment so devoted to their masters, their general dislike of strangers, their wonderful powers of scent, their singular aptitude for the chase, prove this fact, that they were formed for the service of man." (Cicero, *De Nat: Deorum.*)

Before entering more fully into the various races of dogs, we may here enumerate a few physical characters we have hitherto omitted. The dog never perspires, but when heated lolls out its tongue, and salivary fluid drips from its mouth; when in health its nose is cool and moist; it turns round and round before lying down in the chosen spot; it is capable of sustaining long hunger, but requires to drink often. The teats in the female vary; some have five pairs, some four; some have one more on one side than on the other. The number of young at a litter varies from four to eight; they are born blind, and the eyes are not opened till the tenth or twelfth day. It is a remarkable fact, and one which we can personally avouch, that the male parent of the first litter produces an influence on the form and external characters of subsequent litters by other fathers; and it often happens that while some of the young resemble the female or male, others will take after the male parent

of the first brood.* A similar fact has been proved in the instance of the mare.

The dog is adult at the age of three years, and seldom lives longer than about fifteen years. Sometimes, however, it attains to twenty; so that Homer's account of the faithful dog of Ulysses, which died at his feet on his return after twenty years' absence, is within the bounds of possibility. The dog has certain subcaudal glands, which exhale a penetrating fetid odour.

* Jaques Savary, a cynegetical poet of Caen, had long ago, in 1665, made the same observations. (See *Album Dianae Leporicidæ.*)

CHAPTER IV.

ON THE VARIETIES OF THE DOG.

WE now venture to offer the following as an arrangement of the principal breeds into which the domestic dog appears to be resolvable; from this arrangement we exclude the true wild dogs of India and the dingo of Australia, but retain in it such dogs as have reverted to a life of independence, and which may be termed feral:—

1. Ears, erect or nearly so; nose, pointed; hair, long, often woolly; form, robust and muscular; aspect, more or less wolfish.

2. Ears, narrow, semi-erect, or only slightly pendulous; muzzle, produced; jaws, strong; hair, smooth or wiry; limbs, long and vigorous; power of scent, not highly developed.

Feral dog of Russia.
 Feral dog of Natolia.
 Shepherd's dog of Natolia.
 Persian guard dog.
 Pomeranian dog.
 Icelandish dog.
 Siberian dog.
 Tschuktschi dog.
 Esquimaux dog.
 Hare Indian dog. [dians.
 Black wolf-dog of Florida In-
 Nootka dog.
 Shepherd dog.
 Ancient German boarhound,
 the Sau-ruden of Redinger.
 Great Danish dog.
 Feral dog of Hayti.
 French mâtin.
 Irish wolf-dog.
 Scotch deerhound.
 English greyhound.
 Italian greyhound.
 Persian greyhound.
 Brinjaree dog.
 Albanian greyhound.
 Lurcher.

- | | |
|---|---|
| 3 Ears, moderately large and pendent; muzzle, deep and strong; hair, long, sometimes wiry; form, robust; aspect, grave and intelligent. | } Italian wolf-dog.
Newfoundland dog.
Labrador dog.
Alpine dog. |
| 4. Ears, moderately large; sometimes very large, pendent; hair, long and fine; muzzle, moderate; forehead, developed; scent, acute; intelligence at a high ratio. | } Spaniel and fancy varieties.
Water-spaniel and varieties.
Rough water-dog or barbet.
Little barbet.
Setter. |
| 5. Ears, large, pendent; muzzle, long and deep; nose, large; hair, close; scent, acute; form, vigorous. | } Pointer.
Dalmatian dog.
Beagle.
Harrier.
Foxhound.
Old English hound.
Bloodhound.
African hound, &c. |
| 6. Ears, moderate, pendent; muzzle, short and thick, jaws, enormously strong; hair, short, sometimes wiry; form, robust; sense of smell variable. | } Cuban mastiff.
English mastiff.
Thibet mastiff.
Bandog.
Bulldog.
Corsican and Spanish bulldog.
Pug-dog. |
| 7. Ears, suberect; muzzle, rather acute; jaws, strong; hair, short or wiry; scent, acute; habits, active; intelligence, considerable. | } Terrier — smooth and wire-haired.
Turnspit.
Barbary dog. |

We do not offer this arrangement, which is essentially the same as that which we have elsewhere given, as not liable to objections; indeed so many mixed breeds of dogs of uncertain origin exist, that any attempt to class them under distinct heads would appear hopeless. We must confess, however, that F. Cuvier's arrangement of

all breeds under three heads, viz., Mâtins, Spaniels, and Dogues or mastiffs, is to ourselves by no means satisfactory,—at the same time we would not arrogantly assert that our own is anything like perfect. It will be observed that we have omitted in it any enumeration of the Egyptian, Greek, or ancient Roman dogs, and for one good reason, viz., though much may be learnedly said about them, little after all is positively established.

To commence with the first section of our arrangement of the varieties of the *Canis domesticus*, we may observe that through the whole northern extent of Europe, Asia, and America, several breeds of wolf-like dogs, evidently related to each other, exist. Of these, the Pomeranian dog, or Kees of the Dutch, is tolerably well known in England. Its nose is pointed, the fur is long, the tail bushy and curled over the back: the colour is white, or a mixture of white and brown. They make excellent watch-dogs, and are often seen on the barges traversing the canals. This dog is undoubtedly of more northern origin, and is derived perhaps from the same stock as the Iceland dog, which was carried most probably by the old Norsemen to that island of ice-cliffs and volcanoes. It is singular that a wolf-dog of large size, with pointed nose, erect ears, and a long coat, is to be seen in some parts of Spain. Col. H. Smith, who calls it the Great Wolf-dog, thinks that it was brought to that country by Gothic hordes, and that it is similar to a variety described by Olaus Magnus, which in his time was common to the north of Sweden and Norway. A powerful breed of wolfish watch-dogs of large stature exists in Russia; but besides the truly domestic dogs of that country there is an emancipated or feral race, of wolf-like aspect and

colour, living, like the jungle pariah dogs of the East, in companies. They approach the outskirts of the towns, and even of St. Petersburg, making burrows in the earth, and prowling about at night in quest of food; they are dangerous, especially in winter, to persons travelling alone and unprotected through the country. Col. H. Smith states that a gentleman and his friend, long resident in St. Petersburg, were obliged to go out to the rescue of a boy sent with a message across the ice of the Neva, who was observed to be beset by a troop of these animals. It may be that they are real wild dogs, for very little is known about them.

Throughout Siberia, to its eastern borders, and in Kamtschatka, various arctic breeds of wolf-like dogs exist, which are used in winter for the purpose of drawing sledges over the hardened snow. The Kamtschatka dogs, of surly temper, are often cruelly treated, and forced to draw weights beyond their strength; and to proceed at the stretch of their speed. The ordinary loading of five dogs is about 240 or 250 lbs., exclusive of sledge and driver, and they will travel from 60 to 100 miles in a day. Their perseverance is as great as their speed. Captain King states that a courier with dispatches having occasion to urge his "*team*" forward for four days successively, passed over 270 miles in that space of time. No doubt his sledge was very lightly loaded. During the summer these dogs wander at liberty, obtaining their subsistence principally from such fish as they can catch upon the margin of the sea or rivers, in which operation necessity makes them very skilful. In October they are collected by their owners, or return home, and are fed principally on the bones and

heads of dried fish. The time now arrives for their services in dragging the sledge; and a winter of hard usage is before them. The leading dog of a sledge, whose training is rigidly attended to, if well disciplined and obedient, is of great value. A sum equivalent to ten pounds is the common price for a good leader. The other dogs are harnessed in pairs; but the reins are only attached to the collar of the leader, whom the rest follow. The leader is guided by the voice of the driver, who carries, it is said, a short stick, which he throws at the refractory individuals, and recovers with great address. These dogs pursue game eagerly, and not being well fed, are apt when they come to the tracks of reindeer, or seals, to start off in full chase, when it becomes very difficult to stop them; sometimes, indeed, they overturn the sledge, and dash it to pieces. Among the Tschuktschi, according to the details of Admiral von Wrangell ('Expedition to the Polar Seas') more consideration appears to be shown to the dogs than in Kamtschatka, at least if the ordinary accounts be not overcharged:—

“Of all the animals that live in the high north latitudes none are so deserving of being noticed as the dog. The companion of man in all climates from the islands of the South Sea, where he feeds on bananas,* to the

* That the dog should thrive upon vegetable food is a remarkable fact. A professional gentleman of our acquaintance in Rochford, Essex, possesses a noble and very fierce Newfoundland dog; and during the plum-season, when that fruit is ripe, this dog, if he can possibly get loose, makes his way to the orchard and large kitchen-garden for the sake of the fallen greengages, to which he is singularly partial. A spaniel belonging to one of the same gentleman's family is equally partial to greengages, but with epicurean taste refuses other plums,

Polar Sea, where his food is fish, he here plays a part to which he is unaccustomed in more favourite regions. Necessity has taught the inhabitants of the more northern countries to employ these comparatively weak animals in draught. On all the coasts of the Polar Sea, from the Obi to Behring's Straits, in Greenland, Kamtschatka, and the Kurile Islands, the dogs are made to draw sledges loaded with persons and with goods, and for considerable journeys. These dogs have much resemblance to the wolf. They have long, pointed, projecting noses, sharp and upright ears, and a long bushy tail; some have smooth, some have curly hair (such are the smooth-haired dogs of Newfoundland, noticed previously). Their colour is various; black, brown, reddish brown, white, and spotted. They vary also in size, but it is considered that a good sledge-dog should not be less than two feet seven and a half inches in height (at the head?), and three feet three-quarters of an inch in length (English measure). Their barking is like the howling of a wolf. They pass their whole life in the open air: in summer they dig holes in the ground for coolness, or lie in the water to avoid the musquitoes; in at least when the greengages are to be procured. On the side-board in the dining-room are generally kept plates of apples, pears, and the like; and to these, when he has an opportunity, he will help himself, first taking one and eating it, and then returning for another. We never knew dogs with the like appetite; the fox and jackal, however, are, as is well known, fond of grapes, and so we believe is the dog. We have omitted to state that the same spaniel is extremely fond of ripe gooseberries, and will ensconce himself under the bushes, eagerly devouring the fruit; not, however, without sundry scratches on the nose, upon the reception of which he retreats yelping and rubbing the part—but, overcome by the temptation, he returns to the feast.

winter they protect themselves by burrowing in the snow, and lie curled up, with their noses covered by their bushy tails. The female puppies are drowned, except enough to preserve the breed, the males alone being used in draught. Those born in winter enter on their training the following autumn, but are not used in long journeys until the third year. The feeding and training is a particular art, and much skill is required in driving and guiding them. The best-trained dogs are used as leaders, and as the quick and steady going of the team, usually of twelve dogs, and the safety of the traveller, depend on the sagacity and docility of the leader, no pains are spared in their education, so that they may always obey their master's voice, and not be tempted from their course when they come on the scent of game. This last is a point of great difficulty; sometimes the whole team, in such cases, will start off, and no endeavours on the part of the driver can stop them. On such occasions we have sometimes had to admire the cleverness with which the well-trained leader endeavours to turn the other dogs from their pursuit; if other devices fail, he will suddenly wheel round, and by barking, as if he had come on a new scent, try to induce the other dogs to follow him. In travelling across the wide tundra, in dark nights, or when the vast plain is veiled in impenetrable mist, or in storms or snow-tempests, when the traveller is in danger of missing the sheltering powarna, and of perishing in the snow, he will frequently owe his safety to a good leader. If the animal has ever been in this plain, and has stopped with his master at the powarna, he will be sure to bring the sledge to the place where the hut lies deeply buried in the snow;

when arrived at it he will suddenly stop, and indicate significantly the spot where his master must dig. Nor are the dogs without their use in summer: they tow the boats up the rivers; and it is curious to observe how instantly they obey their master's voice, either in halting or in changing the bank of the river. On hearing his call they plunge into the water, draw the towing-line after them, and swim after the boat to the opposite shore; and, on reaching it, replace themselves in order, and wait the command to go on. Sometimes even those who have no horses will use the dogs in fowling excursions, to draw their light boats from one lake or river to another. In short, the dog is fully as useful and indispensable a domestic animal to the settled inhabitant of this country, as the tame reindeer is to the nomade tribes. They regard it as such. We saw a remarkable instance of this during the terrible sickness which, in the year 1821, carried off the greater part of these useful animals. An unfortunate Juhakir family had only two dogs left out of twenty, and these were just born, and indeed still blind. The mother being dead, the wife of the Juhakir determined on nursing the two puppies with her own child, rather than lose the last remains of their former wealth. She did so, and was rewarded for it, for her two nurslings lived, and became the parents of a new and vigorous race of dogs. In the year 1822, when most of the inhabitants had lost their dogs by the sickness, they were in a most melancholy condition; they had to draw home their own fuel; and both time and strength failed them in bringing home the fish which had been caught in distant places; moreover, whilst thus occupied, the season passed for fowling and fur-hunting;

and a general and severe famine, in which numbers perished, was the consequence. Horses cannot be made a substitute; the severity of the climate and the shortness of the summer make it impossible to provide sufficient fodder; the light dog can also move quickly over the deep snow, in which the heavy horse would sink. Having thus described the out-of-door life and employments of the people of this district, let us accompany an individual into his habitation, at the close of summer, when he and his family rest from all these laborious efforts, and enjoy life after their manner. The walls are caulked afresh with moss and new plastered with clay, and a solid mound of earth is heaped up on the outside as high as the windows. This is accomplished before December, when the long winter nights assemble the members of the family around the hearth. The light of the fire, and that of one or more train-oil lamps, are seen through the ice windows; and from the low chimneys rise high columns of red smoke, with magnificent jets of sparks occasioned by the resinous nature of the wood. The dogs are outside, either on or burrowed in the snow. From time to time their howling interrupts the general silence; it is so loud as to be heard at great distances, and is repeated at intervals, usually of six or eight hours, except when the moon shines, when it is much more frequent."

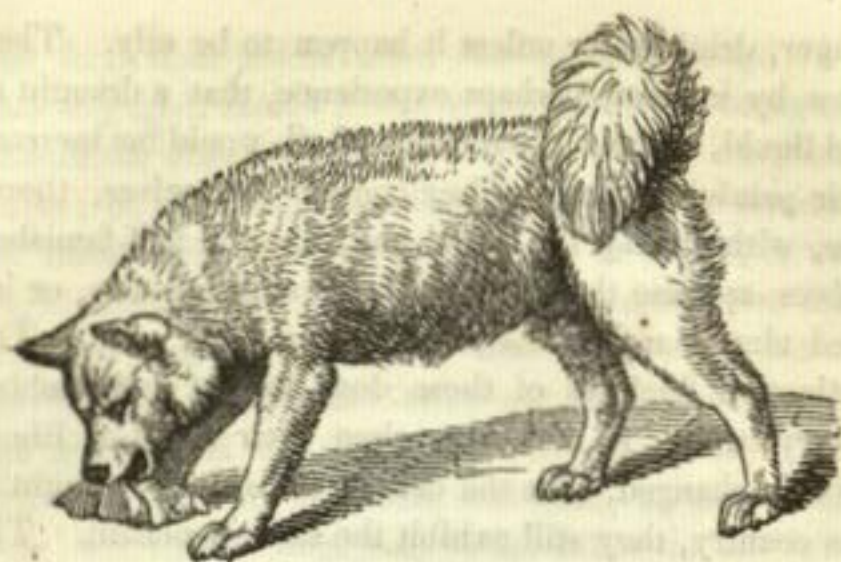
Besides the Hare Indian dog, to which we have already referred at some length, and which is decidedly an aboriginal of the high northern latitudes of America, we may notice the Esquimaux dog and the Nootka dog. The latter is like the dogs of Kamtschatka generally, but is still more woolly, being covered in fact by a thick

deep fleece, of variable colour; this fleece felts so well, that when shorn it rolls up into a sort of bundle like that of the sheep; the natives spin it, and work it with other wool into garments.

The Esquimaux dog is perhaps only a variety of the preceding; it is spread throughout the whole boreal region of America, from Behring's Straits to the eastern coast of Greenland, and appears to be essentially identical with the boreal race of Siberia and Kamtschatka. Some naturalists, it is true, make the Greenland dog a distinct variety, but wherein the difference lies we have not been able to determine. It appears to us that there is one great boreal race of true dogs, varying a little in size, and perhaps still more in the character of the fur, extending throughout Europe, Asia, and America; and that these differences are so trifling that no zoological distinction can be founded thereon; they are not more than might be expected from some differences of climate and diet, or from more or less of the strain of the wolf, with which the breed may have been more crossed in one district or range of country than another. In general aspect the Esquimaux dog and grey wolf of North America so closely resemble each other, that when seen at a little distance it is not easy to distinguish between them. In the Museum of the Zoological Society of London is a fine specimen of the Esquimaux dog (No. 212, *d* of Catal. Mamm. 1838) in contrast with a grey wolf from the northern wilds of America (No. 214, Catal. Mamm.), and any one would suppose, unless informed to the contrary, that the two animals were of the same species. The Esquimaux dog above referred to was procured at Baffin's Bay. It was presented to the Society by Cap-

tain Sir Edward Parry, R.N., and "was one of the faithful companions of our northern voyagers during their stay in Melville Island in the winter of 1819-20, and is the specimen referred to by Dr. Richardson" (see 'Fauna Bor. Amer.,' p. 75). And here we may add to our previous notice respecting the intermixture of the boreal dogs with the wolf, the attestations of Captain Sir E. Parry and Sir J. Franklin. The former assures us that some of his female Esquimaux dogs, during his first voyage, strayed from his ships, and returned after a few days, pregnant by wolves ('Journal,' &c., p. 185). Sir J. Franklin ('Narrative,' &c., p. 172) states, that the Indians attached to one of his expeditions, upon destroying a female wolf, carried away three of her whelps to improve the breed. We learn from the same scientific commander, that in the month of March the female grey wolves frequently entice the domestic dogs from the forts, though at other seasons a strong antipathy seemed to subsist between them ('Narrative,' p. 90).

To the Esquimaux their dogs are of the greatest importance; these animals are devoted servants and companions, to whom their masters look for assistance in the chase of the seal, the bear, and the reindeer. They draw sledges over the trackless snows in winter, and carry burdens while attending their masters in the pursuit of game in the summer. They lead a fatiguing life, and during the winter are often nearly starved for want of provisions. Their situation indeed is the reverse, with respect to sufficiency of diet, to what obtains among the dogs of Kamtschatka; the latter are turned out in the summer to seek their own subsistence, and called home on the approach of winter, when their masters supply them with



Esquimaux Dog.

food. But the Esquimaux dog is not turned adrift during summer, and, as it is the season of plenty, is abundantly supplied with the refuse of the seal and walrus; but in winter their feeding is scanty and precarious; their masters have but little to spare, and they therefore become miserably thin at a time when their energies are most in requisition. Hence, when in harness, they rush out of the road either to give chase to any animal descried or to pick up what seems likely to afford a meal. They creep, when at liberty, into the huts, and steal what they can find; nor are they to be driven back, except by unmerciful blows, accompanied by shouts of the intruder's name. Their hunger is increased by the severity of the winter; and in high northern regions not only is more animal food requisite for the due maintenance of the vital powers, but that food must be of an oily quality. Blubber and seal's flesh form, in fact, a necessary staple of food for the Esquimaux and their dogs; and Captain Sir E. Parry mentions that the Esquimaux dogs will not, when suffering

hunger, drink water unless it happen to be oily. They know by instinct, perhaps experience, that a draught of cold liquid, without the addition of oil, would but increase their painful craving. They content themselves, therefore, with licking the snow, and, like the half-famished wolves, appease their hunger by swallowing clay, or indeed almost any substance they can meet with. The instinctive fondness of these dogs for fat and blubber is very strong, so that even when their mode of life is entirely changed, as is the case of individuals brought to this country, they still exhibit the same penchant. The author of the 'Menageries' remarks, that when he wrote, there were at Chelsea two Esquimaux dogs, which would stand hour after hour in front of a candlemaker's workshop, snuffing the savoury effluvia of the melting tallow.

The strength, the courage, and the exquisite delicacy of scent which these valuable dogs possess, renders them all-important to the natives around Baffin's Bay, as the means of procuring them subsistence. During the short summer they are employed in the chase of the reindeer for a stock of food and clothing, and during the long and dreary winter, when distress drives the fur-clad inhabitants of an inhospitable realm to go forth in quest of prey, it is upon their dogs that they depend. They follow by their aid the track of the reindeer; and so keen is their sense of smell, that they discover the seals which lie in their holes, under the ice of the lakes, at a great distance, or the bears in their winter retreats, or prowling about the shores of the Frozen Sea. The ferocity and resolution with which they attack the bear are wonderful, indeed the very word *nennook*, which signifies that animal, is sure to excite them to the uttermost, and is often used to

call forth their ardour when running in a sledge; when thus engaged, should a bear or reindeer come in sight, or should the dogs get upon the scent, nothing can restrain them; off they dash, and though this may be sometimes an inconvenient way of proceeding, it is on the whole highly serviceable, for it seldom happens that the driver has such a stock of provisions that a godsend is not very acceptable; his arrow or knife will enable him to secure the game when the dogs have surrounded it. Two or three dogs, led on by a man, will fasten upon the largest bear; but, though impetuous in the attack on this formidable beast, they have not the same undaunted bravery towards the wolf; indeed, they instinctively avoid a contest with that animal, and though they may be excited to attack it, and certainly when driven to desperation defend themselves to the uttermost, still the approach of the wolf makes them uneasy, and causes them to utter long and loud howls.

During their summer excursions in pursuit of reindeer, the Esquimaux load their dogs with provisions, &c., to the extent of about 30 lbs. each. The mode in which they are laden is similar to that in which the pack-horse was uniformly laden in our country—that is, peniers or bags equally poised are thrown across their backs; but it is not for this mode of exerting its strength that the Esquimaux or any other dog is structurally formed. And this assertion, we think (independently of the reasons previously given), the experiments of Captain Lyon will prove. This officer put to the test the strength of these animals exerted in the proper manner, that is, at the simple pull, and found that three could draw himself on a sledge weighing 100 lbs. at the rate of a mile in six

minutes; his leader, a well-grown dog, singly drew 196 lbs. a mile in eight minutes, and seven ran a mile in four minutes with a heavy sledge full of men. Nine dogs drew 1611 lbs. at the rate of nine minutes per mile; the sledge was neither shod nor iced; had it been so, 40 lbs. more might have been added for each dog.

The mode in which the Esquimaux dogs are employed in drawing the sledge, and the difficulties arising from the imperfect manner in which the animals are harnessed, and from their quarrelsome nature, are well described by Sir E. Parry in his 'Journal of a Second Voyage for the discovery of a North-west Passage:—' "When drawing a sledge the dogs have a simple harness (annoo) of deer or seal skin going round the neck by one bight, and another for each of the fore legs, with a single thong leading over the back and attached to the sledge as a trace. Though they appear at first sight to be huddled together, without any regard to regularity, there is, in fact, considerable attention paid to arrangement, particularly in the selection of a dog of peculiar spirit and sagacity, who is allowed by a longer trace to precede the rest as a leader, and to whom in turning to the right or left the driver usually addresses himself. The choice is made without regard to age or sex, and the rest of the dogs take precedence according to their training or sagacity, the least effective being put nearest the sledge. The leader is usually from eighteen to twenty feet from the fore part of the sledge, and the hindmost about half that distance, so that when ten or twelve are running together, several are nearly abreast of each other. The driver sits quite low on the fore part of the sledge, with his feet overhanging the snow on one side, and having in his hand a whip, of

which the handle, made either of wood, bone, or whalebone, is eighteen inches, and the lash more than as many feet in length; the part of the thong next the handle is plaited a little way down, to stiffen it and give it a spring, on which much of its use depends; and that which composes the lash is chewed by the women to make it flexible in frosty weather. The men acquire from their youth considerable expertness in the use of this whip, the lash of which is left to trail along the ground by the side of the sledge, and with which they can inflict a very severe blow on any dog at pleasure. Though the dogs are kept in training entirely by fear of the whip, and indeed without it would soon have their own way, its immediate effect is always detrimental to the draught of the sledge; for not only does the individual that is struck draw back and slacken his pace, but generally turns upon his next neighbour, and this, passing on to the next, occasions a general divergency, accompanied by the usual yelping and showing of the teeth. The dogs then come together again by degrees, and the draught of the sledge is accelerated; but even at the best of times, by this rude mode of draught, the traces of one-third of the dogs form an angle of thirty or forty degrees on each side of the direction on which the line is advancing. Another great inconvenience attending the Esquimaux method of putting the dogs to, besides that of not employing their strength to the best advantage, is the constant entanglement of the traces by the dogs repeatedly doubling under from side to side to avoid the whip, so that after running a few miles the traces always require to be taken off and cleared.

“ In directing the sledge the whip acts no very essential part, the driver for this purpose using certain words, as

the carters do with us, to make the dogs turn more to the right or left. To these a good leader attends with admirable precision, especially if his own name be repeated at the same time, looking behind his shoulder with great earnestness, as if listening to the directions of the driver. On a beaten track, or even where a single foot or sledge mark is occasionally discernible, there is not the slightest trouble in guiding the dogs; for even in the darkest night, and in the heaviest snow-drift, there is little or no danger of losing the road, the leader keeping his nose near the ground, and directing the rest with wonderful sagacity. When, however, there is no beaten track, the best driver among them makes a terribly circuitous course, as all the Esquimaux roads plainly show; these generally occupying an extent of six miles, when with a horse and sledge the journey would scarcely have amounted to five. On rough ground, as among hummocks of ice, the sledge would be frequently overturned, or altogether stopped, if the driver did not repeatedly get off, and by lifting or drawing it to one side, steer clear of those accidents. At all times, indeed, except on a smooth and well-made road, he is pretty constantly employed thus with his feet; which, together with the never-ceasing vociferations, and frequent use of the whip, renders the driving of one of these vehicles by no means a pleasant or easy task. When the driver wishes to stop the sledge, he calls out "Wo, woa," exactly as our carters do; but the attention paid to this command depends altogether on his ability to enforce it. If the weight is small and the journey homeward, the dogs are not to be thus delayed; the driver is therefore obliged to dig his heels into the snow, to obstruct their progress, and having thus suc-

ceeded in stopping them, he stands up, with one leg before the foremost cross-piece of the sledge, till by gently laying the whip over each dog's head, he has made them all lie down. He then takes care not to quit his position, so that should the dogs set off he is thrown upon the sledge instead of being left behind by them.

“ With heavy loads, the dogs draw best with one of their own people, especially a woman, walking a little way a-head, and in this case they are sometimes enticed to mend their pace by holding a mitten to the mouth, and then making the motion of cutting it with a knife, and throwing it on the snow, when the dogs, mistaking it for meat, hasten forward to pick it up. The women also entice them from the huts in a similar manner. The rate at which they travel depends of course on the weight they have to draw, and the road on which their journey is performed. When the latter is level, and very hard and smooth, constituting what in other parts of North America is called ‘good sleighing,’ six or seven dogs will draw from eight to ten hundredweight, at the rate of seven or eight miles an hour, for several hours together; and will easily under these circumstances perform a journey of fifty or sixty miles a day. On untrodden snow, five-and-twenty or thirty miles would be a good day's journey. The same number of dogs, well fed, with a weight of only five or six hundred pounds, that of the sledge included, are almost unmanageable, and will run on a smooth road, any way they please, at the rate of ten miles an hour. The work performed by a greater number of dogs is however by no means in proportion to this, owing to the imperfect mode of employing the strength of the sturdy creatures, and

the more frequent snarling and fighting occasioned by an increase of numbers."

The Esquimaux dog is surly and obstinate, because his treatment is such as not to develop the nobler parts of his moral nature: he is a slave, ever toiling, and hardly used; subjected to want and blows, to cold and extreme fatigue: seldom, except perhaps by way of excitement in the chase, does he receive a kind word of thankful encouragement; unless indeed from the women, by whom he is uniformly better treated than by the men: it is from the women that this poor animal receives care and attention when sick or helpless, and the consequence is that the women have the complete ascendancy over his affection,—and their words can prevail when the blows and threatenings of the men only excite obstinate disobedience; but let the voice of a female issue the orders, and obedience is promptly and willingly rendered.

The specimens which we have seen in England have been remarkably good-tempered and intelligent, and overflowing with attachment to those who used them kindly. They were noble-looking dogs, with the fine bushy tail curled over the loins; and their breadth of chest, and contour of limb, denoted wonderful strength. In size the Esquimaux dog equals a mastiff, and is very compactly built; the fur is long, and varying in colour, from grey or greyish-white, to brown, or black, and some are parti-coloured, black or brown and white. Crantz, in his 'History of Greenland,' speaking of the dogs says, "They are so stupid that they cannot be used in hunting, excepting to drive the bears into a corner or decoy. They (the natives) use them instead of horses,

harnessing from four to six dogs to a sledge, and in this pompous figure visit one another, or draw home their seals over the ice:" a description which shows no little ignorance and want of discernment, but at which, perhaps, we ought not to be surprised.

Of an allied race of dogs, the black wolf-dog of the Florida Indians, we are unable to state any thing from personal knowledge. Colonel H. Smith describes one which he was enabled to examine in England, and which was sent from Canada, as being higher at the shoulder than a Newfoundland dog (though it was not quite fully grown), but shorter in the body, and in aspect very like a wolf, excepting that the eyes were comparatively nearer the muzzle; the nose rather sharp, the forehead broad and rather arched; the ears erect, pointed, and open; the tail full, like that of a wolf, hanging down, not curled, but not much lower than the heel, no white hairs at the tip; the whole animal being glossy black, excepting a small spot on the breast, and tips of the fore-toes, white. The length of the hair was that of the Newfoundland dog, but somewhat finer. The dog was not vicious; and was extremely active. We did not, he says, hear him, but understood that the voice was more like howling than barking. Colonel H. Smith remarks, and probably with reason, that this dog is evidently intermediate between the original Newfoundland dog and the wolf.

Of the ordinary dog of the North American Indians (*C. Canadensis*, Richardson), and the Techichi, apparently identical with the carrier-dog of Mexico, we really know very little; and do not presume to say in what section they ought to stand.

Colonel H. Smith seems to think the former to be derived from the Caygotte of the Mexican Spaniards (*Canis* [*Lyciscus*] *Cagottis*). Respecting the dog of the North American Indians, we learn from Dr. Richardson that it is in appearance and size between the Esquimaux and the Hare Indian dogs, but is less perfectly reclaimed than either. In their habits these dogs are sneaking and cowardly, biting at the heel, but never making an open attack, unless in packs, upon any animal; and may be singly put to flight by a little Scotch terrier. They assemble at night to howl in unison; particularly when the moon shines brightly. They are employed in the chase at certain seasons, and by some tribes of Indians are used for the purpose of carrying burdens, and also of draught. Their flesh is eaten both by the natives and the Canadian voyagers.

The Techichi is a long-bodied, heavy-looking dog, with comparatively short legs, and smooth close hair; the head is large and broad; the ears are erect. In size this animal equals the European turnspit.

Before leaving the dogs of North America, which we may regard as indigenous, excepting that the Esquimaux is very closely allied to the boreal race of Eastern Siberia and Kamtchatka, we may devote a few observations to the Hare Indian or Mackenzie River dog, and the rather, because the only living pair ever imported into Europe came under our personal notice. This pair was placed by Sir John Franklin in the gardens of the Zoological Society, to which institution they were presented; and they produced, if we remember rightly, two litters. They were very gentle, lively, and familiar, not however without a degree of wildness, for one having been



Dog of Mackenzie River.

permitted his liberty, was not retaken except after a great deal of trouble and an arduous chase. Dr. Richardson states that in their own climate these dogs are very playful and affectionate, and soon gained over by kindness: they are fond of being caressed, and when petted rub their backs against the hand, in the manner of cats. They speedily become acquainted with strangers, but are very mindful of injuries, and do not tamely submit to the lash. When irritated they howl like wolves, but do not attempt to bark. With all their good properties these dogs are by no means remarkably docile, and show but little aptitude for acquiring such arts as are easily taught to the spaniel. The larger dogs of the country frequently fall upon and devour them; yet in proportion

to their size they possess great muscular strength and wonderful perseverance. "A young puppy," says Dr. Richardson, "which I purchased from the Hare Indians, became greatly attached to me, and, when about seven months old, ran on the snow by the side of my sledge for nine hundred miles, without suffering from fatigue. During the march it frequently, of its own accord, carried a small twig, or one of my mittens, for a mile or two." We are sorry to record the fate of this elegant favourite. It was barbarously killed and eaten by an Indian, who pretended that he mistook it for a fox. Dr. Richardson conjectures that this breed was formerly spread over all the northern parts of America, but that, since the introduction of fire-arms, it has gradually given way to a mongrel race, sprung from a mixture of it with the Esquimaux and Newfoundland breeds. When Dr. Richardson visited the boreal regions of America, it was only found in the possession of a certain tribe of Indians, who differed in features, stature, and mode of life from their neighbours the Esquimaux, as much as the dogs of the latter did from those of the former. Probably the pure breed is now extinct.

Leaving the high northern latitudes of the globe, we still find wolf-like races of dogs, differing in the same ratio from the boreal dogs as the wolf of temperate or warm climates does from its boreal representatives,—such are the dogs used in Persia to guard the flocks of sheep, such the shepherd's dog of Natolia; but we must not suppose that they perform the duties of our shepherd's dog, which render it so interesting—on the contrary, they are to be regarded simply as watch-dogs, defending the flocks from wild beasts and strangers, and conse-

quently are more remarkable for other qualities than sagacity and intelligence. In the East, be it remembered, the sheep are not driven—they follow the shepherd—at least in Western Asia, Greece, &c.; but in our country the shepherd's dog acts as drover and gatherer of the sheep together, and takes no little labour from the shepherd, to whom his dog is of the utmost importance. Hence, then, various kinds of dogs are used in the East and in southern and eastern Europe as guards of the flocks; the shepherds employ, for example, a large mastiff in Thibet, and in Calabria a white breed of dogs very similar in appearance to the Newfoundland dog.

In Western Asia the shepherd's dog resembles a wolf in stature and aspect; indeed it is so like the deep yellowish red wolf of Natolia, that a friend of Col. H. Smith absolutely mistook the latter for one of the Turkoman dogs; this was on the occasion of a wolf-hunt, which renders the circumstance the more remarkable, nor was it until his Greek guide called out *Lyké!* when it was too late to fire, that he was sensible of his mistake. The wolf-like Turkoman or Natolian watch-dog, though robust, approaches more to the form of the Irish greyhound than do the northern wolfish dogs, and may perhaps be regarded as an intermediate link. It is rugged and fierce, with erect ears and rather furry tail. Its jaws are very powerful. This race is used by the Turkoman hordes as the guardian of their cattle and tents, and extends from central high Asia to the Bosphorus. It is also employed in Persia by the wandering tribes for the same purpose. In the 'Proceedings of the Zoological Society,' 1839, p. 111, there is given a short notice respecting a dog of this breed presented to the Society by



Turkoman Watch-Dog.

Sir John M'Neil:—"It is a shaggy animal, nearly as large as a Newfoundland, and very fierce and powerful. The dam of the animal at the menagerie killed a full-grown wolf without assistance."

An interesting describer of Persia from personal observation says, relative to the dogs of that country, that the most common are "strong wolfish-looking animals, which are so exceedingly fierce to strangers, that when near the villages guarded by them, I never thought it prudent to walk about without a heavy stick in my hand,

and never dared approach the villages unless in company with some of the inhabitants. I certainly never saw fiercer dogs than these. They are chiefly found among the people who in summer live in tents, and during winter in villages. In other places a dog that has some resemblance to the mastiff is more common, and not quite so ferocious."

In Natolia a feral race of dogs exists similar to the race of shepherd or guard dogs, but with a more brushy tail and pointed muzzle. The fur is rufous grey. These dogs differ from the wolf in habits, hunting in the open day in packs of ten or twelve; but unless molested, never injure man. If, however, they be assaulted, instead of taking to flight, like the wolf of the country, they hesitate not to rush upon the object of their vengeance, who is then in great peril. Col. H. Smith relates that in 1819 the son of a lady of his acquaintance, in company with another midshipman of H. M. ship *Spartan*, went on shore to the plain of Troy attended by guides of the country and several seamen. A troop of these dogs came down, and were recognised by the country people, who warned the young officers not to fire at them; but midshipmen are not so easily baulked; one fired and missed his object, when the whole pack came immediately bounding down towards them, and the party found it necessary to run for the shore, where the feral dogs, satisfied with their victory, pursued them no farther.

Let us now turn to the shepherd's dog of our own island and the adjacent parts of the continent, which offers several varieties, more or less differing from each other. One breed from the north is covered with a deep

woolly coat, capable of felting; the colour is generally grey: another breed, that generally depicted, is covered with long flowing hair, and the tail is full and bushy; the colour is in general black, with tanned limbs and muzzle, varied occasionally by white on the breast. In both the muzzle is acute, and the ears erect, or nearly so. There is a third and larger breed, called the drover's dog, to which we shall allude more particularly.

According to Buffon, the shepherd's dog is the nearest to the primitive type or original of the domestic dog; and he observes that in all inhabited countries, whether men be partially savage or civilized, dogs resembling this more than any other are spread: he attributes its preservation to its peculiar utility, and to its being abandoned to the peasantry charged with the care of flocks. In his genealogical tree of the dog it is this which he places at the root. That Buffon's theory is altogether fanciful and erroneous every naturalist of the present day will freely admit; so far from being the nearest to the original type of the dog, if great cerebral development and intelligence are to be received as tests of cultivation, we must regard the shepherd's dog as one of the most remote of our breeds. The forehead rises, the top of the head is arched and broad between the ears, and it is only in the sharpness of the muzzle, and pointed form of the erect or semi-erect ears, that we trace the resemblance of this dog to any of the less perfectly reclaimed races; and these points only indicate purity of breed, unalloyed by admixture with other varieties. No other dogs can be made so useful to the shepherd, and therefore the shepherd is interested in the purity of the race. How this dog can become converted, as Buffon says,

into the hound in temperate climates, into the greyhound and Danish dog in the East, and in the West into the mastiff and bulldog, is beyond our comprehension; for ourselves we look upon the shepherd's dog, when pure, as it is in Scotland and the wild hilly tracts of Northumberland, Cumberland, Derbyshire, &c., as the representative of a breed as distinct as that of the terrier or mastiff. Perhaps even with respect to external aspect and form, it has undergone, on the whole, less change; it has ever been an out-of-door dog, accustomed to the heat of summer and the cold and snows of winter; has known nothing of the luxury of the parlour, or the comforts of the stable or kennel. It is unaccustomed to associate with other dogs than those of its own race, or with other men than those whom it is destined to serve. Its powers of intellect are directed to one object, and like its masters it is shrewd, prompt, and observant. Its eye, often overshadowed by shaggy hair, is bright and sparkling; it understands every signal; it obeys on the instant, and manages its work with marvellous tact and celerity. This done, it returns quietly to its master, with the air of one conscious of having done his duty. The shepherd's dog is of middle stature, or rather low in proportion to its length, slightly but vigorously formed, and quick and active in its movements. Though not quarrelsome, it is very courageous, and will resolutely encounter the fox in defence of the sheep; and though, unlike the spaniel, it is indifferent to caresses, and distant towards strangers, yet to its master it is most devotedly attached. When the labour of the day is over—when the sheep are folded for the night—it returns with him home to his humble cottage, and there curls up underneath his

chair, or sits by his side and partakes of his simple repast. Where flocks are of large extent, and have to be watched during the night, and in cases where several hundred weaning lambs, wild and capricious, demand the care of the shepherd night and day—when winter storms of snow come on, and the scattered sheep have to be hastily collected and brought to a place of security, it is then that the shepherd feels to the full the value of his dog. A circuit of miles on the dreary hills or mountain-side, or over vast and trackless downs, has to be taken, and that without loss of time; to the dog is this duty intrusted, and well does he perform his office; not a sheep belonging to his master's flock is missing—unless, indeed, any have been stolen or killed—the whole are gathered together without intermixture with the sheep of other owners.

The drover's dog, or cur, to which we have already alluded, though closely allied to the shepherd's dog, is longer, more muscular, and generally has the hair short, though in some breeds we have seen it woolly. This dog is mostly of a black and white colour, and the tail, when not purposely cut, appears as if it had been so. Bewick, who was well acquainted with both the drover's and the shepherd's dog, speaking of the former, says:—
“Many are whelped with short tails that seem as if they had been cut, and these are called in the north self-tailed dogs.” The same writer is disposed to consider this breed as true or permanent, and he informs us that great attention is paid to the breeding of it. It seems to us, however, that the drover's dog is in reality a cross between the shepherd's dog and some other race, perhaps the terrier. It often partakes largely of the shepherd's

dog, but is taller on the limbs. These dogs bite severely, and always attack the heels of cattle, so that a fierce bull is easily driven by one of them. They are singularly prompt and quick in their actions; and, as all who have watched them in the crowded, noisy, tumultuous assemblage of men and beasts in Smithfield must have observed, they are both highly courageous and intelligent. Bewick says of these dogs:—"They know their master's fields, and are singularly attentive to the cattle that are in them. A good dog watches, goes his rounds, and if any strange cattle should appear amongst the herd, he quickly flies, although unbidden, at them, and with keen bites obliges them to depart." Some years since we knew a dog of this breed, or rather nearer the shepherd's breed, belonging to a farm-servant who had a large herd of cows under his charge. During the summer they were depastured on very extensive fields in Cheshire, communicating with one another. Morning and evening, at the bidding of his master, this dog would range the pasturage, collect them together, and gently drive them to the accustomed milking-place. If when he had driven them for some distance he discovered that one was missing, having wandered astray, he would run back and traverse the fields till he had met with the object of his search, which he would conduct to the herd, and then pursue his ordinary duty.

We have often seen the drover's dogs, at their master's bidding, single both sheep and cattle from the drove, and separate them, or drive them to some spot apart from the rest—we have seen them part the droves of two or more drovers travelling in company, which have become mingled together at a halting-place by the road side, and

arrange them in order for continuing the journey—we have seen them turn back the herd from a forbidden lane or gateway, or run before and plant themselves in the way so as to prevent any of the cattle from going astray. During his long, slow journey from the west or the north of our island to the great capital, the drover finds his dog of all-important utility: nor without this assistant could the crowded cattle in Smithfield Market be at all managed. We may here remark that an interesting and really valuable paper on the Drover and his duties is in the 'Penny Magazine,' September 16, 1843.

CHAPTER V.

ON THE GREYHOUND GROUP OF DOGS.

WE now turn to another group, of which we may take the greyhound as the type. This beautiful dog is regarded by Buffon as the descendant of the French Mâtin, but without any solid grounds: indeed it would appear that the latter was brought into France by the Cimbri or Franks, whereas we have sufficiently proved that a greyhound breed existed in the earliest times in the East, as the monuments of Egypt declare; and greyhound races of great power still exist in Persia and India; while to the north of the Caspian we find the great rough greyhound of Southern Tartary. It is, we suspect, in the western parts of Asia, bordering the Caspian Sea, whence in ancient times Scythic tribes pushed their way into Europe, that our greyhound breed had its original seat. All our old greyhound breeds were rough and wire-haired, sandy red or brindled; and at the present day such dogs are occasionally to be seen.

We may here observe, that three varieties of the greyhound, if not four, appear to have long existed—viz. the wire-haired greyhound, more or less rough in its coat, as that of Tartary and Eastern Russia; a silky-haired breed, as that of Natolia, Persia, and Ancient Egypt; and a smooth-haired breed, now common in England, but which



Arabian Greyhound.

was first introduced into France, and subsequently improved by crossings with dogs from Greece, Italy, and India. Besides these, some of the ancient Egyptian greyhounds were smooth with bushy tails, as are the Bedouin greyhounds of Akaba; and in Roumelia there now exists a breed with smooth hair, but with long ears, like those of the spaniel. We think that these various breeds of greyhounds took their origin from one primitive stock; and that the most ancient race was of a yellow colour, wire-

haired, and with sharp upright ears. Changes of climate and various other circumstances would soon produce minor modifications, and these being sedulously kept up by attention to breeding, varieties would thenceforward be the result.

Major Topham (Egan's 'Sporting Anecdotes') derives one variety of the English greyhound partly from the wolf—namely, the wire-haired race; and he thinks that as the wolf remained long in the wolds of Yorkshire—where, indeed, the last in England was destroyed—the long-haired curly-tailed greyhounds, formerly the common breed of Yorkshire, were of this mixed origin. This supposition is destitute of all proof: for, in fact, as we have said, our smooth greyhound is modern-sprung, and a much smaller and feebler animal than the great rough greyhound brought westward by the various Indo-Germanic hordes, among which we may enumerate the Celts, Goths, Vandals, and other nations. We hear of a dog to which the name of Gazehound was formerly given; and Colonel H. Smith thinks that this term may apply more exclusively to the smooth greyhound, perhaps because it followed even more exclusively by the eye than the rough greyhound, and that in time the name gazehound merged in the term of prior establishment. We know not how far this opinion be correct: it is certainly far from improbable.

Before pursuing our observations on the greyhound, we may allude to two dogs which, contrary to the views of Colonel H. Smith, we regard as forming part of the group of which the greyhound is the type—viz. the Great Danish Dog and the French Mâtin; the latter of which, according to Buffon's theory, is the origin of the

greyhound. Now, though we do not agree with Buffon, we cannot help seeing in these dogs an approximation to the greyhound; and though we would not assert it, we cannot help thinking that one of these two races of dogs may have entered into the breed of the wolf-dogs of Ireland, and of the boar-hounds of Germany as we see them represented by the older masters.

In the great Danish dog and *mâtin* the head is long, the muzzle more or less produced, the ears small and bent at the tips, the stature tall, the chest deep, the loins arched and muscular. The forehead is rather rounder and the fur smoother in the Danish dog than in the *mâtin*, and the nose rather less prolonged, and pointed. The Danish dog, when pure, is generally of a slate colour, with white about the breast and limbs: the *mâtin* is white clouded with brown, or sandy yellow. The latter was the colour of a noble specimen we saw a few weeks since, and which we compared to a gigantic greyhound of athletic contour and proportions. A few years since we accidentally saw in one of the streets in Paris a dog of the *mâtin* race, certainly the largest which we have ever beheld. It was of a dull black colour, with white about the chest, and, if we remember rightly, a little tan about the limbs: its form and proportions were admirable, and its aspect noble. We did not measure it, but are convinced that its height at the shoulders could not have been less than a yard by more than two or three inches, and we believe it was fully three feet. So surprised and struck were we with the dog, though we have been through the whole of our life accustomed to large dogs, that we went into a butcher's shop, out of which it followed its master, to make some inquiries respecting it.

He told us that it came from the foot of the Pyrenees, and was, he believed, used for the chase, but had no very definite information to give. We were at the time forcibly impressed with the conviction that such an animal must have been the old Irish wolf-dog; and we still cannot help thinking, that though the Irish wolf-dog was rough, and the one we saw smooth, a rough variety of perhaps purer blood might have been imported by the Belgæ or ancient Scoti from Scythia into Ireland.

The Danish dog, principally to be observed in Denmark and Northern Germany, appears to have accompanied the Gothic tribes who in remote ages were led, according to Scandinavian tradition, by Odin from the banks of the Dniester to the shores of the Baltic. By the Visigoths the race may have been carried into Spain; and thus it may have been the origin of the feral breed of Hayti, the emancipated descendants of the war-dogs of Columbus.

In Sweden this powerful dog was used in the chase of the elk, upon which it was started in couples, when the noble beast, roused from its lair by smaller dogs called elk-finders, took to flight. Quickly, however, did these dogs overtake the quarry, and keep it at bay till the hunters came up, or turn it in the direction where they were posted to receive it. Here, then, we see that the Danish dog was employed in the chase of the larger beasts of "venerie;" and it appears to us that the dogs depicted by the old German painters attacking the wild boar were either a rough variety of this kind, or of a strain between it and the rough greyhound.

With respect to the feral dog of St. Domingo or Hayti, and which is perhaps identical with the St. Domingo race

of greyhounds slightly mentioned by Buffon, we know little excepting from the information given us by Colonel H. Smith. It appears that there exists an emancipated race of dogs of large stature in the remote parts of Hayti, descended from the Spanish war-dogs used in the conquest of that island and other parts of the western hemisphere. These dogs occasionally commit great depredations upon sheep and cattle. Colonel H. Smith describes the specimen which he saw as equal in stature to the largest Scottish or Russian greyhound, standing about twenty-eight inches in height at the shoulder, with the head shaped like that of the wire-haired terrier; the eyes large and light brown; the ears small and pointed, and only bent at the tips; the chest very deep; the croup slightly arched; the limbs muscular, but light; and the tail not reaching to the tarsus, and scantily furnished with long dark hair. The muzzle was black, as well as the eyelids, lips, and the whole hide; but the hair generally, which was short, coarse, and scanty, was of a pale bluish ash. "The look and motions of this animal at once told consciousness of superiority. As he passed down the streets all the house-curs slunk away; when within our lodging the family-dog had disappeared, although he had neither growled nor barked. His master said he was inoffensive, but requested he might not be touched. The hair from the ridge of the nose feathered to the right and left over the eyes, forming two ciliated arches, and the brows appeared very prominent. We were assured that he followed a human track on any scent he was laid on, with *silence* and great rapidity; but, unlike the common bloodhound, it was impossible to prevent his attacking and seizing his victim. According to the owner, who it

seemed was the person the Government had employed to purchase these dogs, the Spanish graziers were equally anxious to destroy all the old dogs of the breed they could find in the country, and to secure all the young for domestication; because when bred up on the farms, they were excellent guardians of the live stock, defending them equally against their own breed and human thieves; and as they attacked with little warning, strangers could not easily conciliate them by any manœuvres."

It is some years since we knew a female dog, said by its owner to be the offspring of the wild race of Cuba, or St. Domingo (we forget which), closely agreeing with the individual described by Colonel H. Smith. It was, however, of a sandy red colour with black lips. The muzzle was long and somewhat pointed, the ears were semipendent, the limbs long but powerful, the chest deep, the loins arched. It was intelligent, but fierce and active. It had no resemblance in aspect to the wolf or dingo, and its nose was broader and less elongated than that of the greyhound, to which in the figure of the body it bore considerable resemblance. It equalled a large greyhound in size, but was more athletic. Colonel H. Smith regards the Molossian race of antiquity as identical with the Danish dog, or great house-dog of the northern German nations. The molossi were slate-coloured dogs (*glaucci*) and prone to barking. We are not so sure of this identity. The term molossus seems to have been very vaguely employed. Nor does it appear that the molossus of the Greeks or Romans was obtained from the German tribes, whose dogs were used in battle, and were renowned for courage.

The French *mâtin* is supposed to have been brought

into France either by the ancient Cimbri, a Celtic nation, who appear to have migrated westwards from the countries bordering the Sea of Azof; but it may have been introduced at a later period by the Franks,—such at least is the opinion of Colonel H. Smith, who regards it as immediately related to the Danish dogs. Was it by these dogs that the tents of the Cimbri were defended against the soldiers of Marius?

Albania and Epirus were in former times noted for a noble race of dogs: now the Chaonian and Molossian breeds were anciently from Epirus; but the question is, what were these breeds?—certainly not mastiffs. Were they, as Colonel H. Smith contends, identical with the great Danish dog and *mâtin*? We are not prepared to say. In his road from Arta to Joánnina, Mr. Hobhouse noticed a breed of dogs, not unlike the true shepherd breed in England, but much larger, being nearly as big as mastiffs, with sharper heads, and more curled and bushy tails. Are not these descendants of the old Chaonian or Molossian race?

Colonel H. Smith, who, in his 'Introductory Remarks,' states that the Molossian dog is most probably the source of the French *mâtin*,—subsequently introduces to our notice a dog which he terms a Suliot dog, and which, he says, "is most likely the true Molossian of antiquity." It is one of the largest breeds known; fierce, coarse in aspect, rugged in fur, but nearly resembling that of the large Danish dog. "We never," he continues, "saw any that had not the ears cropped, and the tail rough with straggling hair; they were tan-coloured, with dark-brown or blackish surfaces on the back and shoulders and about the ears. In the last war between Austria and the

Turks, the Moslem soldiers employed many to guard their outposts; and in the course of the campaigns a great many were captured by the Imperial forces, and secured by the officers as private property, or adopted by the corps as regimental pets. One of these was presented to the King of Naples, and was reputed to be the largest dog in the world, being little less than four feet high at the shoulder. We saw one at Brussels marching at the head of the regiment of Clerfayt, and another belonging to that of Bender, both little inferior to Shetland ponies." The learned writer does not tell why he terms these Suliot dogs. Suli is a district of Southern Albania, about thirty miles in length and twenty miles in breadth; whereas it is very likely that these dogs are natives of the region north of the Balkan, to Wallachia. In fact he subsequently identifies this dog with the watch-dogs of Hungary (which differ principally in their smaller size) and also of Southern Hungary, and regards the boar-hounds (*Canis Suillus*, Gmel.) figured by Redinger as the same. We have already expressed an opinion that the old boar-hounds of Germany, if we are to trust to the figures given by artists, are between the Danish and the old rough greyhound.

Speaking of the great dog of Albania, which St. Isidorus states to have been more powerful than the lion, we are reminded of Pliny's account of an enormous dog which was presented to Alexander by the King of Albania. When brought up the arena in order to combat with the bear and wild boar, the dog, as if in contempt of such enemies, quietly reposed in their presence. Alexander, mistaking this apathy for fear, ordered the dog to be killed. The King of Albania, on learning the

circumstance, sent another dog to the conqueror, at the same time giving him to understand that bears were too insignificant to merit notice, and that he must be matched with a lion or elephant in order to the display of his prowess. Alexander matched the dog against a lion, and the latter was vanquished. Now, though this story bears the marks of some misrepresentation, yet it proves that Albania was the seat of a gigantic and powerful race of dogs, derived most likely from a Gothic or Celtic root; whence sprung also the *mâtin* and the Danish. But in these invincible dogs we see little of the Molossian breed, which Grattius admits to have been inferior in the combat to the British bulldog. We suspect the Acer Molossus to have been a fierce, noisy, sharp-eared watch-dog, with no very great share of real courage or resolution.

If from these dogs we turn to the gigantic greyhounds, wolf-hounds, or deer-hounds of old, we see in them but a modification of the form exhibited by the Danish and *mâtin*; but so far from regarding these as the origin of the greyhound race, we should rather be inclined to look upon them as having branched from it, were we not inclined to the idea that both sprung from some lost or not clearly known original root. Yet, as among races of mankind, the separations and readmixtures of which are so numerous and diversified, that he who endeavours to analyse them becomes bewildered in a maze of confusion, so may the greyhound and *mâtin* races have commingled at one point, again divaricated and again commingled, till all attempts to retrace their genealogy is utterly hopeless. We have already described the characters of the ancient Egyptian greyhound. Now granting that the Egyptian

race was as pure from its source as possible, still we do not see in it those peculiar traits which the wiry or long and harsh haired greyhound of gigantic size exhibits, and which must have been acquired from other sources.

The Persian, Brinjaree, and Grecian greyhounds appear again to be departures from the ancient Egyptian greyhound;—they have silky hair, feathered tails, and are of large size, especially the Brinjaree dog, which, however, we believe is not remarkable for velocity. The Persian greyhound is very handsome. “One of the finest species of dog I have ever seen,” says an interesting writer, “is a sort of greyhound, which the Persians rear to assist them in the chase. They have generally long silken hair upon their quarters, shoulders, ears, and tail, and I think them as handsome and considerably more powerful and sagacious than our own greyhounds. I have sometimes seen a spirited horse break loose, and run away at full speed, when one of these dogs has set after him like an arrow, and soon getting ahead of him, taken an opportunity of seizing the bridle in his teeth, which he held so firmly that, though he was of course not strong enough to stop the horse, yet, as he was dragged along, he continued to pull and confine the horse, so as to hinder him very much, till some person was able to overtake and secure him.”

The greyhound of continental Greece, not to be confounded with the great Albanian dog, is of considerable antiquity; it is still used for deer-hunting. This, like the Persian, is often of a slate colour; though we may remark, that the Persian greyhounds we have seen were of a black colour, slightly tanned about the limbs.

In Barbary, in the Greek islands, in Italy, and in

Southern India, the greyhound is smooth, and it is from these sources that the smooth race of the British Islands has been obtained and brought to its present perfection by selection and judicious breeding. As we have said, it is probable that to the smooth breed the term gazehound was formerly limited. It was in the reign of Louis XV. that the smooth breed was introduced into France.

We now come to the rough wire-haired race of greyhounds which still extends from Tartary through Russia and Hungary to Germany; and it is to this race of large stature and great strength that we have to look for the origin of the celebrated Irish wolf-dog.

Here we may be permitted to quote a passage from the 'Penny Cyclopædia,' which will perhaps throw some light upon the early history of this dog. The writer of the article Ireland says, "The Scoti, who were in possession of the island at the time of the introduction of Christianity, appear to have been to a great extent the successors of a people whose name and monuments indicate a close affinity with the Belgæ (a Teutonic tribe) of Southern Britain. A people also called Cruithne by the Irish annalists, who are identifiable with the Picts of Northern Britain, continued to inhabit a portion of the island distinct from the Scoti, until after the Christian mission; and it is observable that the names of mountains and remarkable places in that district still strikingly resemble the topographical nomenclature of those parts of North Britain which have not been affected by the Scotie conquest. The monuments and relics which attest the presence of a people considerably advanced in civilization, at some period in Ireland, such as Cyclopean buildings, sepulchral mounds containing stone chambers, mines,

bronze instruments and weapons of classic form and elegant workmanship, would appear to be referable to some of the predecessors of the Scoti, and indicate a close affinity between the earliest inhabitants of Ireland and that ancient people, by some referred to a Phœnician origin, whose vestiges of a similar kind abound throughout the south and south-west of Europe. The Scoti were not builders in stone, at least in their civil edifices, nor did they use bronze implements. Their own tradition is, that they came originally from Scythia, by which is meant the north-eastern part of central Europe; which appears to be confirmed by the fact, that the ancient topography of the country in districts where the Scotie invasion has not wholly obliterated it, points at the Welsh language as the nearest representative of that spoken by the predecessors of the Scoti, and that the chief distinctions which at present exist between the Irish and Welsh languages are referable to a Gothic or northern European source."

From this the writer seems to infer that the Belgæ, or the Irish branch, spoke a dialect similar to the ancient Welsh; and that the Scoti were Gothic. Be this as it may, it appears from Strabo, that a greyhound of great stature was employed by the Pictish and Celtic nations in the chase, and was so highly valued that it was imported into Gaul. Pliny, who details a combat in which the "*Canes Graii Hibernici*" distinguished themselves in combat, first with a lion, then with an elephant, describes them as greyhounds taller than a mastiff. Silius, who calls this dog a greyhound, says, that it was imported into Ireland by the Belgæ, and is the same with the renowned Belgic dog of antiquity, and that it was, during

the days of Roman grandeur, brought to Rome for the combats of the amphitheatre. Here, then, we have a renowned Belgic dog, common to the Belgæ, Picts, and Celts, people by whom Ireland was confessedly peopled either wholly or in part—a dog undoubtedly of the rough greyhound race, but perhaps crossed with the giant originals of the Albanian or old *mâtin* stock. It is thus that we imagine the old breed to have been imported into Ireland, where its utility would be fully appreciated, and, moreover, the necessity felt of keeping the strain in perfection. It had the wolf to contend with. There can be no doubt that anciently a wave of colonization flowed from Ireland to Scotland, bearing thither the invaluable wolf-dog. Scotland indeed, to which this term is now exclusively applied, was by the older writers called *Scotia minor*, and Ireland, the source of its colonization, *Scotia major*, a name applied to it first in the third century,* and which continued to the twelfth. The venerable Bede and the Scottish historian both agree that Scotland received a large influx of population from Ireland under the conduct of Reuda; and the former states, that even in his own days half of Scotland spoke the Irish language as their mother tongue. It is then easy to understand how the Irish wolf-dog was imported into Scotland, which country at one period might be called an adjunct to Ireland; and if we are rightly informed,—for we confess our ignorance of Celtic or Gaelic dialects,—Fionn MacCumhaill, the Fingal of Macpherson, whose

* St. Patrick landed in Ireland, as a missionary, in the year 432. The most ancient name is *Erin*.—*Iris*, *Iernis*, *Iuvernis*, *Hibernia*, &c. Over the *Ierni* or *Hiberni* the *Scoti* seem to have acquired in the fifth century a decided superiority.

dog Brin (the mountain torrent) is so finely described, was an Irish chieftain, and Bran was an Irish wolf-dog. In the disjointed relics of old Celtic poetry, the sources of Macpherson's 'Ossian,' this dog is renowned for the chase of the boar and the wolf, and for might and prowess in the field of battle. It may seem strange, as the wolf and wild boar existed in England, that this powerful dog was not introduced into that country, where the passion for the chase was a marked feature among all classes. The question arises, was not this dog introduced into England? We think that it was. In the Saxon times of England, times involved in more obscurity than many periods of Roman history, the people were serfs, and the chiefs, nobles, and princes alone had power. The bondslave fed the swine of his master in the woods, and had strong fierce dogs to aid him against the wolf; but a breed so valuable as a wolf-dog of greyhound race would be denied the serf, and reserved only for the sport of the noble: and as the history of Saxon England is a history of wars between rival monarchs, and between Saxons and Danes, any notice of such a dog cannot be expected. When the Saxon power yielded to the Norman, the forest laws were more stringent and sanguinary than before, and the very dogs used by the serfs were so mutilated as to prevent their engaging in the chase. Some of their toes were cut off, or the pad at the base of the toes removed. The greyhound was permitted to the nobles and princes alone. The old greyhound of England was a large rough dog, but inferior to the Irish, which in the early Norman times was both known in this island and prized.

Llewellyn, Prince of Wales, was presented by King

John with a specimen of this breed; and in the Welsh laws of the ninth century we find heavy penalties enacted relative to the maiming or injuring the Irish greyhound (*Canis Graius Hibernicus*), upon which a value was set amounting to more than double that on the ordinary greyhound. England had long been celebrated for dogs of the bull, mastiff, and hound breeds, useful for ordinary purposes, a circumstance which would limit the employment of the Irish wolf-dog more exclusively to the nobles who could afford to keep up an establishment of the choicest dogs for their own pleasure, the spread of which it would be their pride to restrict; nay more, which none of inferior rank were allowed to possess. Thus, then, while a few valued Irish wolf-dogs were in the possession of the privileged few, the breed would not become general.

Smith, who, in his 'History of Waterford' (2nd edition), describes these dogs as much taller than a mastiff, but more like a greyhound, and for size and strength unequalled, adds, "Roderick, King of Connaught, was obliged to furnish hawks and greyhounds to Henry II. Sir Thomas Rue obtained great favour from the great Mogul, in 1615, for a brace of Irish greyhounds presented by him. Henry VIII. presented the Marquis of Dessarages, a Spanish grandee, with two gos-hawks and four Irish greyhounds." In the reign of King Richard II. "there were still lands held of the crown; and among others, by the family of Engaine, upon the condition of keeping a certain number of wolf-dogs to hunt that animal." (*Col. H. Smith.*)

Some naturalists have been inclined to believe that these so-called greyhounds were not greyhounds at all,

but large dogs perhaps of the mastiff breed; and they allege that no greyhound is capable of contending with the wolf, the great strength of which is notorious, as well as the severity of its bite. We fully agree that no modern greyhound is capable of contending successfully with a wolf; but our slim, delicate, smooth breeds of the present day are dwarfs to the old rough greyhound of England, such as was used by Percy at Chevy Chase; and this breed again, in size, strength, and courage, fell far short of the Irish race; which, as we have said, had in it, not improbably, a cross from the source of the Danish dog or *mâtin*.

That the Irish wolf-dog was essentially a rough greyhound, of a sandy yellow, brindled, or white colour, we have abundant evidence. Holinshed says, respecting the Irish, "They are not without wolves, and greyhounds to hunt them, bigger of bone and limb than a colt." Evelyn, describing the sanguinary combats of the bear-garden, says, "The bulldog did exceedingly well, but the Irish wolf-dog exceeded, which was a tall greyhound, a stately creature, and beat a cruel mastiff." Pennant calls these dogs Irish greyhounds; and observes, that they were led to the chase in leather slips or thongs. He also says that they were scarce.

The following letter, addressed by Deputy Falkland to the Earl of Cork in 1623, proves the fact, that the dog in question was a greyhound; and, moreover, that the Scottish deer-hound was of the same stock, though perhaps at that time less pure:—"My Lord, I have lately received letters from my Lord Duke of Buccleugh, and others of my noble friends, who have entreated me to send them some greyhound dogs and bitches out of

this kingdom of the largest sort, which I perceive they intend to present unto divers princes and other noble persons; and if you can possibly, let them be white, which is the colour most in request here," &c. &c.

In a paper read by Mr. Haffield before the Dublin Natural History Society about five years since, he cites the following communication from Sir William Betham, Ulster king-at-arms, an authority of no slight importance:—"From the mention of the wolf-dogs in the old Irish poems and stories, and what I have heard from a very old person long since dead, of his having seen them at the neale, in the county of Mayo, the seat of Sir John Browne, ancestor to Lord Kilmaine, I have no doubt they were a gigantic greyhound. My departed friend described them as being very gentle, and that Sir J. Browne allowed them to come into his dining-room, when they put their heads over the shoulders of those who sat at table. They were not smooth-skinned, like our greyhounds, but rough and curly haired. The Irish poets call the wolf-dog *cu*, and the common hound *gayer*—a marked distinction, the word *cu* signifying a champion."

Respecting the stature of these dogs (of which the females were, as in the greyhound breed generally, much inferior to the males) we have no definite admeasurements. Ray notices one of these dogs as the "greatest dog" he had ever seen. Goldsmith asserts that he saw several, some of which were four feet high; and, if he means at the head, we dispute not his assertion. We should suppose they stood nearly, if not quite, three feet at the shoulders. Sitting as we now do in our chair, we find that for a dog of this breed to put his head upon our

shoulder, himself standing, his lower jaw must be three feet seven inches from the ground.

The decline and extinction of this noble greyhound breed in Ireland, and its decline, but not total extinction, in Scotland, are easily accounted for. In the former island, as the wolf became extirpated the necessity of keeping up the stock would diminish more and more, till at last the remnants of the breed would be in the possession of a few only; nor was there the opportunity of employing it as a deer-hound; for, if we mistake not, few or no herds of wild-deer or red-deer exist in Ireland, or have existed there—(we speak not of times when the great *cervus megaceros* wandered over the hills)—for many centuries.* Whereas in Scotland, when the wolf was extirpated, the red-deer still remained the free denizen of his mountain range. Hence the name of wolf-hound would merge into that of deer-hound, and the necessity for keeping up the dog in his original state would cease; and a cross with the old rough greyhound would, sooner or later, take place, with a corresponding degeneracy of size and muscular power. Thus, though the Scottish deer-hound is a noble dog, he is not what the Irish wolf-dog was in his day of power.

Mr. Bell rightly observes, that the figure of Lord Altamont's so-called Irish greyhound, given by Mr. Lambert in the 3rd volume of the 'Linnean Transactions,' bears but a slight resemblance to the greyhound form. The fact is, that Lord Altamont's dogs were smooth-haired; and if any of the old wolf-dog blood was

* As one of the causes of the extinction of this dog in Ireland, we may notice political embroilments and their sad results.

in them, it was obscured by some other cross. Bewick's figure, now before us, appears to represent a fine dog of the Danish race. Colonel H. Smith mentions that Mr. Hamilton Rowan used often to appear in Dublin with two majestic wolf-dogs: a correspondent in Dublin informs us that this is a mistake, for he was assured by a personal friend of Mr. H. Rowan's, that they were large bloodhounds. The Irish wolf-dog has for many years ceased to exist; even the Scottish deer-hound is rare.

The following authentic narrative respecting the destruction of the last wolves in the county of Tyrone, abridged from a note in the biography of a Tyrone family published in Belfast, 1829, may prove not uninteresting:—"In the mountainous parts of Tyrone the inhabitants suffered much from the wolves, and gave from the public fund as much for the head of one of these animals as they would now give for the capture of a notorious robber on the highway. There lived in those days an adventurer, who, alone and unassisted, made it his occupation to destroy these ravagers. The time for attacking them was in the night, and midnight was the best time for doing so, as that was their wonted time for leaving their lair in search of food, when the country was at rest, and all was still; then, issuing forth, they fell on their defenceless prey, and the carnage commenced. There was a species of dog for the purpose of hunting them, called the Wolf-dog; the animal resembled a *rough, stout, half-bred greyhound*, but was *much stronger*. In the county Tyrone there was then a large space of ground, enclosed by a high stone wall, having a gap at each of the two opposite extremities, and in this were

secured the flocks of the surrounding farmers. Still, secure though this fold was deemed, it was entered by the wolves, and its inmates slaughtered. The neighbouring proprietors having heard of the wolf-hunter above mentioned, by name Rory Curragh, sent for him, and offered the usual reward, with some addition if he would undertake to destroy the two remaining wolves that had committed such devastation. Curragh, undertaking the task, took with him two wolf-dogs and a little boy only twelve years old, the only person who would accompany him, and repaired at the approach of midnight to the fold in question. 'Now,' said Curragh to the boy, 'as the two wolves usually enter at the opposite extremities of the sheep-fold at the same time, I must leave you and one of the dogs to guard this one, while I go to the other. He steals with all the caution of a cat, nor will *you* hear him, but the *dog* will, and positively give him the first fall; if, therefore, you are not active when he is down to rivet his neck to the ground with this spear, he will rise up and kill both you and the dog. So, good night.'

" 'I'll do what I can,' said the little boy, as he took the spear from the wolf-hunter's hand. The boy immediately threw open the gate of the fold and took his seat in the inner part, close to the entrance, his faithful companion crouching at his side, and seeming perfectly aware of the dangerous business he was engaged in. The night was very dark and cold, and the poor little boy being benumbed by the chilly air, was beginning to fall into a kind of sleep, when at that instant the dog with a roar leaped across him, and laid his mortal enemy upon the earth. The boy was roused into double activity by the

voice of his companion, and drove the spear through the wolf's neck as he had been directed ; at which time Curragh appeared, bearing the head of the other."

"I have not," says a writer in the Irish Penny Journal, "been able to ascertain with certainty the date of the death of the last Irish wolf; but there was a presentment for killing wolves granted in Cork in the year 1710. I am at present acquainted with an old gentleman between 80 and 90 years of age, whose mother remembered wolves to have been killed about the year 1730-40, in the county of Wexford. And it is asserted by many persons of weight and veracity, that a wolf was killed in the Wicklow mountains so recently as 1770."

For several of the above statements respecting the Irish wolf-dog we have to express our obligations to the writer of an article in the 'Irish Penny Journal,' 1841, whose diligent investigations on the subject merit great praise.

"An eye of sloe, with ear not low,
With horse's breast, and depth of chest,
With breadth of loin, and curve in groin,
And nape set far behind the head—
Such were the dogs that Fingal bred."

Translation from the Celtic.

And such, even in these degenerate days, are the Scottish or Highland deer-hounds, immortalized by the pen of Sir Walter Scott and the pencil of Landseer. The courage and energy of these dogs is well depicted in the following communication from Mr. M'Neil to Mr. Scrope, which is highly graphic. We must suppose that after much toil, and many schemes and manœuvres, a favourable position is attained. Scene,—the Island of Jura.

“The dogs were slipped; a general halloo burst from the whole party, and the stag, wheeling about, set off at full speed, with *Buskar* and *Bran* straining after him. The brown figure of the deer, with his noble antlers laid back, strongly contrasted with the light colour of the dogs, stretching along the dark heath, presented one of the most exciting scenes that it is possible to imagine. The deer's first attempt was to gain some rising ground, to the left of the spot where we stood, and rather behind us; but being closely pursued by the dogs, he soon found that his only safety was in speed, and (as a deer does not run well up hill, nor, like a roe, straight down hill) on the dogs approaching him, he turned, and almost retraced his footsteps, taking, however, a steeper line of descent than the one by which he ascended. Here the chase became most interesting: the dogs pressed him hard, and the deer getting confused, found himself suddenly on the brink of a small precipice about fourteen feet in height—from the bottom of which there sloped a rugged mass of stones. Here he paused a moment, as if afraid to take the leap; but the dogs were so close that he had no alternative. At this time the party were not above 150 yards distant, and most anxiously waited the result, fearing, from the ruggedness of the ground below, that the deer would not survive the leap. They were, however, soon relieved from their anxiety—for though he took the leap, he did so more cunningly than gallantly—dropping himself in the most singular manner, so that his hind legs first reached the broken rocks below; nor were the dogs long in following him. *Buskar* sprang first; and, extraordinary to relate, did not lose his legs. *Bran* followed, and, on reaching the

ground, performed a complete summerset; he soon, however, recovered his legs; and the chase was continued in an oblique direction, down the side of most rugged and rocky brae, the deer apparently more fresh and nimble than ever, jumping through the rocks like a goat, and the dogs well up, though occasionally receiving the most fearful falls. From the high position in which we were placed, the chase was visible for nearly half a mile. When some rising ground intercepted our view, we made with all speed for a higher point; and on reaching it we could perceive that the dogs, having got upon smooth ground, had gained upon the deer, who was still going at speed, and were close up with him. Bran was then leading, and in a few seconds was at his heels—and immediately seized his hock with such violence of grasp as seemed in a great measure to paralyse the limb, for the deer's speed was immediately checked. Buskar was not far behind; for soon afterwards, passing Bran, he seized the deer by the neck. Notwithstanding the weight of the two dogs, which were hanging to him—having the assistance of the slope of the ground, he continued dragging them along at a most extraordinary rate, in defiance of their utmost exertions to restrain him, and succeeded more than once in kicking Bran off." All his efforts, however, were in vain—the terrible struggle for life succeeded, and the gallant deer sank quivering in death.—(Scrope's Deer-Stalking.)

The following picture, worthy of Landseer's pencil, is by W. Scrope, Esq.: 'Art of Deer-Stalking.'—The hart, wounded by the cautious deer-stalker, has darted away,—the dogs are slipped:—"Away they go over moss and rock, steep and level, in and out of the black

mire, unto the foot of a hill, which they ascend with slackened pace. Up the nearest eminence runs one of the hunters, and with levelled glass endeavours to watch their course. The deer-stalker, at his topmost speed, follows the chase, listening anxiously as he runs for the bark of the dogs, significant of their having brought the stag to bay. The wished-for voices soon break upon him; he redoubles his speed, and a sudden opening being entered, there is the magnificent creature, standing on a narrow projecting ledge of rock, within the cleft, in the middle course of the mountain cataract, the rocks closed in upon his flanks, bidding defiance in his own mountain-hold! On the very edge of the precipice the dogs are baying at him furiously; one rush of the stag will send them down the chasm into eternity; yet in their fury they seem wholly unconscious of their danger. Delay would now be fatal; the stalker creeps cautiously round to the nearest commanding spot; every moment is precious; yet the least carelessness on his part, that should reveal his presence to the deer, would cause the latter to break bay, and in all probability precipitate the fate of the dogs. Meantime the stag, maddened by their vexatious attacks, makes a desperate stab at one of them; which the dog, endeavouring to avoid, retreats backwards—loses his footing,—his hind legs slip over the precipice—he is lost!—No! he struggles courageously, his fore feet holding on by the little roughnesses of the bed of the torrent. He rises a little, but slips back again—he gasps painfully—but summons up all his strength and resolution for one last effort! Hurra! the gallant dog has recovered his footing; and, not taking breathing time, rushes at the hart as rash and wrathful

as ever! The stalker is now ready on a mount overlooking the scene; he levels, but a sudden movement brings the dogs within the scope of the gun. Three times is the aim taken and abandoned;—a fourth—crack! the ball is in the deer's head—he drops heavily into the splashing waters.”

In the art of deer-stalking, however, the dog plays a comparatively subordinate part; the stalker trusts rather to the unerring accuracy of his rifle, than to the speed and prowess of his canine followers. Hunting the deer with large greyhounds was formerly a favourite diversion in England. Queen Elizabeth was gratified by seeing on one occasion, from a turret, sixteen deer pulled down by greyhounds, upon the lawn at Cowdry Park, in Sussex.

The modern smooth-haired greyhound is a very elegant dog; remarkable for its extreme velocity, in which it is, we believe, superior to the rough-haired dogs of the olden time, though not to some of the modern rough greyhounds, in which a cross of the old rough breed or Scottish deer-hound prevails. No greyhounds used for the hare equal in speed and endurance those of our island; and none, so improved of late years is the breed, equal them in symmetry; every action is light, easy, and elegant, yet firm and vigorous. The greyhound is highly sensitive, and very good-tempered; like the Irish wolf-dog, it is peaceable and affectionate; and fierce only in the chase of its quarry, or when excited to combat. On one occasion only have we ever seen a greyhound fight with another dog; and in that instance the animal, a roughish brindled dog, was set upon by a large dog of a mongrel mastiff breed, and forced to self-defence.

Short indeed was the combat—in a few seconds the aggressor sunk severely torn, and was taken away. Slim as these dogs are, their muscular powers are very great; like the race-horse, they are compact of iron muscle and ivory bone, with no superfluous fat or loose cellular tissue, and are consequently deceptive to the eye, which is in general accustomed to see strength conjoined with massiveness. Yet we have but to consider the chest, loins, and limbs of a greyhound, and regard the “tori” of the arms and thighs, to feel assured of the possession of great power. The smooth greyhound, or gazehound of the older writers, follows exclusively by the eye—whereas all the old rough breeds could recover the track of the game by the powers of smell; but in the modern dog every quality is sacrificed to fleetness—and certainly for sudden and violent bursts of exertion the present breed has never been equalled. Many trials for ascertaining the speed of the greyhound have been undertaken; and Daniel’s opinion seems to be on the whole correct, viz. that on flat ground a first-rate race-horse would be superior to the greyhound; but that in a hilly country the greyhound would have the advantage. Much, however, in the latter case would depend upon the dog being habituated to hilly districts; for a greyhound accustomed only to flat plains, though swifter on them than a Yorkshire greyhound, would yield to the latter in a hilly country.

The hare and the greyhound seem to be well matched; the swiftness of both animals is astonishing, and a well-contested run is an animating sight. Daniel records the circumstance of a brace of greyhounds in Lincolnshire running a hare from her seat to where she was killed, a

distance measuring in straight line upwards of four miles, in twelve minutes; but as there were a great many turns during the course, the actual distance was considerably more. The hare ran herself to death before the greyhounds touched her.

From the impetuosity with which the greyhound runs, and the consequent difficulty of suddenly stopping, it is liable to accidents from various causes,—as from precipitating itself down steep quarries of stone or sand—from coming in collision with banks of earth, walls, and the like; and instances are known of the concussion producing instant death.

The etymology of the word greyhound has been much disputed. Some suppose it to be derived from Graius (Grecian) because this dog was in high esteem among the Greeks. Caius regards the name as implying rank among its race—"quod præcipui gradûs sit inter canes." Others refer it to the Dutch, grüp-hund; from grypen, to gripe. Mr. Whitaker draws the name from the ancient British *grech* or *greg*, a dog—and this last is probably the true origin,—though Mr. Bell seems to think the term simply alludes to the prevailing colour of the ancient breed. The query is, was it grey?—We think not; and believe sandy red, brindled, pale yellow, and white, with black-tipped ears and black muzzle, to have been the prevailing colours.

The Italian greyhound, so well known as an elegant attendant of the parlour, need not be particularly described. It is a most beautiful and affectionate little dog, of very nervous temperament—and so delicate as to bear our climate with difficulty.

With respect to the lurcher, it appears to us to be a

mongrel breed between the rough greyhound and the shepherd's dog. Bewick, who figures and describes it, says, that it is less and shorter than the greyhound, with stronger limbs; its body is covered with a coat of rough hair, commonly of a pale yellow colour; its aspect is sullen, and its habits, whence it derives its name, are cunning and insidious. At the same time it must be confessed that this dog is very attached to its master, displays most extraordinary intelligence, and is trained with great facility. As it possesses the advantage of a fine scent, it is often nefariously employed during the night-time in the capture of game; the more especially as it works silently, never giving tongue. When taken to the warren, it steals along with the utmost caution, creeps upon the rabbits while feeding, and darts upon them in an instant; it waylays them as they return to their burrow, where it is ready to seize them, and then brings its booty to its master. Bewick knew a man who kept a pair of these dogs, and who confessed that at any time he could procure in an evening as many rabbits as he could carry home. This dog is equally expert at taking hares, partly by speed, but more by cunning wiles. It will drive partridges to the net with the utmost circumspection and address; and will even seize and pull down a fallow deer, and, leaving it disabled, return to its master and guide him to the scene of its exploits.

The true lurcher is not so often to be seen as formerly; it is essentially a poacher's dog, so that any person known to possess one becomes a suspected character.

We may here observe, that it was customary in England to protect the fierce rough greyhound-like dogs

used in the boar-hunt with a sort of armour. On some ancient tapestry in Haddon Hall, Derbyshire, is represented a variety of field-sports, and particularly a boar-hunt, in which the dogs are defended by a sort of doublet closely laced on and studded with metallic points.

CHAPTER VI.

ON THE CALABRIAN AND NEWFOUNDLAND GROUP
OF DOGS.

WE now come to a group of dogs which some naturalists have regarded as spaniels, but which we think form a section by themselves; we allude to the Italian wolf-dog, the Newfoundland dog, &c. These dogs certainly are not spaniels: in size and strength they equal the mastiff, while their intelligence and the general expression of the physiognomy, together with the form of the ears and muzzle, show their remoteness from the wolfish breed of dogs spread through the boreal regions.

Of the dogs of this section, we may first notice the Calabrian wolf-dog, or dog of the shepherds of the Abruzzi. These dogs are used by the shepherds of Calabria as guardians of the sheep, and are very beautiful. In general aspect they resemble the Newfoundland, but are scarcely so large; the general coat is long and silky, and the tail is thickly and deeply fringed; the ears of moderate size, pendent, but not floccose or fringed; the colour is generally white. Some time since a fine pair of these dogs were living in the Gardens of the Zoological Society; they were gentle and good-tempered. In the mountains during the summer these dogs are of great service, for the wolves are abundant; nor are they less important during the winter, when the

Abruzzezi shepherds conduct their flocks from the mountains to the vast plain of Apulia, there to remain till the spring. An anonymous writer well acquainted with Calabria thus describes the plain of Apulia, during the winter sojourn of the Abruzzezi:—"Large sheds and low houses, built of mud and stone, that look like stabling, exist here and there on the plain, and have either been erected by the great sheep proprietors, or are let out to them at an easy rate by the factors of the *tavogliere*. Other temporary homesteads are erected by the shepherds themselves, as they arrive, and a few pass the winter in tents covered with very thick and dark coarse cloth, woven with wool and hair. The permanent houses are generally large enough to accommodate a whole society of shepherds; the temporary huts and tents are always erected in groups, that the shepherds of the same flocks may be always near to each other. The sheepfolds are in the rear of the large houses, but generally placed in the midst of the huts and tents. On account of the wolves that frequently descend from the mountains and commit severe ravages, they are obliged to keep a great number of dogs, which are of a remarkably fine breed, being rather larger than our Newfoundland,* very strongly made, snowy white in colour, and bold and faithful. You cannot approach these pastoral hamlets, either by night or day, without being beset by these vigilant guardians, that look sufficiently formidable when they charge the intruder, as often happens, in troops of a dozen or fifteen. They have frequent encounters with

* Those we have seen were scarcely so large as a Newfoundland of moderate stature, and far less than the more gigantic specimens occasionally to be met with.

the wolves, evident signs of which some of the old campaigners show in their persons, being now and then sadly torn and maimed. The shepherds say that two of them of the *right sort* are a match for an ordinary wolf." Perhaps two of these dogs might be a match for a wolf, but we are very sure that a single dog would not be able to endure the combat. They have always appeared to us to want that lacerating gripe of jaw for which the Irish wolf-dog was, and the Highland deerhound is, so remarkable; nor have they that terrible tenacity of tooth characteristic of the mastiff and bulldog. It appears, however, that numbers act in concert, and thus deter the wolf from making his assault.

In the present group we place, provisionally, the Alpine or St. Bernard's dogs, so celebrated for the services which they render to mankind, and to which they are trained by the worthy monks of the Hospice of St. Bernard. To the honour of these excellent men be it spoken, that while others have trained the dog for the combat, for the battle-field, for the chase of the naked Indian, or the capture of the runaway slave, they have availed themselves of the power, courage, intelligence, and fine scent of the dog, in rescuing the unhappy traveller from the horrors of death amidst the snows of the mountains.

It would appear that dogs of more than one race are trained by the monks to the labour of mercy. Those which we have seen were equal in size to the largest mastiff; the muzzle was deep, the ears pendulous, the fur rather longer than in a true close-haired dog and somewhat wiry, and the form of the body and limbs indicative of very great strength. The colour of one

which struck us for size and noble aspect was sandy red or tawny, with the muzzle black. Colonel H. Smith says that one race is closely allied to the Newfoundland in form, stature, hair, and colours, with the head and ears like that of a water-spaniel; but that the other has close short hair, more or less marked with grey, liver-colour, and black clouds betraying an intermixture with the French *mâtin* or great Danish dogs. The probability is that more attention is paid to the strength and intelligence of these dogs, than to the maintenance of the breed in purity, if indeed there ever was purity of breed in the stock. We believe that the short-haired breed is now exclusively, or almost exclusively, used—the old Newfoundland-like race being nearly if not quite extinct.

The convent of the Great St. Bernard is situated near the top of a mountain of that name, near one of the most dangerous passes of the Alps between Switzerland and Savoy. In these elevated regions sudden snow-storms often overtake the bewildered traveller, rendering the pass impracticable, or its traces so deceptive, that, after floundering through deep snow-drifts, his powers give way, and he sinks benumbed and torpid; often the thundering avalanche is heard, now at a distance, now more near among the rocks, as it tears its way into the valley, carrying trees and vast crags before it; often has the traveller held his breath, and moved along silently as a ghost, lest the slightest vibration of the atmosphere should loosen the strong masses of ice and hardened snow impending above him, ready on the instant to sweep him to destruction. Often in the midst of these horrors is the traveller benighted; vain are his efforts;

ne thinks of home, and all he holds dear; but soon his mind wanders,—the cold is at his heart,—irresistible torpor overpowers him,—and all is oblivion.

“Tis sweet to hear the honest watch-dog’s voice
Bay deep-mouthed welcome as we draw near home.”

But, oh, how sweeter to the ear of the despairing traveller sounds the deep bark of the dog of St. Bernard through the storm and darkness, proclaiming succour at hand. It is during such seasons that these dogs are sent forth, generally in pairs, one carrying a flask of spirits attached to his neck, the other laden with a cloak for the use of the unfortunate. If the man can walk, they conduct him towards the convent, and by loud barking give warning of their return, and call for assistance; if the traveller be insensible, they hasten for succour, and guide the monks to the spot. So keen is their sense of smell, that though the perishing man lie buried beneath the snow-drift to the depth of several feet, they will not pass by the spot,—he has yet a chance of escape;—they dig away the snow with their feet—they make their voices resound, and exert themselves to the uttermost in his behalf;—and even if life be extinct, their discovery of the body is not without bringing some degree of consolation to the sufferer’s friends and relatives. Nor are the duties of these dogs devoid of danger to themselves; many have perished in endeavouring to save the perishing. One noble animal, who thus met his fate, was decorated with a medal, in commemoration of having saved the lives of twenty-two persons, who, but for his sagacity, must inevitably have perished: many travellers who visited the Continent after the peace, saw this dog, and heard from the monks the details of his extraordinary

career. It was in the winter of 1816 that a Piedmontese courier, during a dreadful storm, arrived at the Hospice of St. Bernard; he was on his way to the little village of St. Pierre, in the valley beneath the mountain, where dwelt his wife and children. It was not without extreme labour and difficulty that he had made his way to the Hospice; but the thoughts of home rose painfully in his bosom;—he must, he would proceed. In vain the monks depicted the dangers of the way;—in vain they remonstrated and implored. He could not bear the torture of absence;—his resolution was not to be shaken. At length, as a last resource, the monks gave him two guides, each accompanied by a dog, of which one was the noble bearer of the medal. They set forth on their way down the mountain. In the mean time the anxious family of the poor courier, alarmed at his long absence, commenced the ascent of the mountain, in hopes of



Dog of Mount St. Bernard.

meeting him, or obtaining some information respecting him. Thus at the moment he and his guides were descending, his family were toiling up the icy steep, crowned with the snows of ages. A sudden crackling noise was heard, and then a thundering roar echoing through the Alpine heights—and all was still. Courier, and guides, and dogs, and the courier's family were at the same moment overwhelmed by one common destruction;—not one escaped. Two avalanches had broken away from the mountain pinnacles, and swept with impetuous force into the valley below.

We have seen a French print, representing a dog of St. Bernard (of the Newfoundland appearance) bearing a child upon his back to the gate of the Hospice. According to the account given, the child, whose mother had been destroyed by an avalanche, was found unhurt by the dog, and induced by the sagacious animal to mount upon his back, and was thus conveyed to a place of safety.

With respect to the Newfoundland dog, it appears to us that there are several breeds which are included under this denomination. We have already alluded to a smooth, sharp-nosed, intelligent dog, which appears to be the ordinary race of the islands; but there is also another breed, with long hair and a long full-fringed tail, of moderate stature, compactly made, very muscular, and of a black colour. The dogs known in England as Newfoundlands are generally of larger stature, rough, rather loosely made, and apt to be weak in the loins and hinder quarters. A dog of this latter kind, one of the finest of its race, formerly in the possession of a gentleman of our acquaintance, was brought from Labrador: its admeasurements were as follows: total length, including the tail,

six feet three inches; height at the shoulder, two feet six inches; length of head from occiput to point of nose, eleven inches; circumference of chest, three feet one inch. In Labrador these large dogs are used in drawing sledges loaded with wood, and are of great service to the settlers.

In Newfoundland the dogs are employed in drawing sledges laden with fish, wood, and other articles; and are of considerable importance from their strength and docility. They are admirable water-dogs, make first-rate retrievers, and will boldly tear their way through the thickest and roughest covers of bramble, thorn, or furze, and persevere in the recovery of the game with great resolution. To the water-fowl shooter amidst fens, reedy lakes, and morasses, they are of the greatest assistance. The aptitude evinced by the Newfoundland dog in taking to the water, and the courage, devotion, and skill which it manifests in the rescue of persons drowning, are too well known to be insisted upon; and numerous are the instances on record in which man has owed his life to the intrepidity of this faithful dog. Among others we find the following, to our surprise, narrated by M. E. Blaze, and which we know to be substantially true, but which we did not know had ever found its way into print:—Mr. William Phillips was on a visit at Portsmouth, for the sake of sea-bathing; and on one occasion, having ventured out too far, was in imminent danger of drowning. His two daughters, perceiving the danger he was in, were anxious to send out a boat to his assistance; but the boatmen, taking advantage of their alarm and feelings, began to magnify the importance of their service, and demanded an enormous sum. During this con-

ference the unfortunate gentleman was in great extremity, and had barely strength to keep himself up, when suddenly a Newfoundland dog made his appearance, and, gallantly dashing into the water, swam out boldly to the assistance of the gentleman, whom he succeeded in bringing safely to shore. This dog belonged to a butcher's man. Mr. P., filled with gratitude, bought the animal on the spot for a hundred guineas. Every year, on the 4th of October, he celebrated his deliverance, surrounded by his family—and to the dog was assigned the place of honour at the table, with a good ration of beefsteaks. Mr. P. had a beautiful picture executed, representing the scene and circumstances of his deliverance: this was engraved, and all his friends were presented with a copy. On all his table-linen, napkins, &c., made expressly for him in Ireland, this picture was worked in the tissue, with this legend, "*Virum extuli mari.*"*

A few weeks ago the following appeared in the 'Commerce,' and was copied into several of the English newspapers:—"Ten Newfoundland dogs have been imported into Paris, for the purpose of watching the banks of the Seine; and experienced trainers are every day employed in teaching these magnificent animals to draw from the water stuffed figures of men and children. The rapidity

* To this narrative we may add the following corrections from our relative, Jb. Phillips, Esq., Staffordshire:—"The account you have extracted is in the main correct; the hundred guineas given for the dog were only five. The picture, which was painted by Morland, and engraved by Bartolozzi, is only the dog on the beach couchant, and the sea and a rock or two without any other object. I do not remember the anniversary, though that might be, as the dog died when I was very young; I remember well riding on his back once. He was a dog of dogs!"

with which they cross and re-cross the river, and come and go at the voice of their trainer, is truly marvellous. It is to be hoped that these fine dogs, for whom handsome kennels have been erected on the bridges across the Seine, will render great services to the cause of humanity."

The Newfoundland dog is very noble, and generally as brave as he is powerful: nor is he, in general, apt to show ill temper or moroseness. We have, however, known dogs of this breed spoiled by confinement; and we have met with several which, contrary to the general rule, have been extremely capricious, and have attacked with great ferocity persons familiar with them: we have known them attack strangers in the public roads—and, indeed, while the writer was passing along the road a short time since, a dog of this breed approached him, and, erecting its hair, turned upon him with a deep growl and menacing aspect, and would undoubtedly have commenced a furious onset, had it not been peremptorily called off by the person in charge of it. We know an instance also of a lady, with a fur muff and tippet, being attacked in the street by a Newfoundland dog, which tore her furs to pieces. But these are exceptions to the rule: for the Newfoundland dog is very intelligent, sagacious, and gentle; and as a house-dog or protector of property is as valuable as the mastiff.

The Newfoundland dog, or "*Chien de Terre-Neuve*," is not, in our opinion, an aboriginal of that island, or of the Labrador country: we consider it to be of European extraction; though we will not deny that it may have been modified by a cross with some of the *Esquimaux* or other breeds of American dogs. It is now well proved

that the discovery of Newfoundland is due to some Norwegians, who, before the year 1000, sailed on a voyage of discovery from Greenland; and that, during the tenth and eleventh centuries, the Northmen discovered and visited various parts of North America (Lond. Geogr. Journal, vol. viii.). In 1497, after being forgotten, Newfoundland was re-discovered by John Cabot, then in the service of England, who gave it the name it now bears (inclusive of the adjacent parts of the continent, which have since received other appellations). Immediately after Cabot's discovery, numerous private adventurers proceeded to the spot; and as early as the year 1500 the fishery was carried on by French, Portuguese, Biscayans, and other people. It is perhaps to the European settlers of the sixteenth and seventeenth centuries that the introduction of the original stock of the Newfoundland dog is owing—unless, indeed, we may venture to assign it to the Norwegians. The Norwegian peasants in the mountains, where wolves and bears are abundant, possess, at the present time, dogs closely resembling the Newfoundland, which they arm with collars set with iron spikes, as a means of protection against the wolves, which frequently attack them, and endeavour to seize them by the throat. It is remarkable that the bear usually retreats before these dogs, which is not the case with the wolf. Wolf-hunting in winter is a favourite amusement in Norway; and in many districts these ravenous animals are extremely numerous, and commit terrible depredations.

CHAPTER VII.

ON THE SPANIEL RACES OF THE DOG.

WE may now pass to that section of dogs in which the Spaniel, the rough Water-dog, the Poodle, and the Setter are included. These dogs, which form, we think, a very natural group, are all remarkable for intelligence, docility, and their affectionate disposition. Their fur is long and silky, sometimes crisped; the ears are large and pendent; and the expression of the countenance is spirited, yet gentle and pleasing: all are endowed with the powers of scent in high perfection; and many—as the cocking-spaniel, the water-spaniel, the rough water-dog, and the setter—are valuable to the sportsman.

The true spaniel breed is divided into many sub-varieties, derivable from a stock of great antiquity, and which appears to have been prized by the Romans. Of these in our country the most conspicuous are the ordinary spaniel, the cocker or cocking-spaniel, used for covert and woodcock shooting, and the large and small water-spaniel. Besides these, are the Blenheim and King Charles's breed of spaniels, celebrated for their beauty. The author of the 'Sportsman's Cabinet' states that the race of dogs passing under the denomination of spaniels are of two kinds, one of which is considerably larger than the other, and is known by the appellation of the springing-spaniel, as applicable to every kind of game in any

country; whilst the smaller is called the cocker or cocking-spaniel, as being more adapted to covert and woodcock shooting. If this statement be correct, writers have erred in applying the name of springer to a small breed, generally red and white, with a black nose and palate; and we cannot well distinguish between the common and the small water-spaniel. The fact is, that the breeds of spaniels are as multitudinous as fanciers please to make them, and, consequently, very indefinite: and between the elegant Blenheim breed, with abbreviated nose, large full dark eyes, high forehead, and round head, with ample, full-fringed ears, and the spaniel of the sportsman, there are numerous grades of variation. We say nothing of mongrels.

The spaniel of the sportsman, the small water-spaniel of Bewick—the springer of the author of the ‘Sportsman’s Cabinet’ (but not the springer of Bewick)—is celebrated for its intelligence and good disposition. It is active and hardy, and readily takes to the water: it is easily broke in to the gun. “A good spaniel,” says an old author, “is a great jewel:” it should range well, never above twenty yards from the gun; chase neither fur nor feather, and never give tongue: but sport with the spaniel requires a quick and sure shot, and the dog is soon discouraged if an unpractised hand disappoint its expectations. A well-bred spaniel is, in fact, devoted to the sportsman, and will even leave its master for a time to render service to a stranger. “I was shooting one day,” says M. Blaze, “at the lake of Saclai, near Versailles; my friend Guillemard was with me, or rather I was with him, for he had permission to shoot wild ducks on the preserve. Guillemard had no dog. ‘Mine

will serve for both,' said I, in setting off. At the first shot we saw a fine spaniel run up at full speed: he plunged into the water, and, caressing M. Guillemard, seemed to say—Here I am at your service; amuse me, and I will amuse you. We pursued our sport all the day, and the dog proved excellent. M. Guillemard said to me—'I have got a fair godsend; it is a lost dog; if no one reclaims him, I will keep him. He is admirable as a sporting-dog, and is most acceptable to me.' No one appeared to own him: but the sport over, off he set at full gallop, and we saw him no more. I spoke of the circumstance to M. Germain, the sworn guard of the water: 'Sir,' said he to me, 'that dog belongs to a sportsman living two leagues distant, who is at present laid up with the gout: he knows that persons come to shoot here every Sunday, and on that day regularly makes his appearance. Having done duty for the first sportsman whom he meets, he returns to his master.'"

Mr. Yarrell, in his admirable work on British fishes, quotes the following account of the aquatic skill of a spaniel, from the MS. of the late Colonel Montagu:—
"Mr. Popham, of Littlecot, in the county of Wilts, was famous for a trout fishery. They were confined to a certain portion of river by grating, so that a fish of moderate size could not escape. To the preserving and fattening these fish much trouble and expense were devoted, and fish of seven and eight pounds' weight were not uncommon. A gentleman at Lackham, in the same county, had a favourite water-spaniel that was condemned to suffer death for killing all the carp in his master's ponds, but was reprieved at the desire of Mr. Popham, who took charge of him, in the belief that so shy and swift a fish

as a trout was not to be caught by a dog. However, in this he was mistaken, for the dog soon convinced him that his largest trout were not a match for him." Mr. Stoddart also, in his 'Scottish Angling' (p. 119), has recorded the propensities of a fish-catching dog.

The springer appears to us, if indeed we must distinguish between it and the spaniel, to be merely a lighter and smaller variety; it is generally red and white, with long silky hair and large ears, and with the nose black or mulberry-coloured, and a black palate.

From King Charles's breed we derive the modern cocker. The colour of King Charles's breed appears to have been black, or black and white, and the hair long and silky. We have seen a beautiful and most valuable pair of cockers of a dark liver-brown colour; they were in first-rate training, and though of small size, were extremely vigorous and active. Still less than the cocker, or King Charles's breed, is the Marlborough or Blenheim spaniel, the race of which is assiduously cultivated in the present day; not indeed for field-sports, but for the parlour, of which it is an ornament. The most prized of this breed are very small, with an abbreviated muzzle, and a round skull arched above; the ears are very large and well fringed, and the hair of the body is long, soft, and silky. The general colour is black and tan, or black and white, with the limbs beautifully spotted, and a tanned mark over each eye.

The elegance, liveliness, intelligence, and affectionate disposition of the varieties of the spaniel race, independent of their value to the sportsman, render them general favourites; and high-bred dogs of the cocker or Blenheim breeds sell for a large sum of money. We have

seen dogs of the latter variety valued at eighty and a hundred guineas. No dog appears to us to become so personally attached to its master or mistress as a spaniel: it cannot endure to be absent; it will come to the room door and scratch and whine to be admitted, and even patiently wait for hours, until entrance be granted. A beautiful Blenheim, of rather large size, in our possession, waits regularly every morning at our bed-room door, and greets our appearance with most lively tokens of joy and attachment.

We had a small high-bred female of the cocker breed a few years since, which displayed towards her mistress the strongest affection. This dog was remarkable for beauty, having long glossy hair like silk, and for admirable symmetry; she was, besides, as spirited as elegant: she would kill a rat in an instant, and attack a cat with the courage of a bulldog. Indeed, on one occasion she was with difficulty prevented from killing a cat as large as herself, which had struck her with its claw; she seized it by the chest. For some time before her death this dog showed symptoms of disease of the lungs, and could not scour the fields as before. One evening we took a walk in the country, accompanied by our favourite; but her difficulty of breathing increasing, we carried her home, and had a bed made for her in the parlour. In the morning we were aroused by the intelligence that poor Fan was dead. On coming down, we found that she had left her bed in the night, opened the door of a closet, and drawn out a morning-dress which her mistress had worn for some days previously. The dress was spread on the carpet, and upon it she had died; faithful and devoted even when life was ebbing.

No dog is more observant of the actions of its master than the spaniel, or more readily interprets the meaning of his looks. All are acquainted with the little poem in which Cowper celebrates the intelligence of his spaniel, which plunged into the water and drew to the bank a water-lily which he had previously been endeavouring to procure.

The following statement, for the truth of which we can vouch, refers to the spaniel already noticed for its partiality to fruits:—One morning, as the lady to whom this spaniel belongs was lacing her boots, one of the laces broke. She turned to the dog, and playfully said, ‘Oh dear! I wish you would find me another boot-lace;’ and having managed with the broken one, thought no more about it. On the following morning, when she was again lacing her boots, her spaniel ran up to her with a new silken boot-lace in his mouth; not only to her great amazement, but that of the family. Where the dog had obtained the boot-lace no one could tell; but, doubtless, he had purloined it from some work-box or similar repository.

Leibnitz (Opera, 1768) reports the case of a spaniel belonging to a Saxon peasant, whom his master, by dint of labour, taught to articulate, with more or less distinctness, about thirty German words. These words were first uttered by the dog’s master, and then by the dog.

In the ‘Bibliothèque Germanique,’ 1720, part ii., p. 214, is published the account of a dog which uttered various words; but in this instance the dog’s master, by means of his hand, managed the dog’s throat, so as to turn the growling of the animal into something like articulate sounds. “Le maître s’assied à terre, et prend son chien entre ses jambes, d’où il lui tient tout le corps

en sujétion. D'une main il lui tient la mâchoire d'en-haut ; et de l'autre celle d'en-bas ; et pendant que l'animal gronde selon sa coutume il lui presse des différentes manières, tantôt l'une, tantôt l'autre mâchoire, et souvent toutes les deux ; ce qui fait diverses contorsions à la gueule du chien, et en même temps il lui fait prononcer des paroles."* In both cases we believe that the imagination had much to do in prompting the ear to the words which the guttural intonations between a bark and a growl in some degree sounded like. But supposing the words were really uttered, we can draw from the fact no proof of the intelligence of the dogs in question ; in both cases the dogs were several years under instruction, and the time wasted in their tuition might have been far more usefully employed.

Bewick gives an excellent figure of the large water-spaniel. It is generally liver-coloured and white, with the hair of the body crisped or disposed in little knots. This dog is of moderate size, strong, active, and intelligent, and is of great service to the water-fowl shooter, either along the sea-coast or amidst fens and marshes.

Distinct from the great water-spaniel is the rough water-dog, which perhaps exceeds all dogs in intelligence and docility. It is of rather large size and very robust, with the cranium remarkably capacious and elevated, the muzzle short, and the hair long, full, and

* "The master sat himself upon the ground, and placed his dog between his legs, where he had him completely in his power. With one hand he held the upper jaw, and with the other the lower one, and while the animal growled in his usual manner, pressed them in different ways, now the one jaw, now the other, and now both : this produced diverse contortions in the mouth of the dog, and at the same time caused him to pronounce words."

curling. This variety is the Barbet of the French, and is often termed the German or French Poodle. We have seen some of a snowy white, others black, and others black and white.

No dog is so easily taught to fetch and carry, or to find coin or other articles, first shown to the animal and then put into a place of concealment, as the water-dog; while from its acute sense of smell, its sagacity, and aquatic habits, it is invaluable to the water-fowl shooter.

Mr. Bell relates the following interesting narrative relative to a female of this breed, the intelligence of which was scarcely less than human:—"My friend (the owner of the dog) was travelling on the Continent, and his faithful dog was his companion. One day before he left his lodgings in the morning, with the expectation of being absent until evening, he took out his purse in his room, for the purpose of ascertaining whether he had taken sufficient money for the day's occupation, and then went his way, leaving the dog behind. Having dined at a coffeehouse, he took out his purse, and missing a louis-d'or, searched for it diligently, but to no purpose. Returning home late in the evening, his servant let him in with a face of sorrow, and told him that the poor dog was very ill, as she had not eaten anything all the day; and what appeared very strange, she would not suffer him to take her food away from before her, but had been lying with her nose close to the vessel without attempting to touch it. On my friend entering the room she instantly jumped upon him, then laid a louis-d'or at his feet, and immediately began to devour her food with great voracity. The truth was now apparent; my friend had dropped the money in the morning when leaving the room, and

the faithful creature finding it had held it in her mouth, until his return enabled her to restore it to his own hands; even refusing to eat for a whole day, lest it should be out of her custody. I knew the dog well, and have witnessed many very curious tricks of hers, showing extraordinary docility."

A smaller breed of the rough water-dog, the little Barbet, is very beautiful, intelligent, and affectionate; it is generally white. No dog makes a more elegant and interesting parlour companion, or more faithfully guards the house.

Another variety of the present section is the setter, a dog too well known to need description, and remarkable for its beauty, docility, powers of smell, affection, and gratitude. The setter is of ancient descent, and we do not agree with those who regard it as of a mixed origin between the spaniel and Spanish pointer; it has nothing of the old Spanish pointer in its figure, and we believe that dogs of a mixed breed between the setter and pointer are inferior to the genuine breed on each side. The setter was trained to the net by Dudley, Duke of Northumberland, in 1535; but in modern days the use of the fowling-piece has superseded such modes of taking birds. We know not why it is that sportsmen seem generally to prefer the pointer to the setter, the latter being less liable to become foot-sore, and, if we may speak from observation, not more difficult to break in. We have remarked that setters are mostly employed on the moorlands for grouse-shooting. The English setter is generally white, with large marks of red or liver colour; but we have seen very fine dogs of this breed of a dark liver-brown entirely.

CHAPTER VIII.

ON THE HOUNDS.



The Beagle.

ANOTHER distinct group of dogs is that which contains the hounds, of which several varieties exist, as the stag-hound, the foxhound, the harrier, and beagle. No country equals England in the swiftness, spirit, and endurance of its hounds, and in no country is so much attention paid to the various breeds, of which the beagle is the smallest.

The beagle was once a great favourite, but is now but little used; it is of small stature, but of exquisite scent, and the tones of the pack in full cry are musical. It has not, however, the strength or fleetness of the harrier, and still less so of the foxhound; and hence it does not engage the attention of the sportsmen of the modern school, who, unlike Sir Roger de Coverley, are impetuous in the field, preferring a hard run to a tame and quiet pursuit. The beagle is used only in the chase of the hare, and atones for its slowness by the most enduring diligence, seldom failing to run down the hare, in spite of her speed, shifts, and doublings. The beagle is about ten or eleven inches in height at shoulder; but formerly some sportsmen prided themselves on possessing packs of dogs of even less stature, and which were very efficient. Daniel commemorates Colonel Hardy's "cry of beagles." They amounted to ten or eleven couples, and were always carried to and from the field in a pair of paniers upon a horse's back. They were well matched, and ran together in such close order that they might have been covered with a sheet. This beautiful pack of diminutive hounds was kept in a barn, and one night the door was broken open, and every hound, paniers and all, stolen; nor could the owner ever discover the thieves or their booty.

The Harrier is larger than the beagle, but inferior to the foxhound, and is only used in the chase of the hare. Formerly the harrier was a slow and heavy dog, but of late years the breed has been much improved. Mr. Beckford says:—"The hounds I think most likely to show you sport are between the large slow-hunting harrier and the little fox-beagle. The former are too dull,

too heavy, and too slow; the latter too lively, too light, and too fleet. The first, it is true, have excellent noses, and I make no doubt will kill their game at last, if the day be long enough; but you know that the days are short in winter, and it is bad hunting in the dark. The other, on the contrary, fling, dash, and are all alive; but the cold blast affects them, and if your country be deep and wet, it is not impossible that some of them may be drowned. My hounds were a cross of both these kinds, in which it was my endeavour to get as much bone and strength in as small a compass as possible. It was a difficult undertaking. I bred many years, and an infinity of hounds, before I could get what I wanted. I had the pleasure to see them very handsome—small, yet very bony; they ran remarkably well together; went fast enough; had all the alacrity that could be desired, and would hunt the coldest scent. . . Harriers to be good, like all other hounds, must be kept to their own game. If you run fox with them, you spoil them: hounds cannot be perfect unless used to one scent and one style of hunting. Harriers run fox in so different a style from hare, that it is of great disservice to them when they return to hare again; it makes them wild, and teaches them to skirt the high scent which a fox leaves; the straightness of his running, the eagerness of the pursuit, and the noise that generally accompanies it, all contribute to spoil a harrier."

The modern English foxhound, in figure, speed, strength, and perseverance, cannot be improved; no other country can produce such a breed. A well-formed dog stands about twenty-one or twenty-two inches in height; the limbs are straight and clean; the feet round, and of

moderate size ; the breast wide, and the chest deep ; the shoulders thrown back ; the head small ; the neck thin ; the back broad ; the tail rather bushy and well carried. The fleetness of some of these dogs is extraordinary : Merkin, a celebrated foxhound belonging to Colonel Thornton, performed four miles in seven minutes. Formerly the foxhound was bred rather for endurance than wonderful speed, and the chase would last for several hours. In January, 1738, the Duke of Richmond's hounds found their fox at a quarter before eight in the morning, and killed him at ten minutes before six, after a chase of ten hours' hard running. Many of the sportsmen tired three horses each ; eleven couple and a half of the hounds only were in at the death ; and several horses died during the chase. A revolution in hunting, however, has now taken place ; and the rapidity of a good run makes it very like a race ; so that a fox-hunter of the last century, could he now be present on a good day in Leicestershire, would, after the first burst, find himself alone—the dogs and horses far out of sight.

A larger breed of hounds, now passing into disuse, was employed till within the last few years for hunting the stag. This breed was the result of a cross between the fleet foxhound and the large old English or southern hound, now almost extinct. The Royal, the Derby, the Englefield, the New Forest, and the Darlington packs of staghounds were formerly celebrated ; and during the reign of George III., a monarch who was devoted to the chase of the stag, several of the most tremendous runs on record took place ; at some of which His Majesty, who was a daring horseman, was present. It often happened that out of a field of upwards of a hundred horsemen, not

more than from twelve to twenty were in at the death or capture of the stag. The following extract from the 'Sportsman's Cabinet' will give some idea of one of these hunts:—"The deer was liberated at the starting-post of Ascot Heath, and, after making Bagshot Park, proceeded, without head or double, over the open country through Finchamstead Woods, Barkham, Arborfield, Swallowfield, Mortimer, across the river Kennett, and over the intervening country to Tilehurst below Reading in Berkshire; where the deer was taken unhurt, after a most incredible and desperate run of four hours and twenty minutes—horsemen being thrown out in every part of the country through which they passed. One horse dropped dead on the field; another immediately after the chase, before he could reach the stable; and seven more within the week. Of such severity was this run, that tired horses in great danger, and others completely leg weary or broken down, were unavoidably left at various inns in different parts of the country." The humanity of such a hunt is very questionable indeed.

Of the old breeds of hounds for which our island was formerly celebrated, we may mention the talbot, the old English or southern hound, and the bloodhound.

The Talbot, the cognizance of the ancient house of Shrewsbury,* was a large hound of a white colour, with a large head, broad muzzle, and large pendulous ears. Colonel H. Smith thinks it to have been allied to the

* A magnificent MS. folio, in fine preservation, in the British Museum, formerly presented by the valiant Talbot to Margaret of Anjou, queen of Henry VI., represents, in the illuminated titlepage, the veteran warrior kneeling before the queen, in the act of presenting that very folio, with his dog in attendance.

white breed of St. Hubert's dogs, anciently of repute on the Continent.

It appears that there were two breeds of St. Hubert's hounds, a black and a white race: the black race was established in the Ardennes in the sixth century, and was brought thither by St. Hubert from the south of France, but is supposed to have been introduced originally by pilgrims from Palestine; subsequently the white race was brought from the same country, and was more prized than the black, which it exceeded in size; and though not introduced by St. Hubert was nevertheless named after the patron of hunting. A third breed of hounds, of considerable stature and with large ears, was brought from Palestine by St. Louis, about the middle of the thirteenth century. This breed was swift, bold, and vehement; the prevailing colour was rufous grey. A large red-haired breed of hounds was employed on the Continent in the fourteenth and fifteenth centuries for hunting the wild boar and wolf.

With respect to the talbot, it appears to have merged into other breeds, and so to have become lost; if, indeed, it was really distinct from the old bloodhound.

“ The deep-flewed bound
 Bred up with care; strong, heavy, slow, but sure;
 Whose ears down-hanging from his thick round head
 Shall sweep the morning-dew; whose clanging voice
 Awake the mountain-echoes in her cell,
 And shake the forests—the bold Talbot kind;
 Of these the prime as white as Alpine snows,
 And great their use of old.”

The old English or southern hound, which is described by Whitaker, in his ‘History of Manchester,’ as the original breed of our island, is now very rarely to

be found in a state of purity. Some years since we saw a fine specimen in Lancashire. It was tall and robust, with a chest of extraordinary depth and breadth, with pendulous lips and deeply set eyes; the ears were large and long, and hung very low; the nose was broad, and the nostrils large and moist. The voice was deep, full, and sonorous. The general colour was black or brownish black, passing into tan about the muzzle and along the inside of the limbs. Shakspeare's description of the hounds of Theseus, in the 'Midsummer Night's Dream,' is true to the letter as a delineation of this breed, with which the poet was doubtless well acquainted:—

“ My hounds are bred out of the Spartan kind—
 So flew'd, so sanded; and their heads are hung
 With ears that sweep away the morning dew;
 Crook-kneed, and dew-lapp'd like Thessalian bulls;
 Slow in pursuit, but match'd on mouth like bells,
 Each under each.”

Among our forefathers, in the good old times, when the “simple plan” was in operation—viz. “that they may take who have the power, and they may keep who can,” the bloodhound, or sleuth-hound of the borderers, was a dog in great request. Its exquisite delicacy of scent, its unwearied perseverance, its courage and power, rendered it extremely valuable. It was not only trained to the chase of the deer, but to be a hunter of men; and was employed in tracking fugitive felons, marauders, and political offenders, whom it would pursue with unflinching pertinacity for days together, over

“ Dry sandy heaths and stony barren hills,
 O'er beaten paths, with men and beasts distain'd,
 Unerring.”

The breed in the possession of Mr. J. Bell, of Oxford.



Bloodhound.

street, supposed to be of great purity, is of a reddish tan, darker on the upper parts, and often passing into black on the back. The form is very robust, and the height at the shoulders is not less than twenty-eight inches. "The muzzle," says Mr. Bell, "is broad and full, the upper lip large and pendulous, the vertex of the head prominent; the expression stern, thoughtful, and noble; the breast broad, the limbs strong and muscular; the original colour is a deep tan with large black spots."

We may readily justify the employment of the bloodhound in tracking marauders, deer-stealers, and "lifters"

of cattle—especially in times when the land was lawless—but, to the disgrace of human nature, they were employed for other purposes. They were set on the track of fugitives after a lost battle, and were used in the furious wars between England and Scotland, when Wallace fought for freedom, and Bruce for a throne. Henry VIII. employed them in France, and Elizabeth in Ireland, when the Earl of Essex had no less than eight hundred of them in his army.

Formerly the chiefs and nobles of the border countries kept bloodhounds in all their castles and strongholds, and well has Sir Walter Scott depicted their mode of pursuit; as we read his animated description we fancy ourselves at the scene—we hear the bugle's notes—the cries of the men—the tramp of the horses, and the deep baying of the hounds as they thread the mazy way with undeviating accuracy. In his delineation of the "stark moss-trooper," Sir William of Deloraine, "good at need," he gives as proof of the warrior's merit, that he

"By wily turns and desperate bounds
Had baffled Percy's best bloodhounds."

And the same accomplished knight, his stern nature touched by sorrow at the sight of Sir Richard Musgrave slain, thus eulogizes his dead enemy—

"Yet rest thee, God!—for well I know
I ne'er shall find a nobler foe!
In all the northern countries here,
Whose word is snaffle, spur, and spear,
Thou wert the best to follow gear.
'Twas pleasure as we looked behind,
To see how thou the chase could'st wind;
Cheer the dark bloodhound on his way,
And with the bugle rouse the fray.
I'd give the lands of Deloraine
Dark Musgrave were alive again."

Lay of the Last Minstrel.

In the same poem we have the following vivid description. The young heir of Branksome has lost his way in the forest—

“ ——— Starting oft, he journeyed on,
 And deeper in the wood is gone,
 For aye the more he sought his way,
 The farther still he went astray ;
 Until he heard the mountains round
 Ring to the baying of a hound.
 And hark, and hark ! the deep-mouthed bark
 Comes nigher still and nigher—
 Bursts on the path a dark bloodhound,
 His tawny muzzle track'd the ground,
 And his red eye shot fire.”

Colonel H. Smith says, in reference to the bloodhound:—“ This species is silent while following the scent, and thence easily distinguished from other hounds.” On the contrary, an able writer in the ‘Penny Cyclo-pædia’ says that when in pursuit “ the hound opens with a voice deep and sonorous, that may be heard down the wind for a very long distance.” Indeed, if the bloodhound did not open with a deep voice, we cannot tell how those whom it pursued could be aware of the chase, and consequently endeavour to baffle pursuit. When in full sight of the dogs and men, all attempts at evading capture, except by force of arms, must be out of the question. Sir Walter Scott, in his Notes to the poem from which we have quoted, says—“ Barbour informs us that Robert Bruce was repeatedly tracked by sleuth-dogs. On one occasion he escaped by wading a bowshot down a brook, and thus baffled the scent. The pursuers came up—

“ Rycht to the burn thai passyt ware,
 Bot the sleuth-hund made stenting thar

And waveryt lang time ta & fra,
 That he na certain gate couth ga;
 Till at the last Jhon of Lorn
 Perseuivit the hund the sleuth had loine."

The Bruce, book vii.



Cuban Blood hounds and Chasseur.

"A sure way of stopping the dog was to spill blood

upon the track, which destroyed the discriminating fineness of his scent. A captive was sometimes sacrificed on such occasions. Henry the Minstrel tells us a romantic story of Wallace, founded on this circumstance. The hero's little band had been joined by an Irishman, named Fawdon or Fadzean, a dark, savage, and suspicious character. After a sharp skirmish at Black-Erne side, Wallace was forced to retreat with only sixteen followers. The English pursued with a border sleuth-bratch, or bloodhound. In the retreat, Fawdon, tired, or affecting to be so, would go no farther. Wallace having in vain argued with him, in hasty anger struck off his head, and continued the retreat. When the English came up, their hound stayed upon the dead body." Surely in these instances the baying of the hound must have been heard.

The bloodhound breed, according to Sir Walter Scott, was kept up by the Buccleuch family on their border estates till within the eighteenth century, and not without need. During the last century, when deer-stealing was very common, bloodhounds were kept by the rangers and park-keepers of all the large parks, and were employed successfully in detecting the poachers; and we find it recorded in the 'Sportsman's Cabinet,' about forty years since, that "the Thrapston Association for the prevention of felony in Northamptonshire have provided and trained a bloodhound for the detection of sheep-stealers. To demonstrate the unerring infallibility of this animal, a day was appointed for public trial. The person he was intended to hunt started in the presence of a great concourse of people, about ten o'clock in the forenoon, and at eleven the hound was

laid on. After a chase of an hour and a half, notwithstanding a very indifferent scent, the hound ran up to the tree in which he was secreted, at the distance of fifteen miles from the place of starting, to the admiration and perfect satisfaction of the very great number assembled on the occasion." To the present group has been referred by some naturalists a dog of Spanish descent termed the Cuban bloodhound. A hundred of these sagacious but savage dogs were sent, in 1795, from the Havana to Jamaica, to extinguish the Maroon war, which at that time was fiercely raging. They were accompanied by forty Spanish chasseurs, chiefly people of colour, and their appearance and that of the dogs struck terror into the negroes. The dogs, muzzled and led in leashes, rushed ferociously upon every object, dragging along the chasseurs in spite of all their endeavours. Dallas, in his 'History of the Maroons,' informs us that General Walpole ordered a review of these dogs and the men, that he might see in what manner they would act. He set out for a place called Seven Rivers, accompanied by Colonel Skinner, whom he appointed to conduct the attack. "Notice of his coming having preceded him, a parade of the chasseurs was ordered, and they were taken to a distance from the house, in order to be advanced when the general alighted. On his arrival, the commissioner (who had procured the dogs) having paid his respects, was desired to parade them. The Spaniards soon appeared at the end of a gentle acclivity drawn out in a line, containing upwards of forty men, with their dogs in front unmuzzled and held by cotton ropes. On receiving the command *fire*, they discharged their fusils and advanced as upon a real attack. This was intended

to ascertain what effect would be produced on the dogs if engaged under a fire of the Maroons. The volley was no sooner discharged than the dogs rushed forward with the greatest fury, amid the shouts of the Spaniards, who were dragged on by them with irresistible force. Some of the dogs, maddened by the shout of attack while held back by the ropes, seized on the stocks of the guns in the hands of their keepers, and tore pieces out of them. Their impetuosity was so great that they were with difficulty stopped before they reached the general, who found it necessary to get expeditiously into the chaise from which he had alighted; and if the most strenuous exertions had not been made, they would have seized upon his horses." This terrible exhibition produced the intended effect, the Maroons at once capitulated, and



Cuban Bloodhounds or Mastiffs.



Cuban Bloodhound or Mastiff.

were subsequently sent to Halifax, North America. We might enter, had we inclination, into many details tending to prove the courage and ferocity of these dogs, but such revolting narratives are not to our taste; yet are not the dogs to be condemned, but those who trained them to the vile purpose of hunting down the defenceless Indian or the runaway slave. Many discrepant accounts

respecting these Cuban bloodhounds have been published; some exaggerating their powers, others decrying them. We have had abundant opportunities of scrutinizing the specimens which from time to time have been kept in the Zoological Gardens, and we hesitate not to regard them as mastiffs rather than hounds, though they have not the heavy head and extremely pendulous lips of the English mastiff. Their colour is tawny, with black about the muzzle; the ears are comparatively small, but pendent; the muzzle is shorter, and the jaws thicker than in the hound, yet not so truncate as in the bulldog. The limbs are remarkably powerful, and the general contour is compact, indicating both activity and strength; the chest is very broad; their height at the shoulder is about two feet. In their disposition they are faithful and attached, and, unless irritated, very gentle; they make excellent guard-dogs, and will attack both the bull and the bear with determined resolution. It will be seen that in our arrangement of dogs we place these fine animals in the mastiff group.

There appears to exist a race of most beautiful hounds in Central Africa, of which Colonel (then Major) Denham brought over three, two males and one female, on his return to England from that country, and presented them to the then existing royal menagerie in the Tower, under the care of Mr. Cops. The colonel informed Mr. Cops that he had himself hunted the gazelle with them, and that they displayed great cunning, frequently quitting the circuitous line of scent for the purpose of cutting off a double, and recovering the scent again with ease. They would hit off, and follow a scent after the lapse of two hours from the time when the animal had

been on the spot; and this delicacy of nose had not escaped observation, for they were employed, like the English bloodhound, in tracing a flying enemy to his retreat. We cannot but regret that these dogs, which in symmetry and action were perfect models, were kept in confinement. What a change from scouring the plains of Africa in pursuit of the gazelle to a den in the Tower! No wonder that they never bred, or that their temper became spoiled, which was more particularly the case with the female.

We have hitherto said nothing of the pointer, the sportsman's favourite. The present pointer, of handsome form, is derived from a heavy dog, possessing the sense of smell in wonderful perfection, known as the old Spanish pointer, and decidedly related to the hound. This dog is now seldom seen; like the talbot or the old southern hound, which have merged into our modern foxhounds, the old Spanish dog has passed by degrees into the intelligent, vigorous, and active pointer, the praises of which are in every sportsman's mouth. We believe that a strain of the foxhound obtains in the modern breed, and that to this in a great degree their energy and activity (points deficient in the old Spanish dog) are owing. A well-bred pointer takes to its work almost, we may say quite, intuitively; of course a young dog requires checking, and to have the exuberance of its spirit moderated; but upon drawing near game it stands immovable; with a similar instinct the setter crouches. Why should the pointer stand, or the setter crouch? Are these actions instinctive in the two dogs—or are they the results of original training, by which, repeated

generation after generation, the very nature of the animals has become modified? We think the latter; and yet there is much worth consideration in Mr. Bell's statement. This eminent zoologist says, "I have heard my father, a man of close observation and an enthusiastic sportsman, offer the opinion that the stand of the pointer and the crouching of the setter are but the natural start of surprise or interest which all dogs give when coming suddenly upon the scent or sight of their natural prey, modified, of course, by cultivation, and by transmission through many generations, each by cultivation improving upon the capabilities of the former." In opposition to this he refers to the instance of the celebrated pointing pig, broken in by Toomer, of the New Forest, the account of which is fully detailed by Daniel. This, indeed, was a singular circumstance, from which, being isolated, no data can be deduced; and the query arises,—do dogs generally start when coming upon the scent of their prey, and as it were recoil? We may be wrong, but we think not. Certainly the hound does not when he first gets upon the track of the fox or hare. Besides, the pointer backs his companion, and both, instead of rushing forward, continue to stand immovable as statues. In Daniel's 'Rural Sports' is an engraving, after Gilpin, of two pointers, a black dog named Pluto, and a white bitch called Juno, which kept their point during the time in which Mr. Gilpin made the sketch of them, and which occupied an hour and a quarter: all this while they stood as if carved in marble, an instance of steadiness of nerve and muscular endurance most wonderful, and perhaps without a parallel. Still, however, the idea of

Mr. Bell is worth consideration ; the point at issue being whether the propensity of this dog in the field to stand before his game be absolutely superadded to the original instinct of the animal, or merely a modification of it produced by discipline.

There is a breed of very handsome dogs called Dalmatian or coach dogs, of a white colour thickly spotted with black, which are classed among the hounds by Buffon, and also by Colonel Hamilton Smith ; and though these dogs are not remarkable for fineness of scent and intelligence, the place assigned them by Buffon we think to be correct ; our opinion, however, is contrary to that of Mr. Bell. The origin of this dog



African Hound.

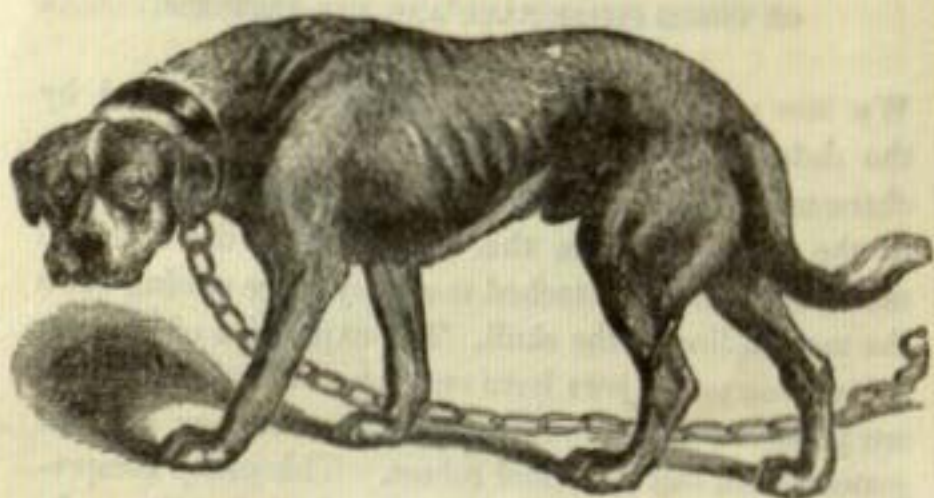
appears to be obscure: the French call it Brague de Bengale, and Colonel H. Smith believes it to be of Indian extraction; but this is not certain. The present dog is generally kept in our country as an appendage to the carriage, and is bred up in the stable with the horses; consequently it seldom receives that kind of training which is calculated to call forth its best qualities.

CHAPTER IX.

ON THE MASTIFF RACE AND THE TERRIERS.

WE now enter upon a group of dogs distinguished by the shortness and the breadth of the head ; this latter character resulting not from a corresponding development of the brain, but from the magnitude of the temporal muscles, which are attached to a bony ridge passing down the median line of the skull. The expression of the eyes is lowering ; the jaws have enormous strength ; the lips are pendulous ; the limbs extremely muscular ; and the general form thick-set and robust. This group comprehends the mastiff, the bulldog, and their allies. In sagacity and intelligence these dogs are not equal to the spaniel or shepherd's dog ; but they possess indomitable courage, and have been from early times celebrated for their prowess in the combat. It is well known that the Romans exported fierce fighting dogs from England, which were matched with wild beasts or men in the amphitheatre, and by most writers these dogs have been regarded as mastiffs. Colonel H. Smith, however, seems to think that they were in reality bulldogs, of larger size than the present breed, there being at the time in which the Romans became masters of Britain but one breed of thick-muzzled dogs ; and that the mastiff, originally from the cold regions of Central Asia, has been imported thence into Europe, and ultimately by the Cimbric Celtæ

into Britain. However this may be, certain it is that the mastiff is of old standing in our island, and has been long renowned for its great powers and courage. The English mastiff, when well grown, stands about thirty inches high at the shoulder; the head is thick, the lips pendulous, the ears small but drooping, and the aspect



Mastiff.

grave, stern, and even melancholy. Conscious of their great power, these dogs are quiet, and bear the petty annoyances of snarling curs with cool indifference; but when once roused to combat, they become terrible. Dr. Caius, a naturalist of the time of Elizabeth, who calls the mastiff *Canis urcanus*, notices its ferocity in combat, its sternness of aspect, its tenacity of tooth, and adds, "*nec lupum, nec taurum, ursum, aut leonem reformidat.*" Stow gives us an account of an engagement between three mastiffs and a lion, which took place in the presence of James I. One of the dogs being put into the den was soon disabled by the lion, which took it by the head and neck, and dragged it about. Another dog was

then let loose, and served in the same manner; but the third being put in, immediately seized the lion by the lip, and held him for a considerable time, till being severely torn by his claws, the dog was obliged to quit its hold, and the lion, greatly exhausted in the conflict, refused to renew the engagement, but, taking a sudden leap over the dogs, fled into the interior part of his den. Two of the dogs soon died of their wounds; the last survived, and was taken care of by the king's son, who said, "he that had fought with the king of beasts, should never after fight with any inferior creature."

A different feeling animated Henry VII. when he ordered a mastiff to be hanged, because it had dared



Tibet Mastiff.

singly to engage with a lion, the sovereign of beasts! and when he had one of his falcons killed, because it had overcome an eagle! "Si ces deux faits sont vrais," says M. Blaze, "ils prouvent que Henri VII. était un sot." *

The re is a story related of a mastiff, in the reign of Elizabeth, when Lord Buckhurst was ambassador at the court of Charles IX., which, unassisted, successively engaged a bear, a leopard, and a lion, and pulled them all down.

Though the mastiff has by no means the keen sense of smell which the hound possesses, it has a finer scent than most persons are aware of; and its hearing is acute. A dog of this breed chained to the premises, and never suffered to wander about, nor treated as a friend and companion, affords but a poor example of what the animal really is. Confinement spoils its temper, and cramps the noble qualities of its mind. We knew a dog of this kind (as purely bred as most in the present day), which, possessing immense strength and indomitable courage, was yet one of the gentlest of animals. He suffered the children of the house and even strange children to pull him about as they pleased; they might sit upon him, or pull his ears, and roughly too, as children will, and yet he never manifested anger or impatience by voice or action, but submitted quietly and good-humouredly; small dogs might snarl and snap at him, but he bore their petulance unmoved. This animal was the guardian of a manufactory, and he knew every person on the establishment. He would permit strangers to come in during the day, merely regarding them with an attentive gaze, but offering them no molestation. At night, when the gates

* "If these two stories are true, they prove that Henry VII. was a fool."

of the premises were closed, he seemed to assume a new character: he was then as fierce as he had been gentle during the day; he would not allow even the ordinary workmen to enter the yard, and several times seized men who attempted, on the strength of knowing him, to pass through, holding them till succour arrived.

A personal friend of the writer's, some time since, on a visit at a gentleman's house in the country, was taking a moonlight walk through the shrubbery and pleasure-grounds, when he was startled by a noise behind him; on turning his head, he perceived a large mastiff, which was ordinarily let loose as evening closed, and which had tracked him through the grounds. The dog with a fierce growl roughly seized him; our friend wisely deemed passive obedience and non-resistance the most prudent if not the most courageous part for him to play, and was unceremoniously led back through the grounds to the hall-door; here he was relieved by the master of the house. Subsequently assured that he had no cause to fear, he repeated his walk; he found the dog again at his side, but the animal walked quietly with him, and acknowledged in the usual way his words of conciliation. On these instances of sagacity (sagacity of a kind very different from that displayed by the shepherd's dog or the setter) there needs no comment.

The Thibet mastiff exceeds the English mastiff in size, and has a still more lowering expression of countenance, from the skin of the eyebrows forming a fold, running to the sides of the face, and from the thick pendulous lips. These huge dogs are the watch-dogs of the table-land of the Himalaya mountains about Thibet. The body is covered with rugged hair, of a black colour,

passing into tawny red about the limbs, over the eyes, and on the muzzle; and the tail is well furred, and arched over the back. To the Bhotéas these dogs are strongly attached, but are stated to be very savage towards strangers, and especially Europeans, whom they attack with great ferocity. Several inferior breeds exist in other parts of the Himalaya chain; in fact, this breed degenerates if removed to a milder climate; it does not prosper even in Nepál. A pair brought over to this country by Dr. Wallich, and presented to the Zoological Society, died soon after their arrival. A few years since, we saw a splendid pair in the *Jardin des Plantes*, at Paris. The Thibet mastiff is noticed by Marco Polo. The Bhotéas, who possess the finest breed of these dogs, "are a singular race, of a ruddy copper colour, indicating the bracing air which they breathe; rather short, but of an excellent disposition. Their clothing is adapted to the cold climate they inhabit, and consists of fur and woollen cloth. The men till the ground and keep sheep, and, at certain seasons, come down to trade, bringing borax, tincal, and musk for sale. They sometimes penetrate as far as Calcutta. On these occasions the women remain at home with the dogs, and the encampment is watched by the latter."

To the Cuban mastiff we have already paid some attention.

The term ban-dog appears to be applicable to any of the fierce animals of the present section, which are, in ordinary cases, kept chained or secured in kennels. Bewick, however, expressly applies it to a dog of which he gives an excellent figure, and which he states to differ from the mastiff in being lighter, more active and vigilant,

tainly nothing could be closer than it was to the figure he has given.

Of all the dogs of this section, none surpass in obstinacy and ferocity the bulldog. This fierce creature is smaller than the mastiff, but more compactly formed; the breast is broad, the chest deep, the loins narrow, the tail slender and arched up, and, with the exception of the head and neck, the figure approximates to that of the greyhound, the limbs being, however, shorter and more robust. The head is broad and thick, the muzzle short and deep, the jaws strong, and the lower jaw often advances, so that the inferior incisor teeth overshoot the upper. The ears are short and semi-erect, the nostrils distended, the eyes scowling, and the whole expression calculated to inspire terror. Of the brutal use to which this dog was formerly, nay, recently applied, we shall say nothing: all have heard of the barbarous custom of bull-baiting, so common in some countries, and but lately abolished in England; and all are aware of the manner in which this dog attacks his enemy, and how tenaciously he maintains his hold.

In all its habits and propensities, the bulldog is essentially gladiatorial—it is a fighting dog, and nothing else: its intelligence is very limited; and though we have known dogs of this breed attached to their masters, they exhibited, even in their feelings of attachment, an apathy, in perfect contrast to the Newfoundland, the watch-dog, or the spaniel. These latter dogs delight to accompany their master in his walks, and scour the fields and lanes in the exuberance of delight; the bulldog skulks at its master's heels, and regards with a suspicious glance everything and everybody that passes by; nor, indeed, is it

but not so large and powerful ; its muzzle, besides, is not so heavy, and it possesses in some degree the scent of the hound. Its hair is described as being rather rough, and generally of a yellowish grey, streaked with shades of a black or brown colour. It is ferocious, and full of energy. Bewick says that this dog is seldom to be seen in the present day. We have, however, more than once had occasion to notice varieties of the mastiff so closely agreeing with Bewick's figure and description, as to convince us that he took both these from nature.

One of the dogs of this kind which we knew belonged to a man living near Manchester. It was intelligent, and very much attached to its master ; but very savage, and not to be trusted by strangers. Its attack was sudden and impetuous ; and once to offend it was to make it an unforgiving foe. On one occasion its master, to show its attachment to himself and its courage in defending him, having secured it properly, asked us to pretend to strike him : we did so. The fury and the struggles of the dog to get at us may be conceived, but can scarcely be described, and dearly should we have paid for our presumption had it broken its fastenings. Previously to that time we had been on friendly terms with the animal ; ever afterwards it strove to attack us, and we never ventured near the house without an assurance that the dog was chained up.

Mr. Bell, in his 'History of British Quadrupeds,' does not notice this breed ; perhaps because it is not pure. The individual to which we have alluded appeared as if between the mastiff and bulldog, crossed with the drover's dog. This, however, is only a supposition. Its master regarded it as identical with Bewick's ban-dog ; and cer-

safe to approach the animal, for it often attacks without the slightest provocation.

A cross breed between the bulldog and the terrier is celebrated for spirit and determination.

The Corsican and Spanish bulldogs closely resemble the English breed, but are larger. A Spanish bulldog, which we had very recently an opportunity of examining, was certainly the most powerfully formed dog we have ever seen. In stature it was between the English bulldog and mastiff, but of massive build, with thick muscular limbs, tremendous breadth of chest, and an awful head. It was very gentle, excepting when urged to make an attack, when its ferocity knew no bounds.

It has been usual to consider the pug-dog as a degenerate variety of the bulldog, but we doubt the correctness of this theory. It has, indeed, somewhat the aspect of the bulldog on a miniature scale; but the similarity is more in superficial appearance than in reality. The pug is a little round-headed, short-nosed dog, with a preternatural abbreviation of the muzzle, and with a tightly twisted tail. We cannot help considering it as a specimen of hereditary malformation. Not so the bulldog, in which the bones of the skull and the temporal muscles are finely developed, and in which the muzzle and head are in perfect harmony.

The pug-dog is timid, and by no means remarkable for intelligence. Formerly it was in great esteem as a pet, but is now little valued, and not often kept.

We now come to a group, of which the terrier may be regarded as the typical example. Several breeds of these spirited dogs exist in our island, all celebrated for vigour, intelligence, boldness, and irrepressible ardour

in the destruction of the otter, the fox, the badger, the rat, &c. They bite keenly and hesitate not to attack any enemy. The different breeds of these dogs, which are nowhere found in such perfection as in the British Islands, may be reduced to three, viz., the smooth terrier, the rough wire-haired Scotch terrier, and the long-haired, short-legged terrier of the Isle of Skye. Most probably all are descended from one original race, of great antiquity, brought over by some of the earliest colonists of our island. The smooth terrier varies in colour; some are black with tanned limbs and muzzle, a tanned spot over each eye, and a black palate; others are white. The head is carried high, the nose is sharp, the chest broad and the body compact and vigorous. The wire-haired terrier is shorter in the limbs, rather more robustly made, and generally of a white or sandy colour. The Isle of Skye terrier is covered with long coarse hair; its limbs are very short, but muscular; its back is long, its ears erect; the eyes large and bright; the muzzle short and pointed. The colour is sandy brown, reddish, or white. The latter breed is much used for otter-hunting on the wild shores of the western isles of Scotland, and though the dogs are of small size, their courage is equal to any encounter, while from their peculiarity of form they are able to enter the holes between the rocks, into which a larger animal could not manage to force its way. The following description of an otter-hunt in the Hebrides will serve to show the spirit of these admirable dogs:—"It was a fine morning in September. Landing on one of the islands from a boat, the terriers were loosened from their couples, and left to their own instinct to find the otter's den. After

scrambling a considerable distance over masses of rock and loose pebbles, on a remarkably wild and beautiful shore, the dogs, by their eagerness of manner and incessant barking, convinced the party the game was within scent. The gentlemen, with guns cocked, then arranged themselves in convenient situations for intercepting the passage of the otter, should he attempt to take refuge in the sea; some mounted on the tops of rocks, others stood near the water, or in the boat which had accompanied the party from the landing-place. The keepers in the mean-time assisted the dogs in their efforts to discover the lurking-hole of the prey. One of them, a thickset Highlander, displayed very considerable enthusiasm. Addressing the dogs in Gaelic, he set to work with all the fervour of the animals themselves, tearing away large stones from the hole, and half burying himself to enable the dogs to come at their object; they in the mean time ran about, yelping in the greatest excitement, and scratching at every aperture between the stones. While this action was going on at one hole, a large otter poked his head out of another, and looked about with as much astonishment as his countenance was capable of expressing, until catching a glimpse of one of his enemies he suddenly retreated from the light. This incident having been observed, the attention of the party was transferred to the retreat thus betrayed. A large stone was first uplifted and hurled upon the top of the pile, with the intention of either forcing the inmate out by the shock, or of breaking some of the stones. Then a pole was thrust into the crevice, which was enlarged so as to admit a dog. One of the canine besiegers immediately rushed in, and after a few seconds spent in grappling

with his antagonist, an otter was dragged forth, at whom the whole body of dogs ran a tilt. His defence was most heroic, many of his assailants exhibiting evidences of the power of his bite. The battle was continued for several minutes; and to those who delight in the display of animal ferocity, the noise of enraged combatants, and the sight of wounds and death, must have afforded high enjoyment. Dogs and otter, involved in one compact group, rolled down a precipitous ledge of crags, at the bottom of which, the power of numbers prevailing, the poor otter yielded up his life, dying very hard, as it is called.* The otter is in fact a fearful opponent, and the dogs receive most terrible wounds, which, however, do not daunt their inflexible courage for an instant. All have heard of the Pepper and Mustard breeds celebrated by Sir Walter Scott; and most are familiar with the instructions of Dandie Dinmont respecting the mode of training them.*

A brace of terriers usually accompanies every pack of foxhounds, for the sake of unearthing the game, an act requiring no little courage and resolution. Mr. Daniel, in his 'Rural Sports,' gives the following account of the ferocity and affection of a terrier bitch:—After a very severe burst of more than an hour, a fox was by Mr. Daniel's hounds run to earth at Heney Dovehouse, near Sudbury, in Suffolk; the terriers were lost, but as the fox went to ground in view of the headmost hounds, and it was the concluding day of the season, it was resolved to dig him. Two men from Sudbury brought two terriers for that purpose, and, after considerable labour, the

* 'Guy Mannering.'

hunted fox was got and given to the hounds. While they were breaking the fox, one of the terriers slipt back into the earth, and after more digging a bitch fox was taken out. The terrier had killed two cubs in the earth, but three others were saved from her fury. These the owner of the bitch begged to have, saying he should make her suckle them. This was laughed at as impossible; the man, however, was positive, and had the cubs: the bitch fox was carried away and turned into an earth in another part of the country.

Mr. Daniel then relates that, as the terrier had behaved so well at earth, he some days afterwards bought her, with the cubs which she had fostered. The bitch continued to suckle them regularly, and reared them until they were able to shift for themselves: what adds to the singularity, Mr. Daniel observes, is that the terrier's whelp was nearly five weeks old, and the cubs could just see, when this exchange of progeny was made. He also states that a circumstance partly similar to the foregoing occurred in 1797, at the Duke of Richmond's, at Goodwood, where five foxes were nurtured and suckled by two foxhound bitches.

The same author states, that in April, 1784, his hounds found at Bromfield-Hall wood. By some accident the whipper-in was thrown out, and after following the track two or three miles, gave up the pursuit. As he returned home, he came through the fields near the cover where the fox was found. A terrier that was with him whined and was very busy at the foot of a pollard oak, and he dismounted, supposing that there might be a hole at the bottom harbouring a polecat or some small vermin. No hole could he discern. The dog was eager

to get up the tree, which was covered with twigs from the stem to the crown, and upon which was visible the dirt left by something that had gone up and down the boughs. The whipper-in lifted the dog as high as he could, and the terrier's eagerness increased. He then climbed the tree, putting up the dog before him. The instant the terrier reached the top the man heard him seize something, and, to his surprise, found him fast clapped with a bitch fox, which he secured, as well as four cubs. The height of the tree was twenty-three feet; nor was there any mode for the fox to go to or from her young, except the outside boughs: the tree had no bend to render the path easy. Three of the cubs were bagged, and bred up tame to commemorate this extraordinary case: one of them belonged to Mr. Leigh, and used to run tame about the coffee-room at Wood's Hotel, Covent Garden.

Colonel H. Smith says, in reference to the daring and spirit of the terrier, "It is often noticed in India that, when the bulldog pauses, British terriers never hesitate to surround and grapple with the hyæna, the wolf, and even the panther." With this courage, the terrier is at the same time very affectionate and intelligent, and makes an admirable house-dog. We have seen one guard his master's coat or hat or gloves during his absence, and prevent every one from touching a single article. There are many degenerate mongrel races, in which more or less of the terrier blood prevails; as in some of the drovers' and butchers' dogs, which are often very savage.

To the present group of dogs may be added the old-fashioned turnspit, of mongrel origin; the hairless Bar-

bary dog, also a mongrel; and the skulking mongrel dogs of Patagonia and Tierra del Fuego. So valuable to the savages of those wild and dreary regions are these animals, that in times of famine they sacrifice the oldest woman of the tribe, and become cannibals rather than destroy a single dog. Dogs, say they, catch otters; old women are good for nothing! The dogs of these savages are of a very mixed race, from various breeds of European origin; they are strong, fierce, and cunning. With them the natives guard their huts, hunt otters, or catch sleeping or wounded birds. Those of Patagonia have much resemblance to the lurcher; while those of the Fuegian Indians somewhat resemble terriers, or a mixture between a terrier and shepherd's dog. They bark furiously at strangers, and keep a most vigilant watch.

Here, then, we conclude our history of the Dog, an animal given to man to be his assistant and friend. To his service is the dog devoted; by him are its very instincts modified; to him it looks up for encouragement, and his good word or kind caress throws it into a rapture of delight. The dog enjoys to walk out with its master; it listens for his footstep, it whines in his absence, and it greets his return. Fidelity, courage, and intelligence are its attributes. It is the only animal which from a spontaneous impulse allies itself to the human race, shares with equal devotion the cottage of the peasant and the palace of the noble, and claims a return of the attachment it manifests, a return which every well-ordered mind will willingly accord.

In conclusion, we may, perhaps, not improperly add the following characteristics of a high-bred dog, whatever

the race be to which it belongs :—A large full eye, bold and sparkling, not linear or oblique ; a neck well raised from the bust ; high shoulders thrown back, with the humeral joints prominently marked ; the breast broad ; the chest deep ; the loins arched, broad, and muscular ; the tail gradually tapering and rushlike ; the limbs clean and sinewy and firm ; the feet catlike and rounded ; the tarsus, or length from heel to foot, short ; the thighs muscular and set back ; no superabundant loose skin about the body ; no thick joints, disproportionate to muscle. These are points that every well-bred dog, from the shepherd's faithful assistant to the finest setter, hound, or pointer, must exhibit. They are the characteristics of strength and energy.

THE END.

A SKETCH
OF THE
HISTORY OF MONKEYS.

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WITH NUMEROUS ILLUSTRATIONS.  
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1848.

A SKETCH

HISTORY OF MONKEYS

WITH NUMEROUS ILLUSTRATIONS

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hensile tails, and that the American Monkeys are not strictly Quadrumana, as the thumb on the fore-hand is not opposable, but only that on the hinder limb, in which respects they agree with the Opossums. The greater number of naturalists, however, agree in treating the Opossums as belonging to the genus *Marsupiala* from the pouches in which they carry their young, a characteristic sufficiently marked, we think, to justify the classification.

The number of species of the genus Quadrumana is very large, and in the present work it is not intended to notice every one, but only to give such specimens of each family as to afford a general and, we trust, popular idea of the whole. The generally received division is into Apes, Monkeys, Baboons, and Lemurs—a division which we shall follow.

A SKETCH
OF THE
HISTORY OF MONKEYS.

INTRODUCTION.

THERE are few animals which, living or dead, are so immediately useless to man, that excite so much of his interest and curiosity as those which are included under the general name of MONKEYS; or more scientifically classified as QUADRUMANA, or four-handed. Rarely used as food, furnishing no materials for clothing, and unavailable for the service of man, attention has been always attracted to them by their approximation in some respects to the human structure, and by their faculty of imitation. The degree of assimilation, however, varies greatly in the different species contained in their genera: from the great ape, or Chimpanzee (*Simia troglodytes*), and the Orang-outan, or Wild Man of the Woods (*Simia satyrus*), to the Lemurine Colugo (*Lemur volans*) which more resembles a cat, the steps are very numerous and the descent is great. Still the connecting links are traceable; nor does it close even here: some recent naturalists have proposed to include the Opossum tribe in the same genera. The chief reasons for this proposal are, that some of the acknowledged Monkey tribe have pre-

CHAPTER I.

APES IN GENERAL (*Simiæ*).

THIS family is composed of three minor groups, definitely characterised by appropriate traits of organic development, and respectively distinguished, in our own language, by the names of apes, monkeys, and baboons—a division which has the rare advantage, seldom attendant upon mere popular classifications, of being in perfect accordance with scientific principles, founded upon the structure and habits of the animals. The apes have neither tails nor cheek-pouches, and their ischial callosities are either defective altogether or developed only in a rudimentary form; though inhabiting the woods their pace is semi-erect, and they walk on two legs even along the branches, their extremely long arms compensating the want of a tail in steadying and directing their motions. The monkeys have cheek-pouches, callosities, and very long muscular tails; they likewise are a pre-eminently sylvan race; they walk on all-fours, and their long tails become powerful and efficient instruments in guiding their movements and securing their equilibrium during the rapid and varied evolutions which they habitually execute, in spite of the precarious nature of their footing. The baboons have cheek-pouches and callosities, but tuberculous or short tails, never reaching beyond the houghs, destitute of all muscular power, and incapable of entering as an efficient instrument into the function of progression; they go on all-fours, live among rocks and mountains, and are seldom or never found in the forests.

Each of these sub-families, the apes, monkeys, and baboons, comprises two or more distinct genera; and all are exclusively restricted, as regards their habitat, to the warmer regions of Asia and Africa.

The word *ape*, which exists with little variation in all

the modern European languages which have their origin in the ancient Teutonic—as *aap* in Dutch, *affe* in German, *apor* in Swedish, &c.—is commonly supposed to be derived from the German word *affen*, to imitate (literally to *ape*); and in English is applied indiscriminately to all simiæ without tails, which are, on that account, generally considered to approach most nearly to the human form.

Of all the inferior animals, the apes approach most nearly to man, as well in their organization as in their habits and intellectual endowments. Zoologically considered, they are distinguished from the other quadrumana by the total absence of tails and cheek-pouches. The character arising from defect of tail, indeed, is not, strictly speaking, peculiar to the apes: certain other quadrumanous mammals, and those of groups greatly inferior in point of structure and intelligence, such as the magot, or Barbary ape, and the black *ape* of the Philippines, are equally deficient in this organ; even certain dog-headed baboons, as, for instance, the drill and mandrill, have the tail so short as to be almost tuberculous; so also have some of the lemuridæ; but these instances can only be regarded in the light of casual exceptions to the general rule which obtains in their respective genera, and the term *ape* has been accordingly applied, universally in ordinary conversation, to designate a *monkey without a tail*, all quadrumanous mammals possessing this character being called indifferently apes.

But as the absence of tail is not peculiar to the apes, neither does it constitute their most marked or influential character. This is unquestionably found in their want of cheek-pouches, organs which exist universally in all the other simiæ, or monkeys of the Old World, the semnopithecæ alone excepted, and which are a kind of natural wallet, in which these animals can stow away considerable quantities of fruits, grain, and other provisions, either in returning from their predatory excursions into the gardens and cultivated fields, when removing to distant parts of the forest, or finally to preserve them for a future occasion, after satisfying their immediate wants.

Being thus an influential as well as a peculiar attribute, the presence or absence of these organs becomes a valuable character in the generic distribution of the quadrumana, and more especially in defining the natural groups of the simiæ, as distinguished from the simiadæ and lemuridæ.

There is another generic character, however, which is even more peculiarly appropriate to the true apes than the absence either of tails or cheek-pouches, and, in its influence upon the economy of these animals, and more especially upon their mode of progression, of much greater consequence. This arises from the extraordinary disproportion that exists between the length of the anterior and that of the posterior extremities, and which is carried to such a degree of apparent extravagance in some species, that when the animals stand upright upon the hind-legs they can touch the ground with the fingers of the fore-hands, and, though they walk upon the hind-feet, it is with a vacillating unsteady pace, touching the ground lightly on either side with the knuckles of the fore-hands, which are kept half closed for this purpose. This is uniformly the case when the hands are free, but when they are otherwise employed, as in grasping or carrying anything, the pace is purely biped, and the position consequently erect, the knees, however, being still very much bent; nor do the animals appear to suffer as if the position was constrained or unnatural.

But, though thus capable of proceeding with sufficient ease and security upon a level surface, it is not on plain ground that the apes have an opportunity of displaying the surprising force and agility with which their organic structure really endows them. As the conformation of their extremities is, in some measure, intermediate between that of bats and quadrupeds, so likewise do they occupy a habitat intermediate between the elements in which these two different tribes of mammals are adapted to move and execute the most important functions of their lives. The apes are essentially an arboreal or sylvan race; every part of their conformation, every modification of their organic

structure, has a direct tendency to this end ; and those very peculiarities, which diminish their powers of walking with ease upon the surface of the earth, are admirably adapted to increase their facility of climbing and grasping. The shortness of their legs and thighs, by keeping the centre of gravity always near to the surface upon which they tread, necessarily secures a degree of equilibrium to the body, which it could not possess were these organs of greater length ; and no sooner is this equilibrium in danger of being deranged than the long arms are immediately employed to restore it, either by grasping the nearest branches, or being inclined upon each side like the balancing pole of a rope-dancer. The legs, moreover, are not in the same line with the thighs ; the knees are turned outwards, and the feet are articulated at the ankle in such a manner that their soles turn inwards, so as to face or be opposed to one another. By these means the apes are enabled to embrace or grasp the trunks and branches of trees with much greater force than if their members were constructed like our own : they thus become most essentially sylvan or arboreal animals, and never voluntarily abandon the forests, where they find at once the most congenial food and the most perfect security.

Their whole organization peculiarly adapts the apes to these habits. Besides the conformation of the extremities just noticed, the fingers and toes are long, flexible, and deeply separated from one another ; the thumb, though shorter, and placed farther back towards the wrist, than in man, possesses, nevertheless, considerable power, and is completely opposable to the other fingers ; and as this is equally the case on the anterior and posterior members, the apes become thus pre-eminently fitted for an arboreal life. They are not *quadrupeds*, as has been justly remarked by Tyson, Buffon, and other naturalists, but *quadrumana* ; not four-footed, but essentially four-handed animals. The great and leading details of their structure, their habits, actions, and superior intellectual endowments, make them, in reality, the connecting link between man and the inferior animals—

the next grade to humanity in the descending scale of existence.

It is unquestionable that the superior powers of prehension enjoyed by the apes greatly enlarges their sphere of action. They are not confined to the surface of the earth, like the generality of mammals, and, though they do not possess the power of elevating themselves into the air like bats and birds, they are, nevertheless, enabled to traverse the intermediate regions of the woods and forests, with an ease and velocity which can only be compared to actual flight. On the other hand, when compelled by circumstances to pass over any part of the earth's surface, their pace, as we have already seen, is, properly speaking, neither that of a biped nor of a quadruped; they do not walk upright with the firm and portly attitude of man, but much less can they be said to walk upon all-fours like the lower animals, or even like the inferior tribes of monkeys and lemurs. The oblique articulation of their ankles, coupled with the opposable thumb-like great-toe, which stands out almost at a right angle to the soles of the posterior members—circumstances which are manifestly well calculated to increase their powers of prehension, compels them, in walking, to tread only upon the outer edge of the hind-foot, and produces a rocking or waddling gait, precisely similar to that of a rickety child or bandy-legged man. In their native forests, the extreme length of their arms and hands is turned to the greatest advantage: it not only extends their sphere of prehension, but acts, as we have already observed, upon the principle of the rope-dancer's balancing-pole, and completely secures their equilibrium even with the most precarious footing. Thus it is that travellers have beheld the apes securely poised at the very extremity of the slender trunk of the bamboo, balancing themselves adroitly, and waving their long arms to and fro with a gracefulness and ease of motion truly admirable.

The absence of a tail, which has already been slightly noticed as one of the most prominent characters of the apes, and which, in the estimation of the world

at large, is usually considered as the distinguishing mark between them and the lower tribes of monkeys, is not altogether devoid of influence upon the habits and economy of these animals. Not that we consider this organ as generally exercising functions of superior or primary importance among the great majority of mammals; on the contrary, its uses are, in many cases, extremely obscure, if not altogether beyond the reach of observation: but among the arboreal, aquatic, and some other tribes, its functions are at once obvious and important—too apparent, indeed, to be liable to the blunders which so often attend speculations upon final causes in some other departments of zoology. Though the presence of a tail, then, does not always indicate a corresponding function, and though its absence is not, strictly speaking, confined to the present group of quadrumanous animals, yet a long tail would seriously embarrass the nearly erect motion of the real apes; whilst its use is, in other respects, superseded by the length of the fore-arms, which appear intended to compensate its loss, and which supply its place in adjusting the proper balance of the body, the only function—an important one, no doubt—which the tail performs in the common monkeys.

A character which is common to all the other known simiæ is, nevertheless, found in some species only of the real apes, and absent in others: this is the possession of callosities, or naked callous patches on the buttocks, upon which these animals sit when fatigued by the violent and rapid movements which they habitually execute. These organs have been already partially referred to, and their functions will be described more at large when we come to speak of the baboons and other simiæ, in which their development is most remarkable. Among the apes they are confined to the gibbons, or *hylobates*, and even in them exist only in a rudimentary form; but their presence is, nevertheless, sufficiently important to become a legitimate generic character, to distinguish these animals from the chimpanzees and orangs, as the comparative length of the anterior and

posterior extremities distinguishes these genera from one another. We shall find, however, that the gibbons, which possess these diminutive callosities, differ in no other particular from the chimpanzee and orang-outan, which are deficient in this respect; they have the same system of dentition, the same organs of sense, and the same singular modification of the organs of locomotion and prehension: their manner of life, also, is precisely similar; they take up their abode equally in the thickets and most solitary forests, inhabit the same countries, and live upon the same food; and, finally, their actions, character, and mental faculties are, in all respects, the same.

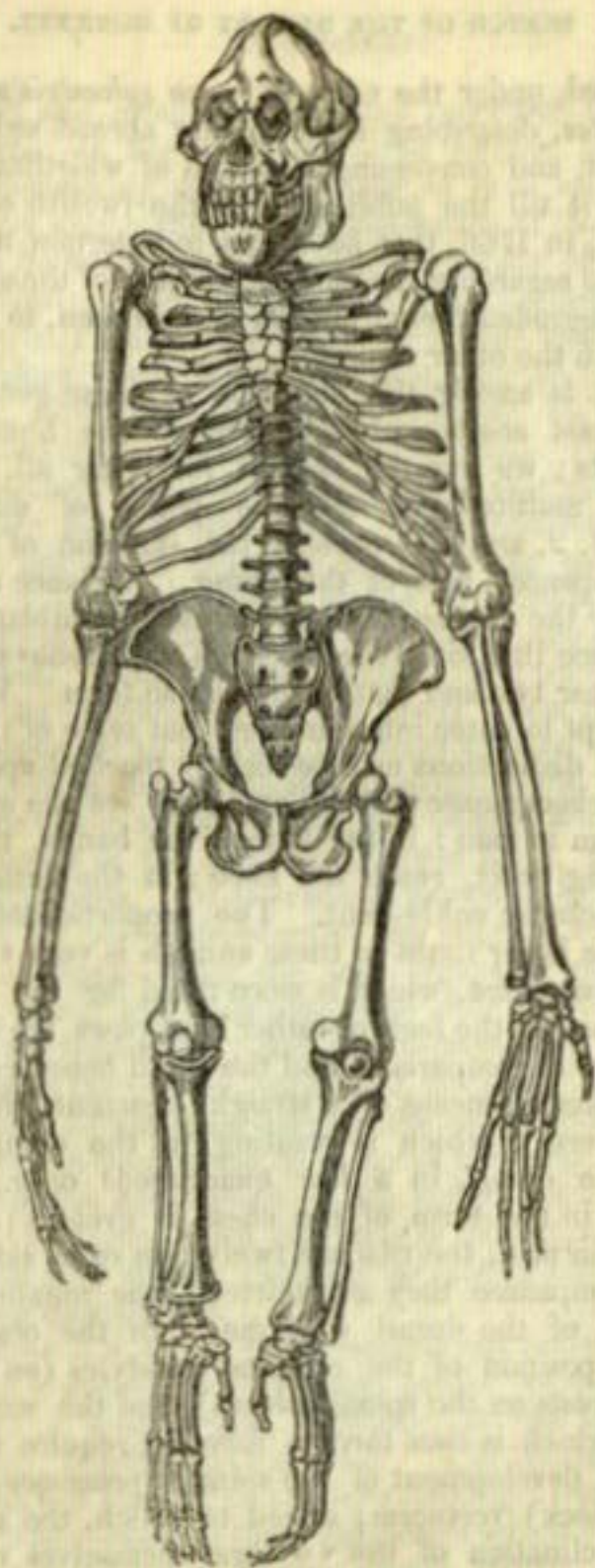
The teeth of the apes, as indeed those of all the other monkeys of the Old World, are of the same number as in man; nor, as far as the incisors and molars are concerned, do they present any difference of form in the chimpanzees and oranges, the two most anthropoid genera of the family; in the gibbons, however, the three posterior molars of the lower jaw have their crowns marked by five tubercles each, instead of four; and in the adults of all the species, more especially in the old males, the canines are developed in the same relative proportion as in the carnivora; the tusks of the full-grown orang-outan, at least as large as those of the lion, are most formidable weapons. Unfortunately, we know but little of the manners of these animals in their adult state; but this circumstance gives us strong reason to suppose that the extreme gentleness and placidity observable in the young individuals, usually brought into Europe, do not always continue to characterise them in their native climates, but that their dispositions alter in proportion to the development of their muscular force; and that, in their adult state, they are as formidable and mischievous as the baboons themselves.

The characters and habits of the apes present individual differences, which we shall notice when speaking of the several genera and species. As far, however, as their general manners have been observed, they are of a gentle, and we may even say, without exaggeration, of a

grateful and affectionate disposition, tinged, indeed, with an obvious shade of melancholy, which may be owing, however, to the confinement and other unnatural circumstances in which they are necessarily placed when brought to this country: their looks are expressive in the highest degree; their eyes beam with intelligence; their actions are grave, circumspect, and deliberate; they are seldom moved to violent passion, though occasionally peevish and fretful when teased or thwarted; and, finally, they are totally free from the petulance, caprice, and mischievous curiosity, which so strongly characterise the monkeys properly so called. It must be remembered, however, that these observations apply to the apes only in the state of confinement in which we have had an opportunity of seeing them in Europe, when their spirits were, perhaps, broken down by captivity and absence from their native woods and companions; those usually seen have been, moreover, generally of immature age, and may consequently be naturally supposed to have exhibited a greater degree of gentleness and docility than what we may reasonably presume to be due to their adult condition and the full development of their physical powers; but, on the other hand, the gibbons which we have observed had unquestionably attained their mature growth, as was manifest from the great development of their canine teeth, yet their character and disposition differed in no respect from what we have here described. The patience, circumspection, and docility of these animals, really approach more nearly to the attributes of human reason than our vanity may at first be willing to admit. They patiently endure clothing to defend them from the effects of our changeable climate, are readily taught to imitate or perform various actions, quickly learn to interpret the sentiments and emotions of those they are attached to, and almost seem to comprehend the language you address to them. If at any time they mistake your meaning when commanded to do a particular act, they hesitate with their hand perhaps on the object, look attentively at your face, as if to divine your meaning, and, in short, conduct themselves precisely as a dumb man would do under

similar circumstances. Those which are deprived of callosities do not repose on their hams, after the fashion of ordinary monkeys, but stretch themselves on their sides like human beings, and support their heads upon their hands, or by some other means supply the want of a pillow.

We need not be surprised that animals approaching so nearly to the human form should have been at all times objects of intense interest to the philosopher, or of credulous and exaggerated relations among the common people. Accordingly we find that the inhabitants of Western Africa, the Indian Archipelago, and the south-eastern parts of Asia, universally regard the apes as a sort of wild men, closely allied to the human species, and preserving silence, not from any defect in the organs of speech, but from motives of policy, that they may escape the drudgery, servitude, and other evils incident to man in a state of society. The credulous, and, for the most part, ignorant travellers of the sixteenth and seventeenth centuries, readily adopted these extravagant accounts, and, perhaps, embellished them with additional colours from their own fertile imaginations; they represented the apes as living in a kind of regulated society, in the depths of the most impenetrable forests, arming themselves with clubs, expelling even the elephant from their cantonments, always walking erect, sheltering themselves in caves, or erecting rude huts to defend them from the inclemency of the weather, and occasionally kidnapping the people of the country, when they happened to meet them alone in the woods, and reducing them to a state of the most revolting slavery. These and similar narratives imposed upon the credulity of the age, and even grave and learned philosophers began to imagine that they had here a kindred and closely-allied species, if not man himself in his original and natural state. The great Linnæus himself long hesitated as to the true affinities of these extraordinary beings. In the earlier editions of his celebrated *Systema Naturæ* he has invariably considered them as *wild men*, and as such classed the only species with which he was imperfectly



3.—Skeleton of Orang-Outan.

acquainted, under the name of *homo sylvestris* and *homo troglodytes*, describing it as moving abroad only during the night, and conversing in a kind of whistling sound; nor was it till the publication of the twelfth edition of his work, in 1766, that he began to entertain more correct ideas regarding the natural relations of the apes, and, finally, degraded them from the rank of men, to associate them with the other simiæ.

But it is among the members of these genera that the nearest anatomical approach to the human subject exists; we say the nearest, for, after all, important and multitudinous are the points of difference. Figures 1, 2, and 3, represent the skeleton of man, of the chimpanzee, and of the orang. A glance at them will show the degree of their mutual resemblance, and the distance that intervenes between the osseous structure of the latter two and that of the human form. We shall not attempt to enter into minutiae; but some of the more important distinctions may be briefly touched upon. In both the chimpanzee and the orang we see the arms far longer than in man: in the former the hands, the skeleton being erect, reach the knee; in the latter they nearly reach the ankle-joint. The proportionate shortness of the lower limbs in these animals is very striking. In the chimpanzee, which is more fitted for the ground than the orang, the feet, or rather hind-paws, are broader and shorter in comparison, and the thigh bone is secured in the socket by means of a straight ligament (the ligamentum teres), which is wanting in the orang; and besides the orang, in a few quadrupeds only. The difference in the form of the chest is evident; in the orang, as in man, the ribs are twelve on each side; but in the chimpanzee they are thirteen, the number, consequently, of the dorsal vertebræ. In the orang the backward position of the occipital condyles (on which the skull rests on the spinal column), and the weight of the face, which is thus thrown forward, require a commensurate development of the spinous processes of the cervical (neck) vertebræ; added to which, the general anterior inclination of the vertebræ themselves renders

the length and robustness of these processes the more imperative. In the chimpanzee the spinous processes, though necessarily developed, are so in a less degree than in the orang, the anterior inclination of the cervical vertebræ being less decided, and the weight of the face less oppressive. In both animals (and, indeed, in all the ape tribe) the cervical region is shorter than in man, and therefore better fitted for sustaining the weight of the head, which preponderates anteriorly. In the front view of the orang, the neck cannot be seen. The length of the forehead, and the proportionate shortness of the thumb, are marked characters. The difference in the form of the pelvis between these animals and man is obvious. The narrowness of the os sacrum, and the deficiency in expansion of the iliac bones, are not to be overlooked. With the expansion of the pelvis is connected the development of the lower limbs in man, to whom alone, of all animals, the erect attitude is easy and natural. The magnitude and position of the skull, the structure of the spinal column, the osseous and muscular development of the pelvis and lower limbs, necessitate such an attitude. One advantage gained by this arrangement is the perfect freedom of the superior extremities, the lower limbs being the sole organs of progression. In the orang and chimpanzee all four extremities are organs of locomotion: the chimpanzee, it is true, can proceed on the ground, supported, or rather balanced, on the lower extremities, calling the superior only occasionally into use, except in as far as they are needed to maintain the equilibrium of the body; but man walks with a free step, with his arms at liberty, and with a precision very remote from the vacillating hobble of the tottering chimpanzee.

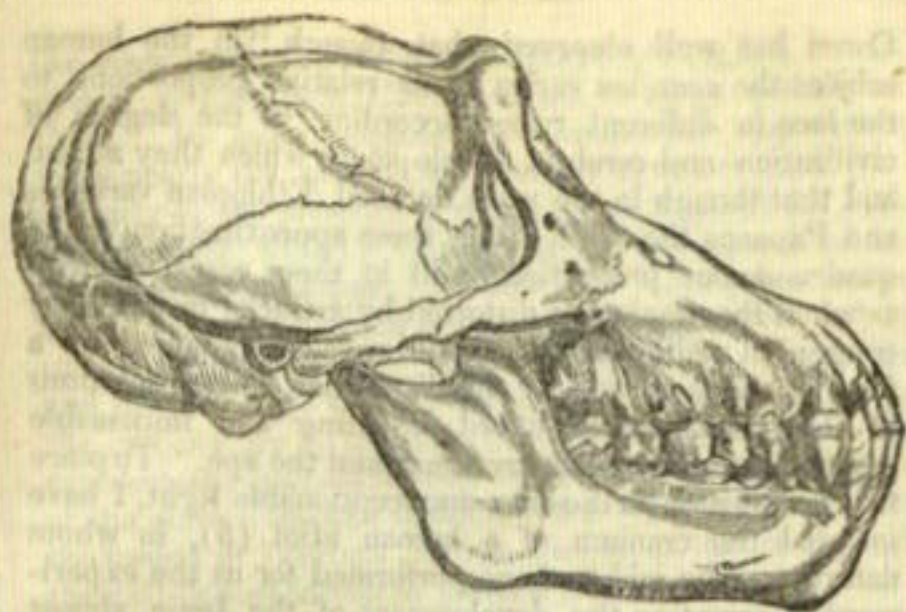
Figures 4, 5, 6, and 7, are respectively representations, first, of a well-developed human skull; secondly, of the skull of a human idiot; thirdly, of the chimpanzee (female); fourthly, of the orang. The contrast between the first and the last two is very striking; but that even of the idiot possesses those characters which at once proclaim it as belonging to the human species. Professor



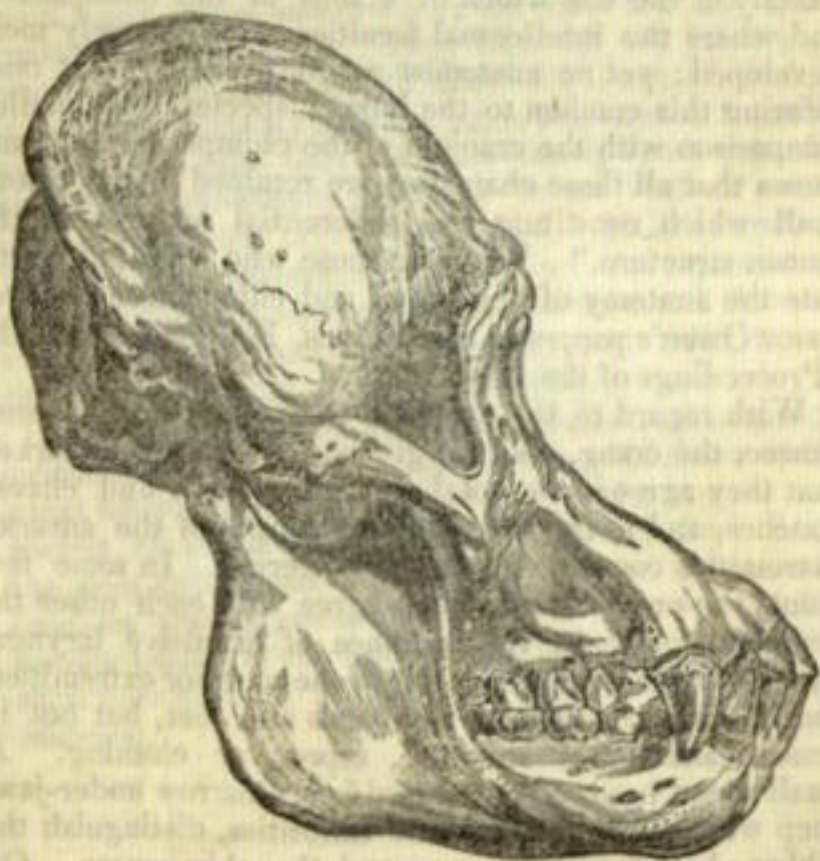
4.—Human Skull.



5.—Skull of Human Idiot.



6.—Skull of Chimpanzee.



7.—Skull of Orang-Outan.

Owen has well observed, that, though "in the human subject the *cranium* varies in its relative proportions to the face in different tribes, according to the degree of civilization and cerebral development which they attain, and that though in the more debased *Æthiopian* varieties and Papuans the skull makes some approximation to the quadrumanous proportions, still in these cases, as well as when the cranium is distorted by artificial means or by congenital malformation, it is always accompanied by a form of the jaws, and by the disposition and proportions of the teeth, which afford unfailing and impassable generic distinctions between man and the ape. To place this proposition in the most unexceptionable light, I have selected the cranium of a human idiot (5), in whom nature may be said to have performed for us the experiment of arresting the development of the brain, almost exactly at the size which it attains in the chimpanzee, and where the intellectual faculties were scarcely more developed; yet no anatomist would hesitate in at once referring this cranium to the human species. A detailed comparison with the cranium of the chimpanzee or orang shows that all those characters are retained in the idiot's skull which constitute the differential features of the human structure." We refer those who wish to investigate the anatomy of the orang and chimpanzee to Professor Owen's papers in the 'Trans. Zool. Soc.' and the 'Proceedings of the Zool. Soc.'

With regard to the external characters of the chimpanzee, the orang, and the gibbons, it may be remarked that they agree in the total absence of a tail and cheek-pouches, and in the extraordinary length of the anterior extremities compared with the posterior. In some few points the orangs and gibbons agree with each other the nearest, namely, in the presence of extensive laryngeal sacculi, in the extreme length of the anterior extremities, and in the narrowness of the hands and feet, but not in general anatomical structure, aspect, or clothing. A small round head, a compressed face, a narrow under-jaw, deep woolly fur, and ischiatic callosities, distinguish the gibbons both from the orang and the chimpanzee. On

the other hand, the orang and chimpanzee are less immediately related than Cuvier seems to have considered them. In most respects the chimpanzee approaches more nearly the type of the human structure, and particularly in the presence of a pendulous uvula at the back of the palate, which is wanting in the orang, and in the structure of the larynx, in which the laryngeal sacs are not developed, as in the orang, but are produced into a cavity of the os hyoides. Still, however, the chimpanzee and the orang are more closely related to each other than the gibbons are to the latter. They are, moreover, the representatives of each other in their respective portions of the globe; the one tenanted the secluded depths of the forests in Western Africa, the other the recesses of the still denser forests of Borneo and Sumatra.

The food of the apes, in a state of nature, consists of wild fruits, bulbs, and probably the inner bark and tender buds of certain trees. They likewise eat insects and small reptiles, and search after the nests of birds, of which they greedily suck the eggs, and devour the callow young. Of eggs they are passionately fond, even in a state of confinement, but they refuse beef or mutton unless it has been previously cooked. Milk or water is their favourite beverage; at first they will reject wine or spirits; but, like the savages of America and Australia, they soon overcome their aversion, and learn to enjoy their glass with the gusto of a connoisseur.

In point of geographical distribution, this group is principally confined to the peninsula of Malacca and the great islands of the Indian Ocean. One genus is, nevertheless, an inhabitant of Western Africa, and that too the most anthropoid of the whole, both in its intellectual faculties and physical conformation. It is, therefore, usually placed at the head of the series of apes, and we shall now proceed to relate its history and describe its manners.

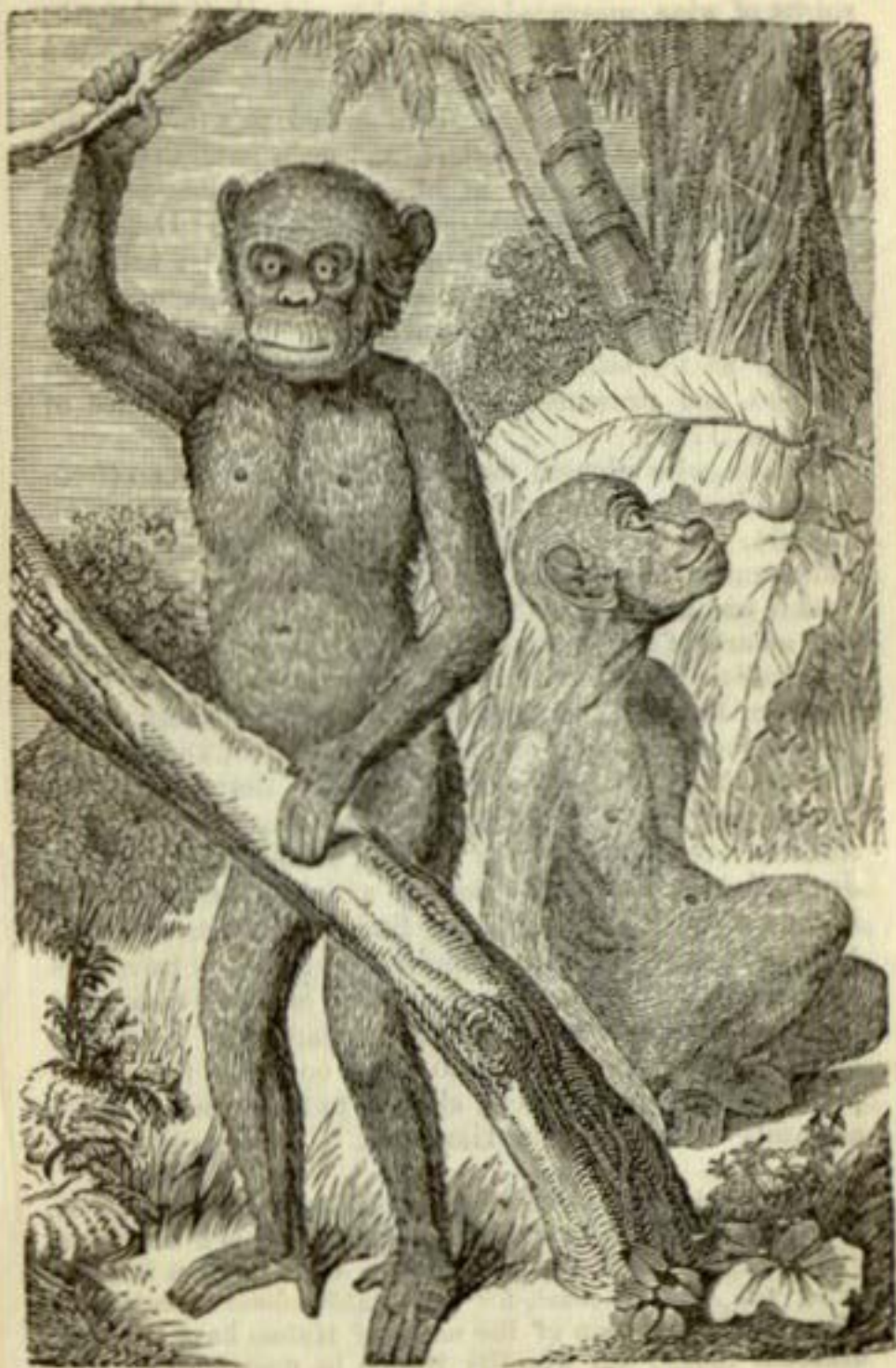
CHAPTER II.

THE CHIMPANZEE.

Pongo and *Engeco*, Battel, in Purchas's 'Pilgrims; *Barys*, *Baris*, and *Quojas Morrou* of Barbot, Dapper, &c.; *Smitten*, Bosman; *Pongo*, Buffon; *Pongo*, or *Great Black Orang*, Shaw; *Jocko*, Audebert; *Chimpanzee*, Scotin's print, 1738; *Troglodytes*, *Homo nocturnus*, Linnæus; *Troglodytes niger*, Desmarest.

THE characters of the genus *Troglodytes* may be thus summed up:—muzzle long, and truncated anteriorly; supraorbital ridges prominent; forehead depressed; no cranial ridges; facial angle 35° ; external ears large and standing out; tail wanting; arms reaching below the knee-joint; feet wide, the thumb extending to the second joint of the adjoining toe, and always furnished with a nail. Canines large, overpassing each other, their points being lodged respectively in intervals of the opposite teeth; intermaxillary bones ankylosed to the maxillaries during the first dentition; ribs, thirteen pairs; no cheek-pouches; laryngal sacculi, small.

The Chimpanzee is a native of Western Africa, to the extent of ten or twelve degrees north and as much south of the torrid zone, including Guinea, Benin, Congo, Angola, &c. In some districts it appears to be common, and Bowdich ('Mission from Cape Coast Castle to Ashantee,' Lond., 1819) informs us that at Gaboon, where it is by no means rare, it was known to the natives under the name of Inchege and Ingeno. From the negroes he also learned that the adults generally attain to the height of five feet, the breadth of the shoulders being very great, and their strength enormous. A female adult skeleton which we measured stood only three feet ten inches; but the males most probably are larger. (Fig. 8.) The hand of an adult, preserved in



8.—The Chimpanzee.

spirits of wine, measured nine inches and a half in length, and three inches and four lines in breadth across the palm. The chimpanzee, the orang, and even the mandrill, have been strangely confounded together in the works of our older travellers, and even naturalists have regarded the two former as identical. Tulpius adopted the term *Quojas Morrou*, used by Barbot ('*Descr. of Guinea*'), and Dapper ('*Descr. of Africa*') also calls the chimpanzee the *Satyre of Angola*, but he confounded the orang of the Indian islands with the chimpanzee, and figured as the latter an orang which was brought from Borneo, and presented to Frederick Henry, Prince of Orange, 1777.

Buffon, who adopted the terms *Pongo* and *Jocko* (from *pongo*, *inchego*, *engeco*, or *enjocko*), in his great work (1756), gives an imperfect sketch of a living young chimpanzee which he saw at Paris in the year 1740, and which was taken in Gaboon. At that time Buffon was not aware of any distinction between the African and the Indian animals. In the supplement (vol. vii.) the two are, however, distinguished. To the African chimpanzee the name of *Pongo* is appropriated, and to the Indian orang that of *Jocko*. Shaw describes "the *Pongo*, or great black orang-otan," as a native of Africa, and the "reddish-brown or chesnut oran-otan, called the *Jocko*," as a native of Borneo and the other Indian islands. With regard to the *Smitten*, *Barris*, *Boggo*, &c., and which have been applied by the early travellers apparently to the chimpanzee, there is every reason to believe that they really refer to the mandrill.

Mr. Ogilby was the first to point out that the chimpanzee is, as it would seem, alluded to in a work of great antiquity—the '*Periplus Hannonis*.*' It appears that a

* The original, of which only a Greek translation is extant, was written in Punic by Hanno, and is a narrative of a voyage he made, by order of the Carthaginian Senate, along the African coast, for the establishment of colonies. Many celebrated men of the name of Hanno have lived at different times: but who the Hanno in question was, and what was the exact date of his voyage, are not ascertained.



9. — Chimpanzee.

Carthaginian navigator named Hanno (A.C. 500, or about that period), sent on an expedition of discovery, coasted Western Africa, and sailed from Gades to the island of Cerne in twelve days; and thence, following the coast, he arrived, in seventeen days, at a promontory called the West Horn. Thence, skirting a burning shore, he arrived in three days at the South Horn, and found an island inhabited by what were regarded as wild men, called by the interpreters *Gorilloi*, who were covered with long black hair, and who fled for refuge to the mountains, and defended themselves with stones. With some difficulty three females were captured, the males having escaped; but so desperately did they fight, biting and tearing, that it was found necessary to kill them. Their preserved skins were carried by Hanno to Carthage, and hung up in one of the temples as consecrated trophies of his expedition. From this time till the sixteenth century of our era we hear nothing of the chimpanzee; for the western coast of Africa was, as it may be said, re-discovered only in the fifteenth century.

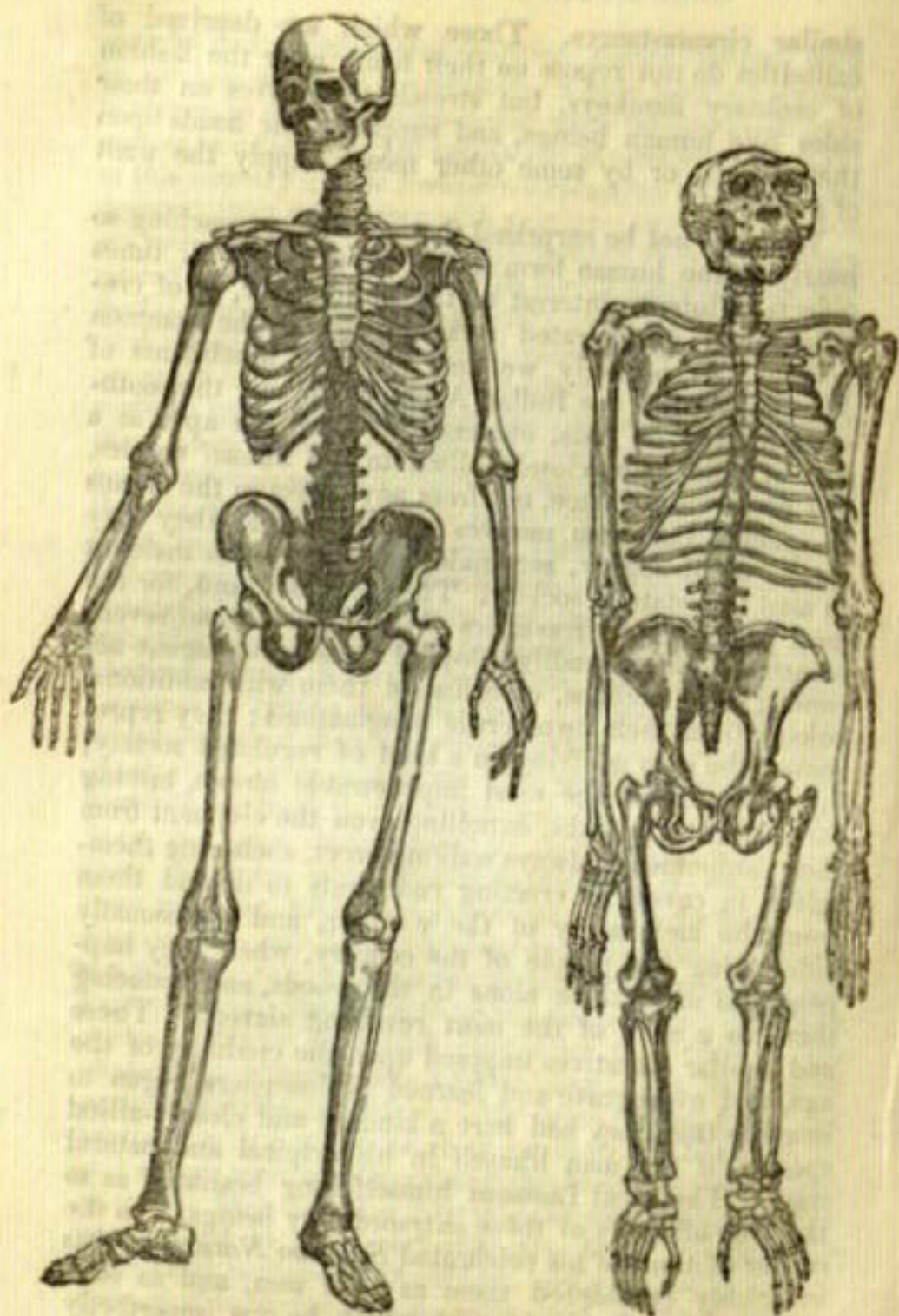
One of the most trustworthy of our earlier travellers, Andrew Battel, a sailor, who was taken prisoner in 1589, and lived many years in Congo (Purchas's 'Pilgrims'), describes two animals, the Pongo and the Engeco, the former as high and stouter than a man, the latter being much less. The Pongo, which is doubtless the chimpanzee, he describes as having sunken eyes, long hair on the sides of the head, a naked face, ears, and hands, and the body slightly covered. The limbs differed from those of man, being destitute of calves, but the animal walked upright. In its disposition it is stated to be grave and melancholy, and even when young far from frolicsome; at the same time it is swift and agile, and is sometimes known to carry away young negroes. He further states that these animals constructed arbours in which they slept. Their diet consisted of fruits, nuts, &c.; and their muscular strength is such that ten men were unable to overcome one. (Fig. 9.) Upon the death of one of their community, the survivors cover the body with leaves and branches of trees.

Bosman, Froger, De la Brosse, and others describe the chimpanzee as living in troops, which resist the attacks of wild beasts, and even drive the elephant from their haunts. They possess matchless strength and courage, and it is very dangerous for single individuals to pass near their places of abode. Bosman states that on one occasion a number of them attacked, overpowered, and were proceeding to poke out the eyes of two slaves, when a party of negroes arrived to their rescue. That they surprise and carry away the negresses into the woods, and there detain them sometimes for years, is asserted by all, and an instance came under the personal notice of De la Brosse. Captain Paine was assured that similar instances happen in Gaboon. De la Brosse says they build huts, and arm themselves with clubs, and that they walk either upon two feet or four, as occasion may require.

Lieutenant Matthews, R.N., who resided at Sierra Leone during the years 1785-6-7, and whose letters describing this part of Africa appeared in 1788, informs us that the "chimpanzees," or "japanzees," are social animals; and that "they generally take up their abode near some deserted town or village where the papau-tree grows in abundance, of the fruit of which they are very fond. The build huts nearly in the form in which the natives build their houses, which they cover with leaves; but these are only for the females and young to lie in; the males always lie on the outside. If one of them is shot, the rest immediately pursue the destroyer of their friend, and the only means to escape their vengeance is to part with your gun, which they directly seize upon with all the rage imaginable, tear it to pieces, and give over the pursuit." The terrestrial habits of the chimpanzee are confirmed by other observers.

Lieutenant Henry K. Sayers, who in 1839 brought a young chimpanzee to England, which he had procured in the Bullom country, the mother having been shot, states that "trees are ascended by the chimpanzees (as he is led to conclude) only for food and observation."

(Fig. 10.) From the natives he learned that "they do not reach their full growth till between nine and ten years of age, which, if true, brings them extremely near the human species, as the boy or girl of West Africa, at thirteen or fourteen years old, is quite as much a man or woman as those of nineteen or twenty in our more northern clime. Their height, when full grown, is said to be between four and five feet; indeed I was credibly informed that a male chimpanzee, which had been shot in the neighbourhood and brought into Free Town, measured four feet five inches in length, and was so heavy as to form a very fair load for two men, who carried him on a pole between them. The natives say that in their wild state their strength is enormous, and that they have seen them snap boughs off the trees with the greatest apparent ease, which the united strength of two men could scarcely bend. The chimpanzee is, without doubt, to be found in all the countries from the banks of the Gambia in the north to the kingdom of Congo in the south, as the natives of all the intermediate parts seem to be perfectly acquainted with them. From my own experience I can state that the low shores of the Bullom country, situated on the northern shores of the river Sierra Leone, are infested by them in numbers quite equal to the commonest species of monkey. I consider these animals to be gregarious, for, when visiting the rice-farms of the chief Dalla Mohammadoo, on the Bullom shore, their cries plainly indicated the vicinity of a *troop*, as the noise heard could not have been produced by less than eight or ten of them. The *natives* also affirmed that they always travel in strong bodies, armed with sticks, which they use with much dexterity. They are exceedingly watchful, and the first one who discovers the approach of a stranger utters a protracted cry, much resembling that of a human being in the greatest distress. The first time I heard it I was much startled; the animal was apparently not more than thirty paces distant, but had it been but *five* I could not have seen it from the tangled nature of the jungle, and I certainly conceived that such sounds could only have proceeded from a human



1.—Skeleton of Man.

2.—Skeleton of Chimpanzee.



10.—Chimpanzee.

being who hoped to gain assistance by his cries from some terrible and instant death. The native who was with me laid his hand upon my shoulder, and, pointing suspiciously to the bush, said, 'Massa, baboo live there,' and in a few minutes the wood appeared alive with them, their cries resembling the barking of dogs. My guide informed me that the cry first heard was to inform the troop of my approach, and that they would all immediately leave the trees or any exalted situation that might expose them to view, and seek the bush; he also showed evident fear, and entreated me not to proceed any farther in that direction. The plantations of bananas, papaws, and plantains, which the natives usually intermix with their rice, constituting the favourite food of the chimpanzees, accounts for their being so frequent in the neighbourhood of rice-fields. The difficulty of procuring live specimens of this genus arises principally, I should say, from the superstitions of the natives concerning them, who believe they possess the power of 'witching.'

"There are authors who have, I believe, affirmed that some of the natives on the western coast term these animals in their language 'Pongos;' but I beg leave to differ with them as to 'Pongos' being a *native* term. The Portuguese formerly monopolized the trade of the coast, and had large possessions there, as well as in the East Indies, most of the capes, rivers, &c., bearing the names they gave them to this day. Now 'Pongos' I look upon to be a *Portuguese East Indian* term for a tailless monkey; and in consequence of their discovering a river in Africa the banks of which were inhabited by vast numbers of this species, they called it 'Rio Pongos,' a name which it bears still. This I conceive to be the origin of the term; whilst on the coast I observed that all the natives in the neighbourhood of Sierra Leone, when speaking of this animal, invariably called him 'Baboo,' a corruption, I should suppose, of our term Baboon." ('Proceed. Zool. Soc.,' 1839.)

Within the last few years several young chimpanzees have been brought to this country, but none have long survived. Their human-like appearance, their intelligence

and confiding manners, together with their activity, have attracted great interest and given rise to many narrations. One was a female, which lived in the menagerie of the Zoological Society from September, 1835, to September, 1836. Its docility and gentleness were remarkable; but it is well known that the gentleness which characterises the young of all the ape tribe gives place, as maturity advances, to "unteachable obstinacy and untameable ferocity;" and from what we know of the chimpanzee in its wild state, we have reason to conclude that the young, however docile they are, would become savage and distrustful as they grew up, even in captivity, and thus form no exception to the rule. The following description was taken from the young individual alluded to:—

General figure short and stout; chest broad; shoulders square; abdomen protuberant; forehead retreating behind the supraorbital ridge, the cranium otherwise well developed; nose flat; nostrils divided by a very thin septum; lips extremely mobile, and traversed by vertical wrinkles; ears large, naked, and prominent; eyes lively, deep-set, and chestnut-coloured; neck short; arms slender, but muscular, and reaching, when the animal stands erect as possible, just below the knee; all the four hands well developed, with opposable thumbs; the nails human-like; the hair moderately coarse and straight, longest and fullest on the head, down the back, and on the arms, thin on the chest and abdomen; on the fore-arm it is reverted to the elbow; backs of hands naked to the wrist; muzzle sprinkled with short white hairs; skin of the face dusky black; ears and palms tinged with a purplish hue; hair glossy black; total height, two feet. The lower limbs are less decidedly organized for arboreal habits than in the orang; but their tournure is obliquely inwards, the knees being bowed out, but the soles of the feet are capable of being applied fairly to the ground. It runs about with a hobbling gait, but very quickly, generally assisting itself by resting the knuckles of the first two fingers of the hand on the ground, to do which it stoops its shoulders forwards: it can, however, and does walk

frequently upright. Its pace is a sort of waddle, and not performed, as in man, by a series of steps in which the ankle-joint is brought into play at each successive step, the heel being elevated and the body resting on the toes; on the contrary, the foot is raised at once and set down at once, in a thoroughly plantigrade manner, as in stamping, which indeed is an action it often exhibits, first with one foot, then with the other. It grasps with its feet, which are broad and strong, with astonishing firmness, and has been seen, while resting on a perch, to throw itself completely backwards, and, without using its hands, raise itself again into its previous position—a feat requiring both great power and agility.

In the mutilated skin of an adult we found gray hairs mixed with the black, especially on the lower part of the back, the haunches, and thighs, these parts having a grizzled appearance.

CHAPTER III.

THE ORANG-OUTAN (*Pithecus Satyrus*, Geoffr.).

So different are the characters, dependent upon age, which the Orang-outan assumes at different periods of its growth, and so much in many respects do the males differ from the females, that no little confusion has arisen; and the young, which is the *Simia Satyrus* of Linnæus, has only recently been proved to be identical with the Asiatic *Pongo* (this word is now restricted to the orang); the latter, as Cuvier suspected, and indeed asserted, and as Professor Owen has proved, being the adult. (See *Trans. Zool. Soc.*, vol. i., 'Osteology of Chimpanzee and Orang.')

The difference which the skull assumes in figure, and the relative proportions of the cranial and facial parts, during the transition from youth to maturity, is indeed extraordinary; and so great is the amount of variation ultimately, that the errors of naturalists who had no opportunities of examining a series of crania, of different ages, up to maturity, may well be pardoned. Fig. 12 is the skull of an adult orang, remarkable for the development of the facial portion, the breadth and strength of the lower jaw, the deep cranial ridges, or crests, the contraction of the forehead, and the flattening of the occiput; the strength of the teeth, and the enormous size of the canines. Totally different is the general form and appearance of the skull of the young.

In Borneo there are two species of orang — one of large size, and dreaded by the natives (*Pithecus Wombii*, or *Pongo Wombii*); the other of small size, recently characterized by Professor Owen from a skull. This species (*Pithecus Morio*) has been subsequently verified. It is timid and gentle.



11.—Orang-outan



12.—Head of adult Sumatran Orang.

It would appear that a distinct species, of large size, distinct from the great Bornean orang, exists in Sumatra. Some naturalists, it is true, are disposed to regard the Bornean and Sumatran large orangs as identical, and it must be allowed that some difficulty exists which remains to be cleared up. Professor Owen has pointed out certain differences in the contour of their respective skulls, which seem to justify those who contend for a distinction of species. In the adult male Bornean orang (Fig. 13) there are huge callosities, or protuberances of callous flesh, on the cheek-bones, giving a strange aspect to the countenance, and which are presumed to be absent in the Sumatran orang (*Pithecus Abellii*). They are certainly not depicted in Dr. Abel's figure of the head of the adult Sumatran orang (Fig. 12); still, as figures are often faulty, and the adult male Sumatran animal remains to be ex-

amined, the point is undecided. With respect to difference of colour, little stress can be laid upon it: the Sumatran species is said to be of a much lighter colour than the Bornean; but all the Bornean orangs we have examined (and those not a few) have been of a chestnut colour, or bright sandy rufous passing into a chestnut, on the back, and scarcely, if at all, darker than the Sumatran adult female in the collection of the Zoological Society.

The Sumatran animal is said to exceed the Bornean in stature. According to Dr. Abel the male orang killed at Ramboon on the north-west coast of Sumatra exceeded 7 feet in stature—a singular exaggeration, as is now allowed. In the span of the arms and hands, this animal, he states, measured 8 feet 2 inches; and in the length of the foot, 14 inches. Now, in the specimen of a Sumatran female in the collection of the Zoological Society, which could not have stood higher than 3 feet 6 inches, the span of the arms and hands is 7 feet 2 inches, and the length of the foot $10\frac{1}{2}$ inches. That the Sumatran orang does not exceed the Bornean may therefore be safely concluded. The largest Bornean male orang, an adult, with large facial callosities, which we ever examined measured 4 feet 6 inches from head to heel; but Temminck, in his monograph of the genus, says, "Our travellers inform us by letters from Bangarmasing, in the island of Borneo, that they have recently procured orangs of 5 feet 3 inches in height, French measure" (5 feet 9 inches English). In both the Bornean and Sumatran specimens the ungual or nail-bearing phalanx of the hind thumb is sometimes absent, sometimes present, in both sexes; sometimes it is present on one foot, and wanting on the other.

Description of a nearly adult male orang from Borneo, in the Paris Museum:—The head is large, the forehead naked, retiring and flat; large fleshy callosities in the form of somewhat crescentic ridges occupy the malar bones, extending from the temples and giving a singular and even hideous expression to the physiognomy. The eyes are small and set closely together; the nose is depressed; the septum of the nostrils thin, and carried



13.—Adult male Bornean Orang-utan.

out to blend with the skin of the upper lip; the nostrils are oblique; the lips are thick and fleshy, and the upper one is furnished with scanty moustaches; the chin is furnished with a long and peaked beard. The hair is very long and thick on the back, shoulders, arms, and legs; very scanty on the chest, abdomen, and inside of the thighs; the hair of the fore-arms is reverted to the elbows; the hair of the head is directed forwards from a common centre of radiation on the back of the neck, or rather between the shoulders. The contour of the body is heavy, thick, and ill-shapen; the arms with the hands reach to the heel; the thumbs of the hind-feet are nailless; the general colour is deep chestnut. Total height, 3 feet 8 inches. Breadth of face across the callosities, 9 inches.

The organization of the orang (we refer to both Bornean and Sumatran animals) fits him almost exclusively for arboreal habits: on the ground his progression is more awkward than that of the chimpanzee; for the abbreviation of the posterior limbs, their inward tournure, their pliancy, owing to the absence of the ligamentum teres of the hip-joint, and the mode of treading, not upon the sole, but the outer edge of the foot, tend all to his disadvantage. Among the trees, however, the case is reversed. In the mighty forests of his native climates he is free and unembarrassed, though by no means rapid in his movements: there, the vast reach of his sinewy arms enables him to seize branches at an apparently hopeless distance; and by the powerful grasp of his hands or feet he swings himself along. In ascending a tall tree, the inward tournure of the legs and ankle-joints, and the freedom of the hip-joint, facilitate the application of the grasping foot. The length and narrowness of the hands and feet render them hook-like in character; while the short thumbs, set as far back toward the wrist as possible, act as a fulcrum against the pressure of the fingers while grasping the branch to which the animal is clinging.

The difference between the human foot and that of the orang (Fig. 14) is very marked; the arrangement of the bones, muscles, and muscular tendons being modified in



14.—Foot of Man and of Orang-outan.

each for a different purpose. Yet there have been men of learning who have contended that in the course of time, by use, the foot of the orang might assume the form and proportions of the human, and the human that of the orang. Such opinions are beneath criticism.

The physiognomy of the orang is grave, melancholy, and even apathetic, but in adults not unaccompanied by an expression of ferocity; the huge fleshy callosities on the sides of the face adding an air of brutish grossness. The head leans forward on the chest, the neck is short; and loose folded skin hangs round the throat, except when the laryngeal sacs are inflated; this loose skin is then swollen out, like a naked shining tumour, extending up along the sides of the face under the small angular ears, filling up the interspace between the chin and chest, and encroaching upon the latter: the lips are wrinkled, and possess extraordinary mobility; the animal can protrude them in the form of a snout or proboscis, contracting the mouth to a circular orifice, or, on the contrary, draw them back, and turn them in various directions. The breadth of the chest and shoulders conveys an idea of great strength; the abdomen is protuberant; the hair, which falls on the back and shoulders in long masses, forms a covering to the animal crouching in repose, necessary as a protection by day against the burning rays of the sun, by night against the heavy dews, and during

the rainy seasons as a shelter from the falling showers. The palms of the hands have lines and papillæ, as on those of the human subject. All the naked parts of the body, with the exception of the orbits and lips, which are of a sallow, coppery tint, are silvery-gray or plumbeous. (Fig. 15.) The thickness of the incisor teeth, which in adults are worn down to a flattened surface, as are also the molar teeth, shows that they are put to rough work, and Professor Owen remarks it is probable that their common use is to tear and scrape away the tough fibrous outer covering of the cocoa-nut, and perhaps to gnaw through the denser shell. The huge canines are doubtless defensive weapons, which, in connection with the muscular strength of these animals, enable them to offer a more than successful resistance against the



15.—Orang-outans.

leopard, and render them formidable opponents even to the tiger. Of the habits of the orang in a state of nature our knowledge is limited. It tenants the secluded recesses of the forests in the hilly and central districts of Borneo and Sumatra; living, as it would appear, a secluded life, and not being, like the chimpanzee, gregarious; nor does it, like that animal, build huts, but, in accordance with its arboreal predilections, it constructs a rude seat or platform of interwoven boughs and twigs among the branches of the tallest trees, on which it takes up its abode. Here the adult male will sit, as is said, for hours together, listless and apathetic. His movements are slow and indolent: when attacked, he swings himself from branch to branch, clearing vast intervals with ease, but not with the rapidity which has been imagined, and which is displayed by some of the gibbons. If at last driven to extremity, he defends himself with determined resolution, and his prodigious bodily powers and prowess render it dangerous to venture on a close assault. The females are devoted to their young. A few years since, Captain Hall repaired to Sumatra purposely to obtain one of these animals, but at his outset he experienced a serious obstacle in the difficulty of procuring guides to conduct him to their usual haunts: this proceeded from the fears of the natives, who not only believe that the orangs possess a natural dominion over the great forests, but that they are animated by the souls of their own ancestors. Succeeding at length in this preliminary part of the undertaking, the Captain soon met with one of the objects of his search, a female, which he describes as having been five feet in height. When first discovered she was sitting on a branch of one of the highest trees, with a young one in her arms. Upon being wounded she uttered a piercing cry; and, immediately lifting up her little one as high as her long arms could reach, let it go among the topmost branches. While the party approached to fire again she made no attempt to escape, but kept a steady watch, glancing her eye occasionally towards her offspring, and at last seemed to wave her hand to hasten its departure, which it safely effected.

The following summary is the result of our repeated observations upon young living specimens:—The progression of the orang on the ground is slow and vacillating, and is rather dependent on the arms, which from their length act as crutches, supporting the body between them, than upon the lower limbs, which are ill calculated for such service. When left entirely to itself on the floor, the young orang, if incited to walk, supports its weight on its arms, applying the bent knuckles to the ground, which, from the length of the arms, is an easy action. The lower limbs are at the same time bowed outward, and the outer side of the foot is placed upon the floor. In this attitude it waddles along, the arms being the main support; when indeed it wishes to hasten its progress, it fairly swings the body forward between the arms, as if impatient of the hobbling gait to which the structure of the lower limbs restricts it. The lower limbs, however, are not incapable of supporting the body alone, and it can waddle along very fairly, especially if it can lay hold of anything by which to steady itself in its progress. In climbing it is at its ease, and confident, but deliberate. It will suspend itself with its head downwards, sometimes by the hand and foot of the same side, the disengaged hand being stretched to seize objects within its reach; sometimes by the hook-like hands, or the feet alone, varying its grotesque attitudes in the most singular manner, and in all displaying the freedom of the hip-joint. Its arboreal progress is not by bounding like a monkey, but by swinging from branch to branch, grasping them by its hands in succession. Habitually dull and inanimate, it has still its times of sportiveness, and will engage in play with those to whom it has attached itself, following them to court their notice, or pursuing them in mimic combat. It has little curiosity, and is fond of sitting covered up by blankets or other articles of defence against the cold, and will wrap itself up with considerable dexterity. To those who attend it it becomes very affectionate, and readily obeys their voice, recognising its name and the words and tones of command. Confinement is annoying to it

in the extreme, and disappointment irritating. From these causes paroxysms of passion are often exhibited, in which it will dash itself about, uttering a whining cry, and manifest every token of anger. We have seen a young orang make the most strenuous efforts to escape from his enclosure, striving to force the door or the frame-work; and then, screaming with disappointment, swing from branch to branch, and again repeat its endeavours, excited to the extreme, and all because its keeper had left it for a short time. Nothing but his return and attentions would pacify it.

Dr. Abel states that his young orang displayed great alarm at the sight of some live turtles, and also of a tortoise; looking at them with horror from a distant place, to which he had retreated for security, and projecting his long lips in the form of a hog's snout, while at the same time he uttered a sound between the croaking of a frog and the grunting of a pig. The young chimpanzee which lived in the year 1836 in the menagerie of the Zoological Society recoiled with horror from a large snake introduced into the room by way of experiment, and also regarded tortoises with aversion; and a young orang in the same menagerie, before which a tortoise was placed, stood aghast in an attitude of amazement ludicrously theatrical, gazing upon the crawling animal with fixed attention and evident abhorrence. On the other hand, we have seen a young orang play with a full-grown cat, drag it about, put the animal on its own head, and carry it from branch to branch, regardless of its scratching and struggles to get free. Fred. Cuvier notices the same fact, which we have ourselves verified. The young orang may be taught to use a spoon, a cup, or glass with tolerable propriety, and will carefully put them down on the table, or hand them to some person accustomed to receive them. To this point F. Cuvier also alludes, as well as to the care it takes in adjusting its bed, and covering itself warmly with blankets and other materials when retiring to rest.

The young chimpanzee, in comparison with the orang, is far more lively, animated, and frolicsome and dis-

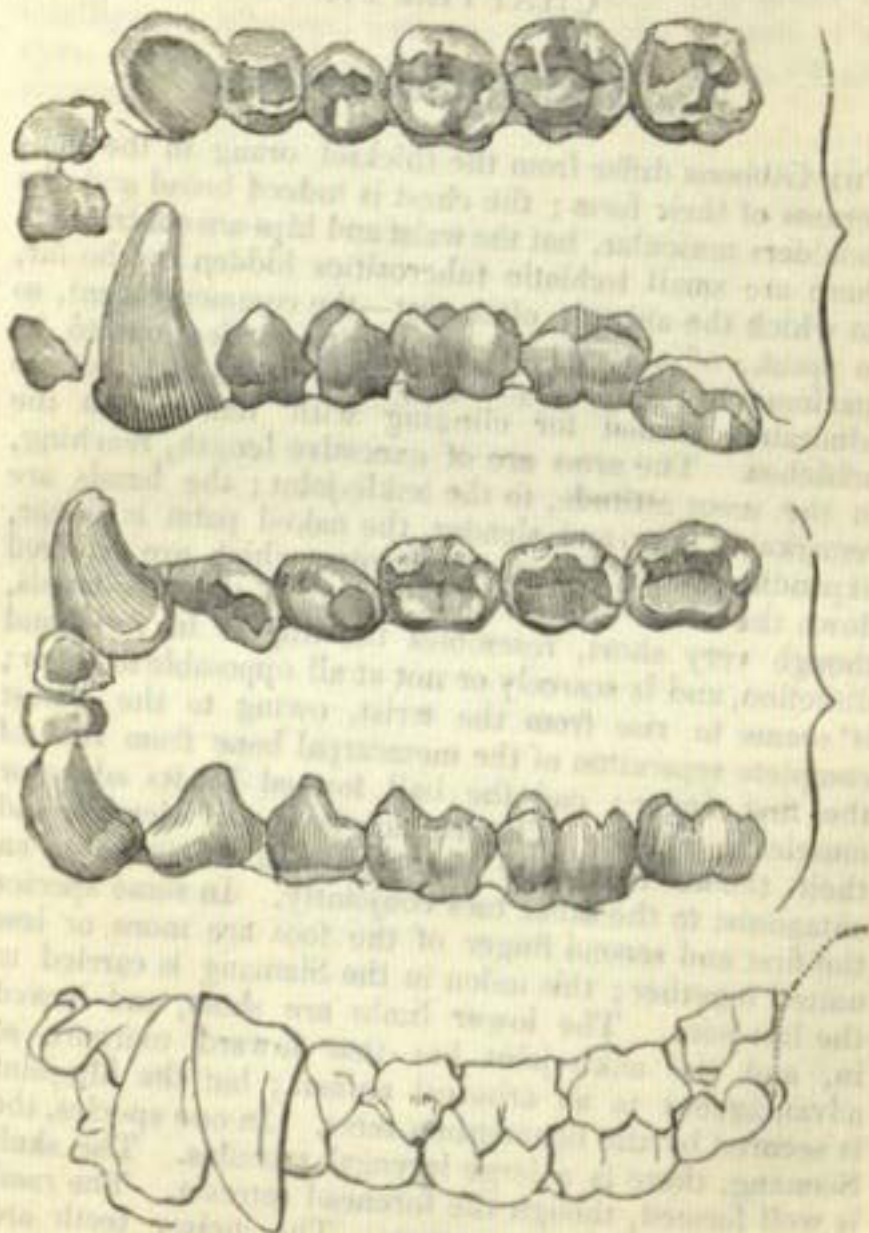
plays much more curiosity, being alive to everything which takes place about it, and examining every object within its reach with an air so considerate as to create a smile in the face of the gravest spectator. In alertness it exceeds the orang, and is to the full as gentle and affectionate, and more intelligent. The expression of intelligence is indeed well denoted by the vivacity of its eyes, which, though small and deeply set, are quick and piercing.

CHAPTER IV.

THE GIBBONS (Genus *Hylobates*).

THE Gibbons differ from the thickset orang in the slenderness of their form; the chest is indeed broad and the shoulders muscular, but the waist and hips are contracted; there are small ischiatic tuberosities hidden by the fur, on which the animals often rest—the commencement, so to speak, of a structural peculiarity carried out to its maximum in the lower groups. The hands and feet are admirably formed for clinging with tenacity to the branches. The arms are of excessive length, reaching, in the erect attitude, to the ankle-joint; the hands are remarkably long and slender, the naked palm is linear, expanding at the base of the fingers, which are covered down the backs with fur; the thumb of the fore-hands, though very short, resembles the fingers in form and direction, and is scarcely or not at all opposable to them; it seems to rise from the wrist, owing to the almost complete separation of the metacarpal bone from that of the first finger; and the ball formed by its adductor muscles is trifling. The feet are long and slender, and their thumb is greatly developed, so as to form an antagonist to the other toes conjointly. In some species the first and second finger of the foot are more or less united together; this union in the Siamang is carried to the last joint. The lower limbs are short, and bowed in, and the ankle-joint has that inward tournure so advantageous to an arboreal animal; but the hip-joint is secured by the ligamentum teres. In one species, the Siamang, there is a large laryngeal sacculus. The skull is well formed, though the forehead retreats. The rami of the lower jaw are narrow. The incisor teeth are moderate, the canines slender, the molars moderate,

with the crown broad and bluntly tuberculate. Dental formula:—Incisors, $\frac{4}{4}$; canines, $\frac{1-1}{1-1}$; molars, $\frac{5-5}{5-5}$ = 32. (Fig. 16.) The gibbons are clothed with deep



16.—Teeth of Gibbon.

thick fur, softer in some species than others: on the fore-arms it is in most species reverted to the elbows; in one or two it is erect. The prevailing colours of these animals are from black to brown, brown-gray, and straw-yellow.

The gibbons are distributed through Java, Borneo, Sumatra, Malacca, and Siam, where they tenant the forest branches, among which they display the most astonishing activity. They sweep from branch to branch with arrow-like velocity; their mode is to suspend themselves by their long arms, and by an energetic muscular movement to launch themselves onwards, aiming at a distant branch, which they seize with admirable precision. Most live in troops or families; some species frequenting the mountain-ranges covered by forests of fig-trees, others keeping to the forests of the plains.

The head of the gibbon is small and of an oval figure, and the face is depressed; the expression of the countenance being grave, gentle, and rather melancholy. All utter loud cries, whence, in imitation of the sound, has arisen the name of Wou-wou, which appears to be common to two or three species; Fred. Cuvier has applied it to the Agile Gibbon, but Camper had previously appropriated it to the Silvery Gibbon, said by Dr. S. Müller to be called Oa-oa by the natives of Java, a word differing little in the sound from wou-wou or woo-woo. None of the gibbons attain to the stature of the orang, about three feet being the height of the largest species standing erect, an attitude which they are capable of assuming on the ground or any level surface, along which they waddle, at a quick pace, in the manner of the chimpanzee, using the arms as balancers, or occasionally touching the ground with the fingers.

THE AGILE GIBBON;

also known under the native titles Ungka-puti and Ungka-etam (*Hylobates agilis*, F. Cuv.; *Hylobates Lar*; *H. Rafflesii*).

This interesting gibbon is a native of Sumatra, and owing to certain variations in colour, to which it is sub-

ject, has been formed into two distinct species—an error now corrected. M. Müller, in reference to this gibbon, states that it is curious to observe its numerous variations. “Two individuals are never precisely the same; and we were therefore disposed to conclude, during the early part of our stay in Sumatra, that there were really different species of what, as it proved, is but one *Hylobates*: for it was only after the examination of individuals of different colours, and after we had killed many of both sexes and various ages, that we came to the conclusion that the oengko-itam, or black oengko, and the oengko-



17.—Female Agile Gibbon and young.

poetih, or white oengko, of the Malaysans, were the same species."

The general colour of this species varies from black to brownish-yellow and yellowish-white; a white or pale stripe traverses the brow, and the sides of the face and throat are often gray or flaxen: in black or dark individuals the lumbar region and crupper are usually of a pale rusty-brown or yellowish; the pale individuals have the throat, chest, and abdomen of a darker brown. The pale-coloured females often produce black young, and the black as often young of a pale colour. (Fig. 17.) We have seen straw-white young. The fur is soft and woolly: the first two fingers of the feet are united together at the base.

The agile gibbon usually lives in pairs, and is timid



18 — Male Agile Gibbon.

and gentle : its activity and the velocity of its movements are wonderful ; it escapes pursuit almost like a bird on the wing. On the slightest alarm it ascends rapidly to the top of a tree ; it there seizes a flexible branch, swings itself two or three times to gain the requisite impetus, and then launches itself forward, repeatedly clearing, without effort and without fatigue, as Mr. Duvaucel witnessed, spaces of forty feet. (Fig. 18.)

Some few years since, a female of this species was exhibited in London. The activity of this animal in the large compartment in which it exercised itself, and the velocity and precision with which it launched itself from branch to branch, excited the admiration of all who beheld it. Distances of twelve and eighteen feet were thus cleared, the gibbon keeping up a succession of launches, without intermission and for a great length of time, and all the while exhibiting an air of nonchalance, as if the feat was of the most easy performance. In her flight, for so indeed it might be termed, the gibbon seemed but to touch the branches with her hands in her progress, the impetus being acquired during that, momentary hold ; and it could not be doubted that, if the animal had been in the enjoyment of liberty in her own native forest, distances far exceeding eighteen feet would have formed no interruption to her progress. It was curious to witness how she could stop in her most rapid flight, when the momentum was at the highest, and it might naturally have been supposed that a gradual cessation would have been required. Suddenly as thought, however, she arrested her progress ; the branch aimed at being seized by one hand, a rapid and energetic movement raised the body up ; the branch was then grasped by the hind-hands, and there she sat, quietly gazing at the astonished spectators of her extraordinary gymnastics. With the same abruptness did she throw herself into action. Admirable was the precision with which she calculated her distances and regulated the impulse necessary to clear intervals varying from four, five, or six, to eighteen feet : such indeed was her quickness of eye, that when apples or other fruits were thrown at her, or so as to pass near her in her flight, she would catch them

without apparent effort, and at the same time without discontinuing her career.

While exerting her feats of agility the gibbon ever and anon uttered her loud call-notes, consisting of the syllables oo-ah, oo-ah, in a graduated succession of half-tones, ascending in the scale till an exact octave was attained, when a rapid series of descending notes, producing a shake, during the execution of which the lips vibrated and the whole frame quivered, concluded the strain. The quality of these notes was not unmusical, but their loudness was deafening as heard in the apartment, and when uttered by these animals in their native forests must resound far through their stilly depths. It is principally in the morning that the gibbon exerts the whooping cry, which is doubtless its call to its mate or companions, and it was at that time that we heard it. It should be observed that at first the syllables were slowly and distinctly repeated, and on the same note, *ε*. As the tones rose in the chromatic scale, the time quickened, till, gaining the octave, the descent by half-tones was inexpressibly rapid: this ended, two barks followed, each composed of the high and low *ε*, sounded nearly together. At the conclusion the animal was always violently agitated, as if wrought up to a high pitch of excitement, and shook with all her strength the branch to which she was clinging, or the netting, the cords of which she grasped with her hands.

The following notes will give a correct idea of the musical call of this gibbon:—



Prestissimo.

This interesting animal was timid and gentle; she greatly preferred the presence of females to that of men, and approached them and received their attentions with pleasure: there is reason to believe that ill-treatment had made her suspicious of the sex from which she had experienced injury. She was intelligent and observant, and her quick eyes seemed to be ever on the watch, scrutinizing every person and observing all that passed around her. When a person had once gained her confidence, she would descend to meet him as often as invited, and allow her hands to be taken hold of, and her soft fur to be stroked, without any hesitation: to females, though strange to her, she gave her confidence, without any previous attempts at conciliation. The muscular power of the arms, shoulders, and chest was very great, and the muscles were finely developed; the chest was broad and the shoulders high; the reach of the extended arms was about six feet; and the animal when erect stood about three feet from the heel to the top of the head. The form and proportions of this gibbon could not fail to strike the most casual observer as adapting it not only for an arboreal existence, but for that kind of arboreal progression, those flying launches from branch to branch, which have been described.

THE SIAMANG (*Hylobates syndactylus*).

The Siamang (Fig. 19) is the largest of the gibbons, being upwards of three feet in height, and at the same time robust and muscular. The fur is woolly and black;



19.—Siamang.

the first and second fingers of the feet are united to each other, and there is a huge laryngeal pouch on the throat covered with black naked skin, which, when the sac is distended with air, is smooth and glossy. The use of this apparatus is not very apparent; most probably the sac has some influence on the voice; for Mr. G. Bennett ('Wanderings,' &c.) observes that when the siamang in his possession was irritated, he inflated the pouch, uttering a hollow, barking noise, the lips being at the same time pursed out and the air driven into the sac, while the lower jaw was a little protruded. It is this noise which M. Duvaucel describes, as we suspect, when he states that the siamang rouses occasionally from its lethargy to utter a disagreeable cry approaching in sound

to that of a turkeycock, and which he takes upon himself to say expresses no sentiment and declares no wants. Mr. Bennett noticed that the sac was inflated, not only during anger, but also when the animal was pleased. It is exclusively in Sumatra that the siamang is found: it is abundant in the forests, especially in the neighbourhood of Bencoolen, which resound with the loud and discordant cries of the troops sheltered among the lofty branches. (Fig. 19.) Duvaucel says that this species is slow, inanimate, and destitute of activity among the trees, and on the ground it is so overcome by fear as to be incapable of resistance; that in captivity it exhibits no pleasing traits, being at once stupid, sluggish, and awkward, unsusceptible either of feelings of grateful confidence or of revenge, and regarding nothing with interest. On the contrary, Sir T. S. Raffles, who kept several of these animals, describes the siamang as bold and powerful, but easily domesticated, gentle, confident, and social, and unhappy if not in company with those to whom it is attached. Nay, M. Duvaucel contradicts himself: first he says all its senses are dull and imperfect, and then gives an account of its extreme vigilance and acuteness of hearing, and of the affection of the mothers for their young. If a young one be wounded, the mother, who carries it or follows it closely, remains with it, utters the most lamentable cries, and rushes upon the enemy with open mouth, but, being unfitted for combat, knows neither how to deal nor shun a blow. It is, he adds, "a curious and interesting spectacle, which a little precaution has sometimes enabled me to witness, to see the females carry their young ones to the water, and there wash their faces, in spite of their childish outcries, bestowing a degree of time and care on their cleanliness, which, in many cases, the children of our own species might envy." The Malays informed him that the young are carried respectively by those of their own sex; and also that the siamang frequently falls a prey to the tiger, under the influence of that sort of fascination which intense terror produces, and which the snake is said to exercise over birds and squirrels.



19*.—Siamang.

Mr. G. Bennett's account ('Wanderings,' &c.) of the siamang which he kept for some time gives us a very favourable impression of its disposition and intelligence. The adroitness and rapidity of its movements, the variety of attitudes into which it threw itself when climbing about the rigging of the vessel in which it was brought from Singapore, and the vigour and

prehensile power of its limbs, indicated its adaptation to the branches of the forest. Its disposition was gentle, but animated and lively, and it delighted in playing frolics. With a little Papuan child on board this siamang became very intimate; they might often be seen sitting near the capstan, the animal with his long arm round her neck, lovingly eating biscuit together. In his gambols with the child he would roll on deck with her, as if in mock combat, pushing with his feet (in which action he possessed great muscular power), his long arms entwined round her, and pretending to bite. With the monkeys on board he also seemed desirous of establishing amicable companionship, evidently wishing to join them in their gambols; but as they avoided his company, probably from fear, he revenged their unsociableness by teasing them, and pulling their tails at every opportunity. He recognised his name and would come to those he knew when called, and soon became a general favourite, for his liveliness was not accompanied by the love of mischief. Yet his temper was irritable, and, on being disappointed or confined, he would throw himself into fits of rage, screaming, rolling about, and dashing everything aside within his reach: he would then rise, walk about in a hurried manner, and repeat the scene as before. With the cessation of his fit of anger, he did not abandon his purpose, and often gained his point by stratagem, when he found that violence was of no avail.

When vessels were passed at sea, it was very amusing to see him take his position on the peak bauliards, and there gaze on the departing ship till she was out of sight. After this he would descend and resume his sports. One instance of his intelligence is peculiarly interesting. Among various articles in Mr. Bennett's cabin, a piece of soap greatly attracted his attention, and for the removal of this soap he had been once or twice scolded. One morning Mr. Bennett was writing, the siamang being present, in the cabin; when, casting his eyes towards the animal, he observed him taking the soap. "I watched him," says the narrator, "without his perceiving that I did so; he occasionally cast a furtive

glance towards the place where I sat. I pretended to write; he, seeing me busily engaged, took up the soap and moved away with it in his paw. When he had walked half the length of the cabin, I spoke quietly, without frightening him. The instant he found I saw him, he walked back again, and deposited the soap nearly in the same place whence he had taken it; thus betraying, both by his first and last actions, a consciousness of having done wrong." This animal died when nearing our shores, to the regret of all the crew.

THE WHITE-HANDED GIBBON (*Hylobates Lar*).

To these species we refer both the Grand Gibbon and the Petit Gibbon of Buffon. It is the *Simia longimana*



20.—White-hande Gibbon.

tempered, lively, and frolicsome. In 1828 a young male lived for a short time in the menagerie of the Zool. Soc. Lond.



21.—Silvery Gibbon.

THE HOOLOC, GOLOK, HOOLOO, OR VOULOCK
(*Hyllobates scyritus*).

The Hooloc inhabits the province of Assam, probably also other parts of the Eastern peninsula, and attains the stature of four feet or upwards when full grown and standing in an upright posture. The whole animal is covered with uniform black hair of a shining rigid quality, very different from the woolly texture of the fur proper to the last species, and, in the absence of all other characters, alone sufficient to distinguish them. A white band or fillet, about half an inch in breadth, separates the face from the forehead; it passes immediately over the eyebrows, but does not extend beyond the temples, leaving the cheeks and chin of the same black colour as the rest

of Erxleben, and the *Simia albimana* of Vigors and Horsfield; the *Pithecus Lar* of Geoffroy, the *Pithecus variegatus* of Geoffroy, Kuld, and Desmarest. The fur is soft and woolly; the colour varies from dirty-brownish or from yellowish-white, to deep umber-brown or blackish-brown, the crupper being paler; the face is encircled by a band of white; the hands and feet are white; the first and second fingers are sometimes united at the base. (Fig 20.)

The White-handed Gibbon is a native of Malacca and Siam, but of its peculiar habits nothing is ascertained. It is one of those species which has hitherto been in a state of confusion, but from which opportunities of examining numbers of specimens have enabled us, as we trust, to disentangle it.

THE SILVERY GIBBON, OR WOU-WOU OF CAMPER

(*Hylobates leuciscus*).

This gibbon is a native of Java, where it was met with by M. Müller, who states that it is called there *Oa-oa*, from its cry, whence also the name of *Wou-wou*, which has been given to other species. (Fig. 21.) The fur is fine, long, close, and woolly; the general colour is ashy-gray, sometimes slightly tinged with brown, and paler on the lower part of the back; the sides of the face are white; the soles and palms are black. According to Müller, the tint of gray varies in intensity, and sometimes has a brownish, sometimes a yellowish tone, the face being encircled with white or light gray. In aged animals the chest becomes of a blackish colour.

It is to the celebrated anatomist Camper that we owe the recognition of the Silvery Gibbon or *Wou-wou* as a distinct species. The specimen which he dissected was brought from one of the Moluccas: in these islands it is reported to frequent the dense jungles of tall canes, amongst which it displays astonishing activity. Two or three living individuals appear at different times to have existed in England. Of these, one belonged to Lord Clive, and is described by Pennant. It was good-

of the body. The backs of the hands and feet are also black, and the hair of the fore-arms is reversed, or directed towards the elbows.

Of the habits and intelligence of the hooloc we possess detailed and accurate information, which will amply compensate for our scanty knowledge of the preceding, whilst the probable similarity of their manners leaves us little cause to regret our ignorance upon this point. Allamand, in his additions to the Dutch translation of Buffon's works, inserts the following notice, which he had received from Colonel Gordon, of an animal of this species, which had been presented by the king of Assam to Mr. Harwood, by whose brother it was brought to the Cape of Good Hope and given to its describer. "This ape," says Colonel Gordon, "called *vouloch* in its native country, was a female, and remarkably mild in its disposition: small monkeys alone were displeasing to her, and she could never endure their presence. She always walked upright upon her two hind-legs, and could even run very swiftly; when passing over a table or among china she was particularly careful not to break anything; she used her hands only in the act of prehension, and had her knees formed like those of the human species. Her cry was so acute, that when near it was necessary to stop your ears to avoid being stunned by it; she frequently pronounced the word *ya-hoo* many times consecutively, laying a strong emphasis on the last syllable, and when she heard any noise resembling this sound she invariably answered it in the same manner; when expressing pleasure or content, however, she uttered a low guttural sound. When any way indisposed, she fretted like a child, and came to her acquaintances to be petted and comforted. Her food was milk and vegetables, and she had such a dislike to meat of all kinds, that she even refused to eat off a plate which had contained it. When thirsty she dipped her fingers into the liquid and then sucked them; she would not suffer herself to be dressed in any kind of jacket, but of her own accord would cover herself with any cloth she found at hand to keep out the night air. Her character was pensive and melancholy;

but she would answer readily to her name, *Jenny*, and come to you when called."

But the most complete account which we possess of the character and habits of this species is contained in the following letter of Dr. Burrough, who had procured the specimens afterwards described and figured by Dr. Harlan. "These gibbons," says Dr. B., "were presented to me by Captain Alexander Davidson, of the Honourable Company's servive, stationed at Goalpara, on the Burrampooter river, in the kingdom of Assam. They are called *hooloc* by the Assamese, and are met with on the Garrow Hills, in the vicinity of Goalpara, between latitude 25° and 28° north, and the specimens in question were taken within a few miles of the town of Goalpara. The full-grown one was in my possession alive from January to May. They inhabit more particularly the lower hills, not being able to endure the cold of those ranges of the Garrows of more than four or five hundred feet elevation. Their food in the wild state consists for the most part of fruits common only to the jungle in this district of country; and they are particularly fond of the seeds and fruits of that sacred tree of India called the peepul-tree, and which on the Garrow Hills attains a very large size. They likewise partake of some species of grass, and also the tender twigs and leaves of the peepul and other trees, which they chew, swallow the juice, and reject the indigestible part. They are easily tamed, and, when first taken, show no disposition to bite, unless provoked to anger, and even then manifest a reluctance to defend themselves, preferring to retreat into some corner rather than to attack their enemy; they walk erect, and, when placed upon a floor or in an open field, balance themselves very prettily, by raising their hand over their head, and slightly bending the arm at the wrist and elbow, and then run tolerably fast, rocking from side to side; and if urged to greater speed, they let fall their hands to the ground, and assist themselves forward, rather jumping than running, still keeping the body, however, nearly erect. If they succeed in making their way to a grove of trees, they then swing with such

astonishing rapidity from branch to branch, and from tree to tree, that they are soon lost in the jungle or forest.

“The individual in question became so tame and manageable in less than a month, that he would take hold of my hand and walk with me, helping himself along, at the same time, with the other hand applied to the ground, as described above. He would come at my call, and seat himself in a chair by my side at the breakfast-table, and help himself to an egg, or the wing of a chicken from my plate, without endangering any of my table furniture. He would partake of coffee, chocolate, milk, tea, &c. ; and although his usual mode of taking liquids was by dipping his knuckles into the cup, and licking his fingers, still, when apparently more thirsty, he would take up the vessel from which I fed him, with both hands, and drink like a man from a spring; his principal food consisted of boiled rice, boiled bread and milk with sugar, plantains, bananas, oranges, all of which he ate, but seemed best pleased with bananas; he was fond of insects, would search in the crevices of my house for spiders, and if a fly chanced to come within his reach he would dexterously catch him in one hand, generally using his right hand. Like many of the different religious castes of this country (India), he seemed to entertain an antipathy to an indiscriminate use of animal food, and would not eat of either the flesh of the cow or hog, would sometimes taste a little piece of beef, but never eat of it; I have seen him take fried fish, which he seemed to relish better than almost any other description of animal food, with the exception of chicken, and even this he would eat but very sparingly of, preferring his common diet, bread and milk, and milk with sugar, fruit, &c. In temper he was remarkably pacific, and seemed, as I thought, often glad to have an opportunity of testifying his affection and attachment for me. When I visited him in the morning, he would commence a loud and shrill *whoo-whoo, whoo-whoo*, which he would keep up often from five to ten minutes, with an occasional intermission for the purpose of taking a full respiration; until, finally, apparently quite

exhausted, he would lie down and allow me to comb his head, and brush the long hair on his arms, and seemed delighted with the tickling sensation produced by the brush on his stomach and legs. He would turn from side to side, first hold out one arm and then the other, and, when I attempted to go away, he would catch hold of my arm, or coat-tail, and pull me back again to renew my little attentions to him, daily bestowed. If I called to him from a distance, and he could recognise my voice, he would at once set up his usual cry, which he sometimes gradually brought down to a kind of moan, but generally resumed his louder tone when I approached him. This animal was a male, but showed no particular marks of the sex, and, by a casual glance, might readily, if not examined more closely, have passed for a female. I have no idea of his age, but, judging from the size and length of his canine teeth, suppose him to have been advanced in life.

“The other large hooloc of which you have the cranium was also a male, and full grown; he was likewise obtained from the Garrow Hills in Assam, and presented to me by my friend Captain Davidson, of Goalpara. He came into my possession in the month of April, and died at sea in July, just before getting up with the Cape of Good Hope, of a catarrhal affection. His death probably might have been hastened from the want of proper food, such as is not procurable on long voyages. This animal was similar in habit and general characters to the one already described, and may have been eight or ten years of age, or perhaps older, as I am informed by the natives of Assam that they live to the age of twenty-five or thirty years.

“The young specimen was also alive in my possession; this is a female, and was brought to me by a Garrow Indian, at the same time the first was received, but died on the way from Goalpara to Calcutta, of a pulmonary disease following catarrh. This poor little creature, when first taken sick, suffered great pain and oppression at the chest, for which I prescribed a cathartic of castor-oil and calomel, and a warm bath, which seemed to afford

it some temporary relief, but she died after ten days' illness. The animal appeared delighted with the bath, and when I removed her from the vessel, she would run back again to the water, and lie down again till again removed; she was, like the others I had in my possession, gentle and pacific in disposition, very timid and shy of strangers, but, in less than a week from the time she was taken, would, if put down in an open space, quickly run to me, jump into my arms, and hug me round the neck: I supposed her to have been from nine months to a year old. I fed her on boiled milk, goat's milk diluted with water, and sweetened with sugar-candy; she also would sometimes partake of a little bread and milk with the older one; she soon learned to suck the milk from a small bottle, through a quill covered with a piece of rag."

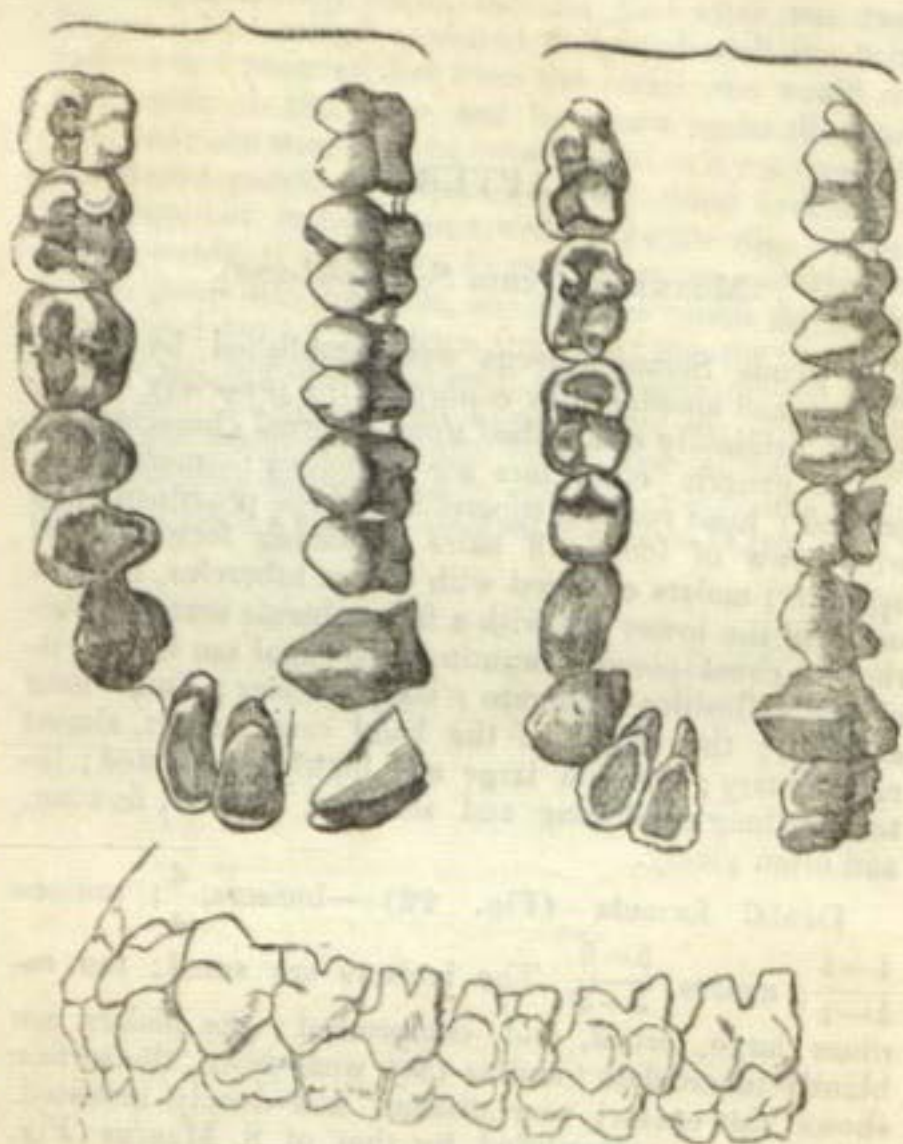
CHAPTER V.

MONKEYS (Genus *Semnopithecus*).

THE genus *Semnopithecus* was established by Fred. Cuvier, and anatomy has confirmed the propriety of this genus, originally established upon external characters.

The generic characters are as follow:—muzzle depressed; head round; superciliary ridge prominent, and with a row of long stiff hairs projecting forwards and upwards; molars crowned with obtuse tubercles, the last molar of the lower jaw with a fifth tubercle seated posteriorly; cheek-pouches wanting; laryngeal sac large; ischiatic callosities moderate; body slender; limbs long and thin; the thumb of the hand small, short, almost rudimentary; stomach large and highly sacculated; intestines long; tail long and slender; fur soft, flowing, and often glossy.

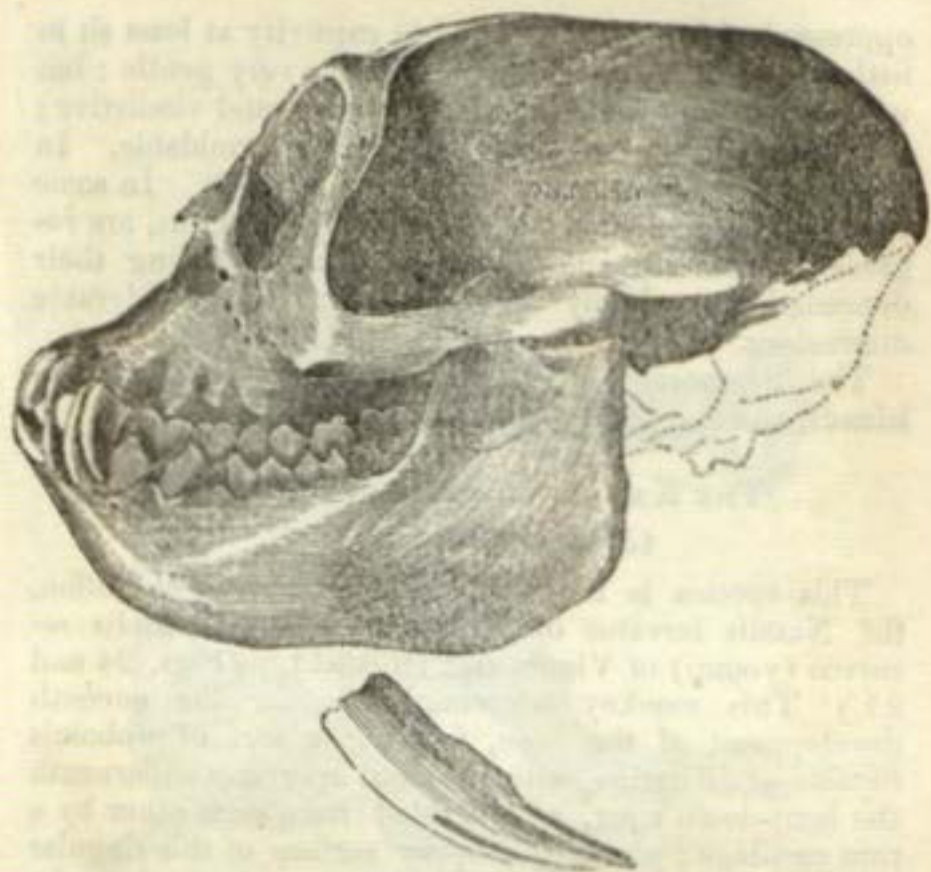
Dental formula (Fig. 22):—incisors, $\frac{4}{4}$; canines $\frac{1-1}{1-1}$; molars, $\frac{5-5}{5-5}$. The incisors are small; the canines large, broad, and compressed; the molars are bluntly tuberculate; and as they wear down, the surface shows the enamel very distinct and deeply indented. The skull, as exemplified by that of *S. Maurus* (Fig. 23), may be characterised as round, the orbits large and square, with an abruptly prominent superciliary ridge, and with boldly projecting margins; the interorbital space is broad, and the face depressed; the lower jaw, however, is very deep, and the space for the masseter muscle considerable; the chin recedes obliquely. The hands of the *Semnopithecæ* are remarkable for their elongation and narrowness, and for the almost rudimentary condition of the thumb, which cannot be brought into



22.—Teeth of Monkey.

action as an antagonist to the fingers; the feet also are narrow and elongated, but the thumb is stout and well developed.

There are no cheek-pouches, as in the ordinary monkeys, but a large laryngeal sac extends over the whole of the throat, communicating with the larynx (windpipe) by



23.—Skull and Canine Tooth of Monkey.

means of a large aperture. The stomach is sacculated in an extraordinary manner, the sacculi being in all probability preparatory receptacles for the vegetable aliment, which undergoes digestion in an elongated pyloric portion.

Cuvier calls the *Semnopithecii* slow monkeys; but it is only in a certain sense that they merit the title. The length and slenderness of the limbs and body detract, if not from their agility, at least in some degree from the abruptness of their movements, which have a more sweeping character than those of the *Cercopithecii*. Nevertheless, they leap and bound among the branches of their native forests with great ease, and to vast distances, their long tail acting as a director or balancer in their motions. Less lively, less petulant, and perhaps less inquisitive than the *Cercopithecii*, they appear at times as if

oppressed with melancholy and in captivity at least sit in listless apathy. While young they are very gentle ; but when adult they become sullen, morose, and vindictive ; and their long canines render them truly formidable. In their native regions they associate in troops. In some parts of India certain species, as the *Entellus*, are regarded as sacred, and tolerated notwithstanding their depredations. Many species attain to considerable dimensions.

The *Semnopithec*i are all natives of India and its islands, and the Malay peninsula.

THE KAHAU, OR PROBOSCIS MONKEY

(*Semnopithecus larvatus*).

This species is the *Guenon à longue nez* of Buffon, the *Nasalis larvatus* of Geoffroy, and the *Nasalis recurvus* (young) of Vigors and Horsfield. (Figs. 24 and 25.) This monkey is remarkable for the uncouth development of the nose, forming a sort of proboscis capable of dilatation, with the nasal apertures underneath the bent-down apex, and divided from each other by a thin cartilage ; along the upper surface of this singular organ runs a longitudinal depression, indicating the division between the two canals. The ears, which are small, and the face, together with the palms, are of a leaden colour, with a slight tinge of yellow ; the neck is short ; the throat swollen from the enormous laryngeal sac. On the sides of the neck and shoulders the hair is long compared with that of the rest of the body. The top of the head, the occiput, and the scapular portion of the back, are of a rich chestnut-brown ; the sides of the face and a stripe over the shoulders are yellow ; the general colour of the body is fine sandy-red. The crupper, the tail, the fore-arms, and legs are cinereous ; the under parts are yellow ; the tail is somewhat tufted at the tip. A full beard in the male advances forward, and curls up under the chin, almost to the long nose. In the young, regarded by some naturalists as a distinct species, the nose is somewhat recurved, and shorter than



24.—Kahau.

in the adult. That this distinction is not specific, as we ourselves formerly believed, we have fully satisfied ourselves by the examination of specimens in Paris. Fig. 26 represents the face of the adult kahau; 27, that of the young; 28, the nose of the adult as seen from beneath; 29 is the skull of the kahau: it has all the characters of a true *Semnopithecus*.

The male kahau is remarkable for size and strength, and, from the magnitude of the canines, must be a formidable animal. The female, however, is considerably smaller, a circumstance noticed by Wurmb, who says these monkeys "associate in large troops; their cry,

which is deep-toned, resembles the word Kahau. They assemble morning and evening, at the rising and setting of the sun, along the borders of rivers, and are to be seen on the branches of lofty trees, where they offer an agreeable spectacle, darting, with great rapidity from one tree to another at the distance of fifteen or twenty feet. I have not observed that they hold their nose while leaping, as the natives affirm, but I have seen that they then stretch out their paws in a remarkable manner. They are of different sizes; some, indeed, are seen which are not above a foot in height, but which yet have young."

The kahau, as far as is known with certainty, is a native only of Borneo; perhaps it is to be found also in Sumatra. M. Geoffroy states it to inhabit the Malay peninsula, but we are not aware that it has ever been seen there. The adult male measures two feet in the



25.—Kahau.

length of the head and body, and two feet four inches in that of the tail. It has never been brought alive to Europe.



26.—Face of adult Kahau.



28.—Nose of adult Kahau, seen from beneath.



27.—Face of young Kahau.



29.—Skull of Kahau.

THE ENTELLUS, OR HOONUMAN

(Semnopithecus Entellus).

The Entellus is a native of India and the adjacent islands. The general colour is straw-yellow, more or less inclined to ashy gray; superciliary hairs black; hands and feet washed with black; face black. Length of head and body of adult male, two feet two inches; of tail, three feet one inch. The adults are paler than the young. (Fig. 30.)

The Entellus, or Hoonuman, is held sacred in some parts of India, but not by the people of Mahratta, where it is called Makur; it occurs in large troops in the woods of the western Ghauts. In Lower Bengal, where it makes its appearance towards the latter end of winter (for it would seem that it migrates from the upper to the lower provinces, and vice versâ, in this part of India), the pious Brahmins venerate it, supply it with food, and zealously endeavour to prevent its molestation by Europeans. According to Dr. Fryar and others these monkeys, in Malabar, toward Ceylon, and at the Straits of Balagat, are deified. At Dhuboy (see Forbes's *Oriental Memoirs*) they are, if not worshipped, protected, from motives of humanity to the brute creation and a general belief in metempsychosis. According to the latter author there are as many monkeys as human inhabitants in Dhuboy, and the roofs and upper parts of the houses seem entirely appropriated to their accommodation. To strangers they are unbearably annoying.

In Dhuboy, if a man wish to revenge himself on his neighbour for any insult or injury, he takes the opportunity, just before the periodical rains (about the middle of June) set in, and when the tiles have been adjusted to meet that season, of repairing to his neighbour's roof and scattering over it a quantity of rice or other grain. This is soon discovered by the monkeys, who not only devour it, but pull up all the tiles in search of what has fallen through the crevices. At this critical juncture the rain commences; no one can be found to re set the tiles; the house is deluged, the furniture ruined, and



30.—Entellus.

the depositaries of grain, generally formed of unbaked earth, soaked through by the falling torrent.

The origin of the extreme veneration in which these animals are held by the Hindoos is involved in the obscurity of the early history of that wonderful people. It may probably have arisen from the doctrine of the metempsychosis, or transmigration of souls; for they firmly believe that the spirits of their departed friends pass into these and other sacred animals. But however this may be, it is certain that it has subsisted among them from the earliest periods. The superstitions and traditions of the Brahmins upon the subject hold a prominent place in the 'Ramayan,' one of the greatest epic poems which the genius of any age or country has produced, and of which we shall give a very brief outline in so far as it is connected with the animal whose history we are now relating. The chief subject of the poem appears to

be to celebrate the triumph of the good over the evil principle. These principles are typified by the Hindoo gods on the one hand, and a nation of demons on the other, who are called Rackschasas, and, who, under their king Ravana, are supposed to reside in the island of Lanka or Ceylon. The power of these demons had long been predominant over the earth; and, as the gods had made them invulnerable against the immortals, it followed that Ravana and his followers could only be subdued by a mortal adversary. The gods, compassionating the misery which prevailed on the earth, thus governed uncontrolled by the principle of evil, assemble a grand council, and agree to send Vishnu down in the form of a man to fulfil the decrees of fate by subduing the Rackschasas by human power. The incarnation is made in the person of Rama, the eldest son and successor to Dasharatha, king of Ayodhya (Oude), who thus becomes the hero of the poem, and, though present on earth in the character of Rama, does not cease, in the mean time, to maintain his station among the gods in the character of Vishnu. In this latter capacity, he creates invulnerable tribes of apes and monkeys, all under their proper kings and generals, (of whom the chief is Hoonuman,) and endowed with the courage and intelligence necessary to creatures destined to be the allies of his earthly incarnation Rama, in the glorious enterprise against Ravana. Passing over the numerous previous incidents of the story, we come at once to the cause and consequences of the war between Rama and the Rackschasas. Its immediate origin arose out of the rape of Sita, the wife of Rama, who is carried off by Ravana and confined in the fortress of Lanka. The hero upon this contracts an alliance with Hoonuman, the king of the monkeys, who undertakes to go in search of the lost princess; and, having at length discovered her in Lanka, hastens back with the information, and rejoins Rama at Ayodhya. A grand expedition is immediately prepared against Ravana; a bridge is built from the continent to the island of Lanka, over which the army of the allies is marched, and the two princes sit down before the

fortress. The feats of the warriors on both sides, and the conduct of the siege, fully equal, as we are assured by Oriental scholars, if they do not surpass, the corresponding portions of the *Iliad*, both in the interesting nature of the events and the force and beauty of the description. The fight is not confined to the surface of the earth, the air is likewise filled with combatants; Rama and Ravana at length encounter one another in personal combat, the heavens resound, the earth trembles beneath their desperate contest, till at length, after seven days' struggle, Ravana is finally overcome, his forces scattered or destroyed, and Rama and Hoonuman enter Lanka in triumph.

Throughout the whole of this war Hoonuman is, next to Rama, the most conspicuous hero opposed to the demons, and signalises himself by numerous acts of strength, courage, and agility. Among others of his enterprises, the Hindoos still consider themselves indebted to him for the introduction of the mango, which he carried off from the gardens of a celebrated giant whom he had overcome, and which still continues to be especially grateful to the palates of his descendants. Such an act of theft, however, committed during the progress of so sacred a war, naturally drew down upon the perpetrator the supreme anger of the gods, and it was to evince their displeasure that they placed a mark upon himself and his race, by blackening their face and hands, which continues to this day an unquestionable evidence of the truth of these statements. Another of Hoonuman's adventures had well-nigh terminated even more seriously. The hero conceived the masterly project of setting fire to the whole island of Ceylon, and thus destroying his enemies at once, by means of a tar-barrel tied to the end of his tail. The plan was no sooner conceived than it was executed; but, in the laudible act of thus burning out his enemies, Hoonuman's own tail caught fire also, a mischance upon which it appears the hero had not calculated. Stung by the pain, and fearful of losing this valuable and ornamental appendage altogether, he was about to extinguish the flame by plunging

it into the sea ; but the inhabitants of that element, apprehensive of the fatal consequence which might ensue to themselves from such an unwarrantable proceeding, should the sea also be set on fire, remonstrated strongly with him upon the subject, and finally persuaded him to alter his intention. So far all Indian histories agree in the relation of this important event, but the subsequent part of the story is differently told by different authorities. Some learned pundits say that Hoonuman upon this stretched his tail out upon the shore, whilst his friend Sumunder threw water over it and extinguished the flame ; others, on the contrary, affirm that he proceeded forthwith to the Himalayan mountains, and dipped it into a lake at the source of the sacred river Ganges ; and we must confess that we are ourselves most inclined to credit the latter account, not only because it is the most worthy of such an heroic action, and most remote from the ordinary course of events, but because the lake in question bears the name of Bunderpouch, or "*monkey's tail*," to this very day, as if to confound the audacious sceptics who venture to question the truth of the legend. Moreover, all the world (in Hindustan) believe and affirm that a single monkey is deputed from the plains every year in the month of P'hagun, and, ascending the hills by way of Hurdwar, takes his station on the snowy peak of a high mountain which rises majestically over the sacred lake, and there watches incessantly till relieved in the following season. In the execution of this sacred duty, as may be naturally expected from the inhospitable nature of the country and climate, he undergoes many privations, and returns to Bengal wasted to a skeleton by watching and fasting : but what will not men and monkeys suffer in support of a favourite dogma !

From these superstitious traditions we learn to appreciate the force and origin of the high veneration and esteem which the hoonuman enjoys among the disciples of Brahma, wherever that system of worship extends. We see, in fact, that the animal is identified with the history of a great moral and religious doctrine, analogous to, if not identical with, our divine revelations

regarding the fall and regeneration of man, though disguised and disfigured under the garb of an exuberant and extravagant allegory. Nor is the veneration of the people confined to the hoonuman; we have seen that the hoonuman tribe was only the chief, the Brahmins, as it were, of the many others created by Vishnu for the purpose of assisting Rama in his enterprise of subduing the principle of evil; and we find that the bhunder (*Papio Rhesus*), and other species, enjoy the same degree of favour as the hoonuman itself. This favour is carried to the greatest height that religious fervour and zeal are capable of. Splendid and costly temples are dedicated to these animals; hospitals are built for their reception when sick or wounded; large fortunes are bequeathed for their support; and the laws of the land, which compound for the murder of a man by a trifling fine, affix the punishment of death to the slaughter of a monkey! Thus cherished and protected, the entellus abounds over every part of India, enters the houses and gardens of the natives at will, and plunders them of fruit and eatables without molestation: the visit is even considered an honour; and the Indian peasant would consider it an act of the greatest sacrilege to disturb or to drive them away. They generally take up their residence in the topes, or groves of trees, which the people plant round their villages for the purpose of screening them from the too ardent rays of the sun, but they are permitted to occupy the houses in common with the inhabitants when they feel disposed to change the scene, and are described by a late traveller as to be seen by dozens playing on the flat roofs, or perched with much gravity at the open verandas to observe the passing crowd.

The entellus, though a native of the hot plains of India, is by no means incapable of sustaining the rigours of a much more ungenial climate. It is well known that they ascend the Himalayas wherever they can find wood: they are found in Nepaul; and Turner even informs us that he met with them on the cold elevated plains of Bootan. The following extract is from the

works of that traveller, which will be found to contain much valuable information upon this subject:—"Wild animals," says he, "are so extremely rare in Bootan, according to my experience, and as far as my information leads me to include, that I must not pass by, without particular mention, a multitude of monkeys which we saw playing their gambols by the road-side. They are of a large and handsome kind, with black faces surrounded with a streak of white hair, and very long slender tails. They are the honoumaunt (*hoomuman*) of India, the largest in these regions, and the gentlest of the monkey tribe. They are held sacred by the Booteas as well as by the Hindoos, and have obtained a distinguished place in their miscellaneous and multifarious mythology. I once saw a multitude of them at Muttra, in Hindoostan, which, I was informed, were daily fed on the produce of a stipend settled for their support by the Hindoo prince Madajee Sindia. I ventured amongst them with some diffidence, for they were bold and active, which rendered it difficult to avoid any sort of liberty which they might choose to take. Resentment was out of the question, for I was informed that they were at all times ready to unite in one common cause. One amongst them was lame from an accidental hurt, and it was surprising, in consequence of this resemblance to his patron, what partial attention and indulgence he had obtained, and of which indeed he seemed perfectly sensible. I have also noticed multitudes of the same species near Amboa, in Bengal."

The celebrated banyan-tree on the banks of the Nerbuddah is tenanted by hosts of monkeys and myriads of snakes. The antics and gambols of the former are very amusing; if they ever suffer from the snakes, they repay the poor reptiles with interest. When they see one asleep, twined round a branch, they seize it by the neck, and descending run to the nearest stone, and on it commence to grind down the reptile's head, frequently looking at it and grinning at their progress. When convinced that its fangs are destroyed, they toss it, writhing

with pain, to their young, and seem to rejoice in its destruction.

Once a friend of Mr. Forbes, on a shooting excursion, killed a female monkey under this tree, and carried it to his tent, which was soon surrounded by forty or fifty of the tribe, who made a great noise, and with menacing gestures advanced towards it. On presenting his fowling-piece, they hesitated and appeared irresolute. But one, which from his age and station in the van appeared to be at the head of the troop, stood his ground chattering and menacing in a furious manner, nor could any efforts less cruel than firing drive him off. He at length approached the tent door, and by every token of grief and supplication seemed to beg the body of the deceased, which was then given to him: with every token of sorrow he took it up in his arms, embraced it with conjugal affection, and carried it off to his expecting comrades. The artless behaviour of this poor animal wrought so powerfully on the sportsmen, that they resolved never to level a gun again at one of the monkey race.

THE BLACK-CRESTED MONKEY

(*Simnophocus melalophos*; *Cimepaye*, or *Simpai*, of F. Cuvier, not Raffles).

This slender and beautiful species is a native of Sumatra. The head is small; the fur is long, soft, falling, and glossy; the top of the head is ornamented with a long compressed crest. The general tint is a fine bright golden rust colour, pure and rich on the limbs, but slightly washed with a dusky tint on the back; the abdomen and inside of the limbs are paler than the other parts. The crest is washed with a dusky tinge passing into black at the tip. A black or blackish line beginning over the eyes passes across the temples, and turning up over each ear merges into the colour of the crest. The skin of the face is dusky-bluish; the palms, soles, and nails are black. Length of head and



31.—Black-crested Monkey.

body, one foot eight inches; of tail, two feet eight inches. (Fig. 31.)

This species has not, as far as we know, been brought alive to Europe. It is said to be extremely active, and to tenant the remote parts of the forest; but of its exclusive habits nothing is known.

THE BUDENG (*Sennopithecus Marus*).

The Budeng is a native of Java: the general colour is black; the fur is long and silky; the hairs, diverging from the crown of the head, conceal the ears. The young after birth are of a pale reddish-yellow; first a gray discoloration appears on the hands; then this begins gradually to spread, extending to the shoulders and sides; as it spreads it becomes darker, and at last passes into black. The budeng, according to Dr. Horsfield, is grave, sullen, and morose: it is abundant in the extensive



32.—Budeng and Young.

forests of Java, where it associates in large troops, often of more than 50 individuals. On the approach of man they set up loud screams, and so violent and incessant are their motions, that decayed branches are often detached and precipitated on the spectators. The natives chase them for the sake of their fur, which is jet black, silky, and employed in riding equipages and military decorations. They are seldom kept alive, from the sullenness of their temper, which renders them anything but agreeable. While young they feed on the tender leaves of plants and trees; but when adult, on wild fruits of every description. (Fig. 32.)

THE DOUC, OR COCHIN-CHINA MONKEY

(*Semnopithecus nemæus*, F. Cuv. ; *Pygathrix nemæus*, Geoffr. ; *Lasiopyga nemæus*, Ill.).

The Douc, a genuine example of the genus *Semnopithecus*, is one of the most beautiful, if not the most beautiful, of all the monkey race. We give the following description from a fine adult male in the Paris Museum :—The face is naked and of an orange colour, surrounded by full long whiskers of a glossy whiteness; the fur of the forehead is blackish, passing into delicate grizzled gray, which is the colour of the whole head, the back, the sides, and abdomen, each hair having annulations of white and dusky black to the number of eleven or twelve. From the eyebrows to the ears extends a pencil of chestnut red; the throat is white; a band, or gorget, of chestnut red extends across the top of the chest from shoulder to shoulder, succeeded by a band of black spreading over the top of each shoulder. The fore-arms, the tail, and a square patch above its root, are of a snowy white. The knees, the legs, and the tarsal portion of the feet are of a rich chestnut; the fingers, the toes, and the thighs are black; space round the callosities, white; callosities and naked skin of the palms, yellow. Fur, full and soft. Length of head and body to root of tail, two feet one inch. Native country, Cochin China. (Fig. 33.)



33.—Cochin-China Monkey.

The douc has never been brought alive to Europe, and of its habits and manners we have but meagre information. Bezoar-stones are said to be frequently found in its stomach, a proof that it is sacculated, as in the other Semnopithecæ, and also in the Colobi.

In the 'Magasin de Zoologie' ('Voyage autour du Monde de la Corvette La Favorite'), 1836, it is stated that "these animals live in troops, more or less numerous, in the vast woods which cover the country along the shore; and their manners are certainly far from being wild, as has been supposed. They are, indeed, little troubled by the presence of man, and often come near to the habitations of the Cochinchinese, who appear to offer them but little molestation, and do not attempt to draw from the beautiful fur of the doucs all the advantages which might be obtained from such a source. However, the incursions of the sailors of the corvette La Favorite in a very short time inspired these animals with such terror, and so rapid was their flight, that, numerous as they were, they were not procured without difficulty."

Though Buffon, on the authority of M. de Poivre, gave the name of douc to this species, as its native appellation, nevertheless it would seem that such is not the term by which it is known in Cochinchina. M. Rey, the captain of a French merchantman, who visited that country in 1819-20, informs us that these monkeys are there called Venam, which, he says, signifies "men of the woods." M. Rey had no difficulty in killing numbers of them, but it was not without great trouble that he succeeded in capturing living individuals. So numerous were they, that on one occasion, in the course of a few hours, a hundred were slaughtered. Desirous, however, of taking some alive, for the purpose of transporting them, if possible, to France, he set to work in earnest. In the attempt many were shot dead, and others wounded; and as they fell, the survivors collected round the dead and dying, endeavouring to carry them off into the deeper parts of the forest. Three young ones were ultimately secured, which held so fast round the bodies of their dams, that it required no small effort to detach

them. They did not reach France alive. M. Rey remarks that this species of monkey greatly resembles the orang-outan in stature and inoffensive manners, inhabiting the mountains and tops of the loftiest trees, and living on fruit. Its fur he describes as being exceedingly fine. Some of the males measured, when standing upright, about four feet four inches in height.

GENUS COLOBUS.

The monkeys of this genus are restricted exclusively to Africa: in all respects they resemble the Semnopithecii, but the thumb, which in the latter is small, is in these wanting or reduced to a mere nailless tubercle. What the Semnopithecii are in India, the Colobi are in Africa. Till lately only two species were known; but the list now contains ten accredited species, to which others will no doubt be added as we extend our researches in Western Africa, along the borders of the Gambia, and the island of Fernando Po.

THE WHITE-THIGHED COLOBUS

(*Colobus leucomerus*, Ogilby).

This beautiful monkey is a native of the banks of the Gambia. The fur is long, fine, silky, and shining; the general colour is black: a white frontal band spreads from the forehead over the whiskers on the sides of the face, and passing down occupies the throat, so that the face is surrounded with white, which is narrowest on the forehead. The hairs covering the thighs externally are white, more or less mixed with black, and gradually merging into the general hue. The tail is long and of a snowy white. (Fig. 34.)

The White-thighed Colobus has never been observed by European travellers in its native forests; the skins, mostly imperfect and wanting the head, are brought down by the negroes from the interior for the purposes



34.—White-thighed Colobus.

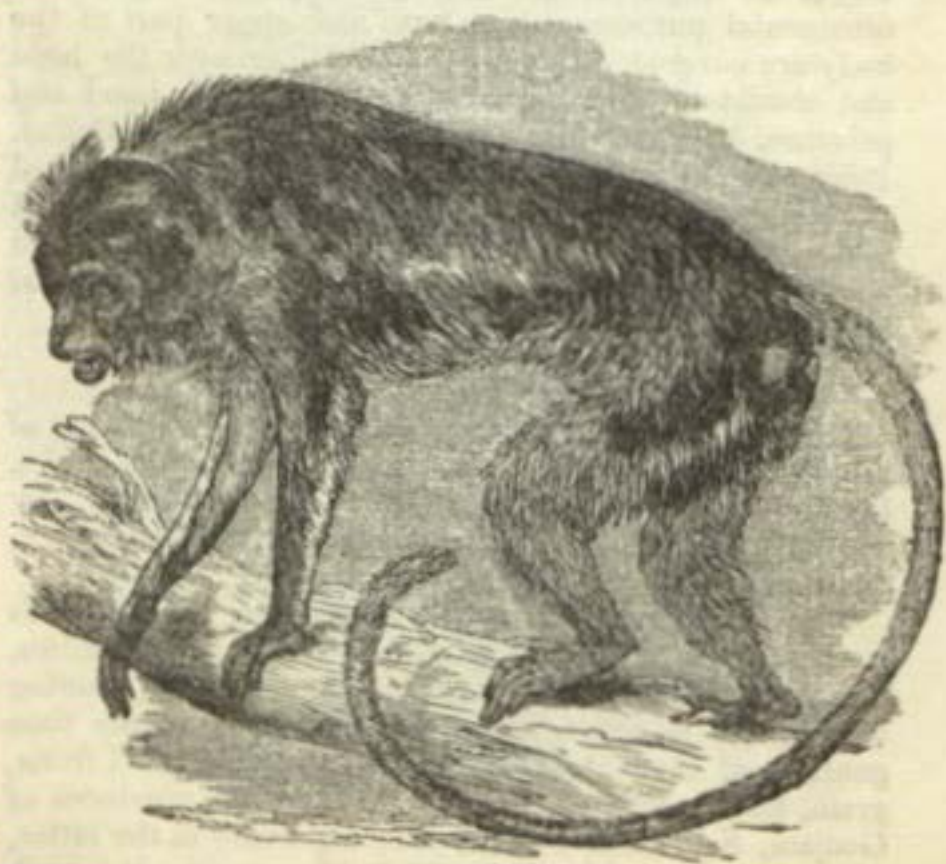
of barter. Nothing respecting its habits has been ascertained.

TEMMINCK'S COLOBUS

(*Colobus Temminckii*, Kuhl, 'Beitr.,' 1820).

The top of the head is black, as is also the occiput, which latter is slightly sprinkled with rufous: the back and the outside of the humerus and of the thighs are of a sooty black, with a tinge of slate-blue. The sides of the face, the chest, the sides of the humerus, and the whole of the fore-arms are of a rufous colour, which becomes deeper and brighter on the hands; the anterior part of the thighs, the knees, and the legs are also rufous, the feet being of a deeper hue: the throat, together with a line along the chest and abdomen, are

of a sandy-yellow; the middle of the chest and of the abdomen is abruptly of a dirty yellowish-white, varying to white; the tail at the base is black, with rufous hairs intermixed; it then assumes a chestnut red or rufous colour, becoming again darker at the extremity; an obscure dusky line runs along the whole of its upper surface. The naked skin of the face is brown with a tinge of red purple; the palms and soles are of a purplish black. It was in a very pale-coloured and aged female of this species, in the museum of the Zoological Society, London (26, Cat. 'Mamm.,' 1838), brought from the river Gambia, that Mr. Ogilby found his *Colobus fuliginosus*, afterwards termed by him *C. rufo-fuliginus*. (Fig. 35.)



35.—Temminck's Colobus.

The original of Kuhl's description was formerly in Bullock's museum, but is at present in that of Leyden. With respect to the native country of this species, it is now ascertained to be Gambia. Length of head and body, 2 feet 2 inches; of tail, 2 feet 6 inches. Nothing relative to the habits and manners of the species, as it exists in its native forests, has been collected.

FULL-MANED COLOBUS

(*Colobus polycomos*. Full-bottomed Monkey, Pennant; Guenon à Camail, Buffon).

The Full-maned Colobus is a native of the forests of Sierra Leone; it is called by the natives "the king of the monkeys," on account of the beauty of its colours, and the *camail*, which represents a sort of diadem. Its fur is in high estimation, and applied to different ornamental purposes. The head and upper part of the body are covered with long hairs falling over the head and shoulders, forming a sort of mane-like hood and pelerine, whence the name given to it by Buffon. Pennant's title is in allusion to the full-bottomed periwig worn in his day. These long hairs are mingled yellow and black; the face is brown; the body covered with short jet-black hair; the tail is snowy-white and tufted. (Fig. 36.)

THE GUEREZA (*Colobus Guereza*).

General colour black; sides of the body and top of the loins ornamented with long pendent white hairs, forming a fringe-like mantle; face encircled by white; tail ending in a white tuft. Native country, South and West Abyssinia.

The Guereza, which is the Abyssinian name of this species, lives, according to Rüppell, in small families, tenanted the lofty trees in the neighbourhood of running waters. It is active and lively, and at the same time gentle and inoffensive. Its food consists of wild fruits, grain, and insects. It is only found in the provinces of Godjam, Kulla, and Damot, more especially in the latter, where it is hunted by the natives, who consider it a mark



36.— Full-maned Colobus.

of distinction to possess a buckler covered with its skin, the part used being that covered with the long flowing white hairs. Ludolph (in the 'Hist. Æthiop.,' lib. i.) has made express allusion to this animal, but he figures a different species under its name. (Fig. 37.)

GENUS CERCOPITHECUS.

In this genus are comprehended the ordinary long-tailed monkeys, or Guenons, of Africa. The muzzle is moderately prominent; the facial angle 45° to 50° ; the head is round; the superciliary ridge moderate; the molar teeth are crowned with acute tubercles; the last molar of the lower jaw with only 4 tubercles; there are ample cheek-pouches; the laryngeal sac is variable; ischiatic callosities moderate; general contour light, but vigorous; limbs muscular; stomach simple; tail long; the hairs composing the fur annulated.

The genus *Cercopithecus*, as here defined, will consequently comprehend all the *monkeys*, properly so called, which have cheek-pouches and perfectly developed thumbs on the anterior extremities. The first of these characters differentiates them from the *semnopithecus*, and the second from the *colobs*; their long tails and ischial callosities are common to the other monkeys, as the latter character is to the baboons and most of the apes. The distinction, so simple and appropriate, founded upon characters at once so obvious and so influential, accomplishes a great desideratum in the history of the *cercopithecus*, and places that genus on an equality with the *semnopithecus* and *colobs*, or any other natural group of *simiæ*, in point of logical precision and exclusive propriety of character. As for minor modifications, it has been already observed that the absence of the fifth tubercle of the last inferior molar tooth, hitherto supposed to be peculiar to the *cercopithecus*, is not a universal character of the genus. The tubercle in question was discovered on examining the skull of a mangabey (*Cercopithecus fuliginosus*), which died some time since in the Zoological Gardens; it will probably be found to exist likewise in the *collared mangabey*



37. - Guereta.

(*Cecopithecus Ethiops*), and other similar species among the larger-sized cercopithecus; and, upon the whole, the adoption of its absence, as an exclusive generic character in this group of simiæ, appears to have been the result of a too hasty and inconsiderate generalization. Were the existence of this tubercle a character of any importance, it might countenance the re-formation of M. Geoffroy St. Hilaire's suppressed genus *Cercocebus*, to include the Asiatic species which we have here dissevered from the old genus *Macacus*, and the African species of acknowledged cercopithecus, in which it has already or may be afterwards found; but it is neither sufficiently influential, nor even sufficiently general, for this purpose; its adoption would place the green monkey (*C. sabæus*), the white-throated monkey (*C. albogularis*), and their allied species, in a different group from the mangabey (*C. fuliginosus*), the macac (*C. cynomolgus*), and the bonnet-monkey (*C. sinicus*), and could only lead to arbitrary and artificial distinctions. The genus cercopithecus, therefore, as it is here defined and limited, admits of no further subdivision. It is founded upon important and influential modifications of structure, and is consequently entitled to be considered as a perfectly natural and scientific group.

The annulated nature of the fur is another secondary character which is very generally found among the cercopithecus, and serves at a glance to distinguish them from all other monkeys. It is equally common to the acknowledged African animals, and to those anomalous Asiatic species which have been heretofore associated with the true papios, in the arbitrary and artificial genus *Macacus*; and its existence in the latter is no small confirmation of their generic identity with the true cercopithecus, which has been here founded upon more important and influential characters. This annulated character of the fur produces a pleasing variety and intermixture of colours, and gives the animals a minutely-mottled or speckled appearance; it is not, however, confined to the cercopithecus, being equally found in the greater number of the cynocephals; but, with the exception of the few Asiatic species of the former genus, it is more peculiarly appropriate to

the African simiæ, though without being absolutely universal even among these. The colobs, and even some species of cercopithecæ, such as the white-eyelid monkeys, resemble the Asiatic simiæ in the unannulated nature of their hair; but, generally speaking, this character will be found to be a ready practical distinction between the simiæ of the two continents.

The cercopithecæ are of a lighter and more active make than the papios; their heads are rounder, their faces shorter, and their eyes less deeply sunk beneath projecting superorbital crests; their limbs are longer, their bodies more slender, and their whole proportions destitute of that massive and powerful structure which characterises the latter animals. Neither have they the gloomy, morose, and saturnine disposition common to all the baboons. They are capricious, petulant, and inconstant, rather than intentionally mischievous or malicious; they substitute vivacity, impetuosity, and restlessness, for the mild, gentle, and almost apathetic manners of the semnopithecæ and colobs; and if they possess the activity and impetuosity of the papios and cynocephals, they are at the same time free from their sullen and intractable dispositions, and from the disgusting propensities which they sometimes display.

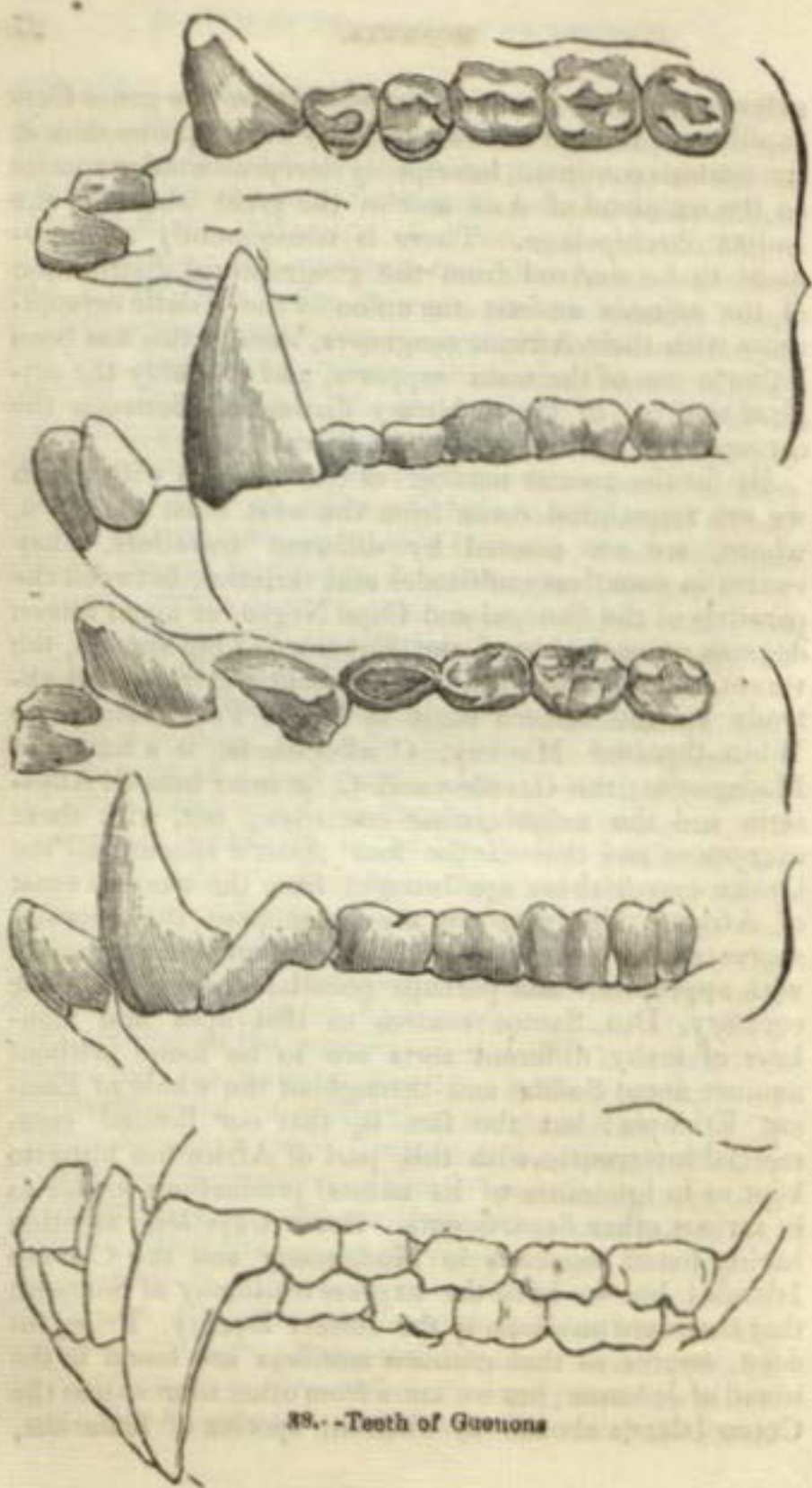
Like all the other monkeys, the cercopithecæ are a pre-eminently sylvan race; they never abandon the forests, where they live in society under the guidance of the old males: they appear even to be extremely local in their habitat. Each tribe or family has its own particular district, into which individuals of other tribes or species are never allowed to intrude, the whole community uniting promptly to repel any aggression of this nature, either upon their territory or upon their individual rights. So strongly is this propensity implanted in the cercopithecæ, that they carry it with them even into our menageries; nothing is more common or more pleasing than to see monkeys of the same species uniting to defend one of their brethren against the tyranny of a more powerful oppressor, or to resent any insult offered to a member of their little community. They are highly

gregarious, never leave the recesses of the forest, generally take up their quarters in the vicinity of a running stream, and seldom approach the habitations of men, or invade the cultivated grounds of the gardener and husbandman. It is, no doubt, this spirit of union and mutual defence which prompts the monkeys to collect round travellers, and, by their chattering, grimace, and every other means in their power, endeavour to prevent them from intruding into the little territory which they regard as their especial property. That their minds are capable of entertaining this idea of the right of property, all their actions plainly demonstrate; and the fact gives us a high idea of the superior order of their intelligence. They feed indiscriminately upon wild fruits, the seeds and buds of trees, insects, bird's eggs, &c., but appear, on the whole, to be less carnivorous in their appetites than either the apes or baboons—an observation, indeed, which may be extended to all the true monkeys.

The geographical distribution of the genus *Cercopithecus* has been generally believed to be confined to the continent of Africa; and, with the exception of the four species heretofore confounded with the papios, this is no doubt true. If, as is commonly admitted, we assume the Asiatic papios to be the legitimate representatives of the African cynocephals, and consider the colobs as the proper analogues of the semnopithecus, it will follow that the cercopithecus, which are still a pre-eminently African genus, have no appropriate representatives peculiar to the eastern continent or its dependent islands; but, the truth is, that these animals are no more exclusively proper to Africa than the papios are to Asia, or the cynocephals to the former continent; each of these genera having representative species in both localities, and the colobs and semnopithecus alone being confined to one or other. Thus the genus *Cynocephalus*, which has its head-quarters in Africa, is nevertheless represented in Asia by the *C. hamadryas*, which is found on all the mountains of Arabia; the genus *Papio*, pre-eminently an Asiatic group, is represented in the neighbouring continent by the *P. gelada* and *P. inuus*, the latter of which

extends even into Europe; and so likewise the genus *Cercopithecus*, though the vast majority of its species inhabit the western continent, has equally its representative species on the mainland of Asia and in the great islands of the Indian Archipelago. There is consequently no argument to be derived from the geographical distribution of the animals against the union of the Asiatic cercopithecus with their African congeners, though this has been hitherto one of the main supports, and probably the original motive, of the arbitrary distinction between the cercopithecus and the so-called macacs.

By far the greater number of cercopithecus with which we are acquainted come from the west coast of Africa, where, we are assured by different travellers, they swarm in countless multitudes and varieties, between the parallels of the Senegal and Cape Negro, or about fifteen degrees on each side of the Equator. One species, the vervet, *C. pygerythrus*, inhabits South Africa, and extends up the eastern coast as far as Port Natal; the White-throated Monkey, *C. albogularis*, is a native of Madagascar; the *C. ruber* and *C. griseus* inhabit Abyssinia and the neighbouring countries; but, with these exceptions and that of the four Asiatic species, all the known cercopithecus are brought from the western coast of Africa. Not that we are to suppose the opposite shores of this vast continent less abundantly supplied with appropriate and perhaps peculiar species. On the contrary, Dos Santos assures us that apes and monkeys of many different sorts are to be found without number about Sofala and throughout the whole of Eastern Ethiopia; but the fact is, that our limited commercial intercourse with this part of Africa has hitherto kept us in ignorance of its natural productions in this as in various other departments. Some travellers mention having found monkeys in Madagascar and the Comoro Islands; but we have the express testimony of Sonnerat that there are no simiæ in the former locality. Prior, indeed, assures us that *common monkeys* are found in the island of Johanna; but we know from other sources that the Cooro Islands abound in different species of lemuridæ,



88. - Teeth of Guenona

others by coming down upon the ground, others, in fine—and these were the greatest number—by jumping from one tree to another. Nothing could be more entertaining, when several of them jumped together on the same bough, than to see it bend under them, and the hindmost drop down to the ground, whilst the rest got farther on, and others were still suspended in the air. As this game was going on, I continued still to shoot at them; and though I killed no fewer than three-and-twenty in less than an hour, and within the space of twenty fathoms, yet not one of them screeched the whole time, notwithstanding that they united in companies, knit their brows, gnashed their teeth, and seemed as if they intended to attack me."

THE DIANA MONKEY.

(*Cercopithecus Diana*.) Le Roloway ou Palatine of Buffon; the Palatine and Spotted Monkey of Pennant and Shaw.

The top of the head, the back of the neck, the shoulders, sides, and middle of the body are of a deep grizzled ashy gray; the hairs being annulated with white and black, and white at the tips. This gray tint darkens into black on the hands; the tail is gray, becoming black at the extremity: a crescent-shaped line of long white hairs, surmounting a band of dusky black, and resembling Dian's silver bow, has suggested the animal's name. The sides of the face are covered with long bushy white hairs, which merge on the chin into a long, thin, flat, and pointed beard. The front of the neck and the anterior part of the humerus are white; the latter with an abrupt line of demarcation.

On the middle of the back commences a mark of deep chestnut, which gradually widens as it descends to the root of the tail, forming an elongated triangle with the base on the crupper. A line of white, beginning at the root of the tail, runs obliquely along the outer side of each thigh to the knee; the lower part of the abdomen and the inner side of the thighs are abruptly of an orange-yellow, orange-red, or bright rust colour. The face is

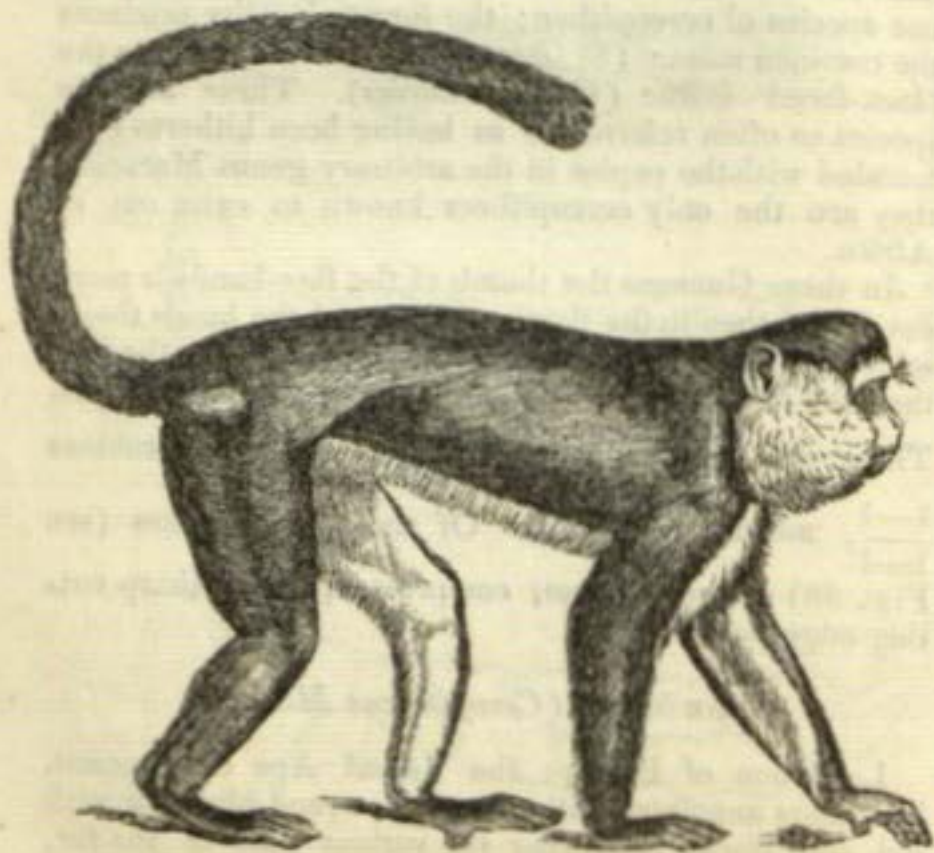
and it was probably from confounding the animals of these two kindred groups that the mistake originated. M. Desjardins again informs us that the *C. cynomolgus* is at present found wild in the Isle of France: but it is unquestionably a recent introduction, since we know that the species is an inhabitant of the island of Java; besides which, the old navigators assure us that there were originally no quadrupeds in the Mauritius, except rats and tortoises. The opposite shores of India, however, are inhabited by one, or perhaps two, species of cercopithecus. The common bonnet-monkey (*C. radiatus*) is found all along the coast of Malabar, from Bombay to Cape Comorin, if it be not replaced towards the south by the *C. pileatus*, a species not so frequently seen in collections, and of which the exact habitat has not been ascertained. Java and Sumatra, again, contain each one species of cercopithecus; the former locality produces the common macac (*C. cynomolgus*), and the latter the black-faced macac (*C. carbonarius*). These are the species so often referred to as having been hitherto confounded with the papios in the arbitrary genus *Macacus*; they are the only cercopithecus known to exist out of Africa.

In these Guenons the thumb of the fore-hands is more developed than in the Semnopithecus, and the hands themselves are shorter and have better pretensions to the title than the long slender graspers of their Asiatic relatives. The dental formula is as follows:—Incisors $\frac{4}{4}$, canines $\frac{1-1}{1-1}$, molars $\frac{5-5}{5-5} = 32$. Of these the canines (see Fig. 38) are very large, compressed, with a sharp cutting edge posteriorly.

THE MONA (*Ceropithecus Mona*).

La Mone of Buffon; the Varied Ape of Pennant. The hairs annulated with gray, yellow, and black, or with red and black, producing the various tints of the fur. Head of yellowish-olive colour; a black frontal stripe

above the eyebrows is surmounted by another of a whitish tint, more conspicuous in some individuals than in others; back chestnut brown; haunches and limbs externally dusky-black; tail black, with a white spot on each side of its origin on the crupper; under parts and inside of limbs white; whiskers very full, of a yellowish tint, slightly washed with black; skin of orbits and cheeks bluish-purple; lips flesh-coloured; ears and head of a livid flesh-colour; length of head and body 1 foot $8\frac{1}{2}$ inches; tail 1 foot 11 inches. The Mona is a native of Western Africa (Guinea), but of its manners in a state of nature little is known. It bears our climate better than most of its congeners: we have observed many adults in captivity, and always found them savage and irritable. (Fig. 39.)



39.—Mona.

The term Mone, or Mona, is of Arabic origin, and is the Moorish name for all long-tailed monkeys indiscriminately. From Northern Africa the term passed into Spain, Portugal, and Provence; nor has it stopped here: it is evidently the root of our word Monkey, which has exactly the same meaning, but which has been supposed to be a corruption of the word *monikin*, or *manikin*. To say no more, it seems going out of the way to seek in our own language for the name of a foreign animal, with which our Saxon forefathers, and indeed ourselves till at a comparatively late era, were unacquainted, and which, when imported, was imported with the name also by which it was known to the people from whom it was originally obtained.

THE GREEN MONKEY.

(*Cercopithecus Sabaeus*.) The St. Jago Monkey of Edwards; le Callitriche of Buffon; *Cerc. viridis* of Hermann.

The general colour of the upper parts is olive-green, the hairs being annulated with black and yellow: on the outer side of the limbs a grayish tint prevails; the hands and feet are gray; the under surface of the body and inside of the limbs are white with a faint tinge of yellow. The hairs on the side of the face are full and long, and directed up towards the ears, spreading in the manner of a frill; their colour, with that of the hairs of the throat, is bright but delicate yellow. The tail is olive-green above, passing into yellow at the tip; the face, ears, and palms are black. (Figs. 40, 41.)

The Green Monkey is a native of Senegal and the Cape de Verd Islands. It is most probable that this is the species to which Adanson refers, under the name of Singe Verte, as being abundant in the woods of Podor along the Niger; and of which we have added his account in a subsequent page.

In captivity the green monkey is alert, active, and intelligent, but spiteful and malicious. F. Cuvier, however, describes an adult which was good-tempered, gentle,



40.—Green Monkey.

and familiar, and expressed pleasure on being caressed : such exceptions are rare.

This species is very frequently seen in menageries and exhibitions of animals : it is restless, lively, and petulant at all times ; in youth full of gaiety and good-nature, but capricious, indocile, and full of malice in old age. It is one of the hardiest of the cercopithecæ, and bears the vicissitudes of our changeable climate better than most other species ; but, owing to its indocile and unfamiliar disposition, it is more admired for its colours and lively habits than for its social qualities. The individual described by M. F. Cuvier, though adult, was perfectly gentle and good-natured ; it was fond of being scratched and petted by its acquaintances, seldom got into a rage or attempted to bite, and expressed its pleasure or contentment by a low gentle kind of purring noise. Of the many specimens which we have ourselves observed in the gardens of the Zoological Society and other British

menageries, we do not remember to have heard any attempt to emit a sound; and, indeed, for that matter, we have uniformly remarked that the cercopithecus in general are more silent than the papios and cynocephals; in this, as in other respects, resembling the semnopithecus, which, like them, are seldom known to emit any kind of sound in confinement. In other respects, the different individuals which we have seen varied as much in character and disposition as so many human beings would have done; and this is universally the case with individuals of all species, not of monkeys alone, but of every other kind of animal. There can be no greater fallacy than that which is involved in the too common practice of deducing the character and disposition of entire species from the observation of single individuals, and that generally in unnatural circumstances, if not labouring under actual disease. The characters and dispositions of animals, as well as the features and expressions of their countenances, are as varied and as diversified as those of men; and if we fail to perceive the nicer shades of difference, it is not because they do not exist, but because we have not enjoyed sufficient opportunities for observation and experience. Who does not know that every dog, horse, or ox, besides the broad and general nature of his kind, has an individual and appropriate character of his own, and differs in his social and moral qualities from other individuals of the same species? The shepherd, it is well known, can tell every sheep in his flock by the expression of its face; and the Irishman was not forsworn who deposed to the identity of his stolen pigs, though slaughtered and scraped, from the peculiar expression of their countenances.

Of the habits and manners of the callitrix in a state of nature, our only knowledge is derived from the following interesting passage contained in Adanson's Travels in Senegal. After having previously informed us that the trees were filled with *green monkeys*, and thus identified the species to which he refers with that at present under consideration, he proceeds: "But what struck me most was the shooting of monkeys, which I enjoyed within six



41.—Green Monkey.

leagues this side of Podor, on the landes (downs?) to the south of Donai, otherwise called Coq; and I do not think there ever was better sport. The vessel being obliged to remain there one morning, I went on shore to divert myself with my gun. The place was very woody, and full of green monkeys, which I did not perceive but by their breaking the boughs and the tops of the trees, which they tumbled down on me; for in other respects they were so silent and nimble in their tricks that it would have been difficult to perceive them. Here I stopped and killed two or three of them before the others seemed to be much frightened; however, when they found themselves wounded, they began to look about for shelter, some by hiding themselves behind the larger boughs,

long and triangular, and, together with the ears, intensely black. Length of head and body, about 2 feet; of tail, 2 feet 4 inches. (Fig. 42.)



42.—Diana Monkeys.

This richly-coloured monkey is a native of Guinea, Congo, and Fernando Po. It is very rarely brought alive to Europe; nor indeed are its skins common in collections. We have observed only one specimen in the Paris museum, from the Gold Coast. Three specimens are in the collection of the Zoological Society, London. Of these, one died some years since in the menagerie of the Society: the other two were brought from Fernando Po. Of the habits of the Diana in its own forests we know nothing. While young in captivity it is gentle, active, familiar, and very playful: its frontal crest, and "beard of formal cut," give a singular aspect to its physiognomy. The latter it has been observed to be solicitous of keeping

neat and clean, holding it back when about to drink, lest it should dip into the fluid. Considering the range of country through which this species is spread, the scarcity of this monkey in the menageries and collections of Europe is rather surprising.

THE LESSER WHITE-NOSED MONKEY.

(*Cercopithecus Petaurista*.) Blanc-nez of Allamand ;
Ascagne of F. Cuvier and Audebert.

There are two distinct species of White-nosed monkey, both natives of the forests of Guinea : of these one is the Hocheur of Audebert, the Winking Monkey of Pennant, the *Cercopithecus nictitans* of Geoffroy. The general colour of the Hocheur is black, freckled with white ; the limbs are black ; the whiskers, of the general colour, are ample ; the chin is beardless ; the nose, which is broad and elevated, is white from between the eyes to the nostrils.

The Lesser White-nosed Monkey, or Blanc-nez (Fig. 43), has only the lower half of the nose white, but this colour extends to the adjacent part of the upper lip ; the face is covered with short black hairs, those on the cheek-bone having a fulvous tinge ; the whiskers and beard are white, as also the throat, chest, and abdomen. A streak of black hair runs from the face below the ear, and loses itself on the top of the shoulder ; and between this black line and the hairs of the head a conspicuous streak of white runs below the ears. The general colour of the back and head is reddish olive-brown ; the hairs being ringed with fulvous and black. A band across the forehead above the eyes, and a band traversing the top of the head from ear to ear, are black ; a gray tint prevails on the limbs, deepening to dusky black on the hands and feet. Tail dusky gray above, white beneath. Length of head and body, about 1 foot 4 or 5 inches ; of the tail, 1 foot 9 or 10 inches.

This species is common in Guinea, and is frequently brought to Europe, but does not well endure our uncongenial climate. It is gentle, graceful, and intelligent,



43.—The lesser White-nosed Monkey.

but not without a mixture of the caprice and petulance of its race. The lightness and agility of its actions, its playfulness, and beauty, certainly render it very attractive; but it dislikes to be taken hold of or interfered with: so that, though as docile as most monkeys, it becomes familiar only to a certain extent. A Blanc-nez in the possession of Allamand, though usually good-tempered and sportive, became angry if interrupted while feeding, and also when mockery was made of it. We have observed a sensitiveness to ridicule or mockery in other species, and a strong desire to resent the insult, which is evidently felt.

THE COLLARED WHITE-EYELID MONKEY.

(*Æthiops torquatus*.) *Cercocebus* Æthiops, Geoff.;
Cercopithecus Æthiops, Kuhl.

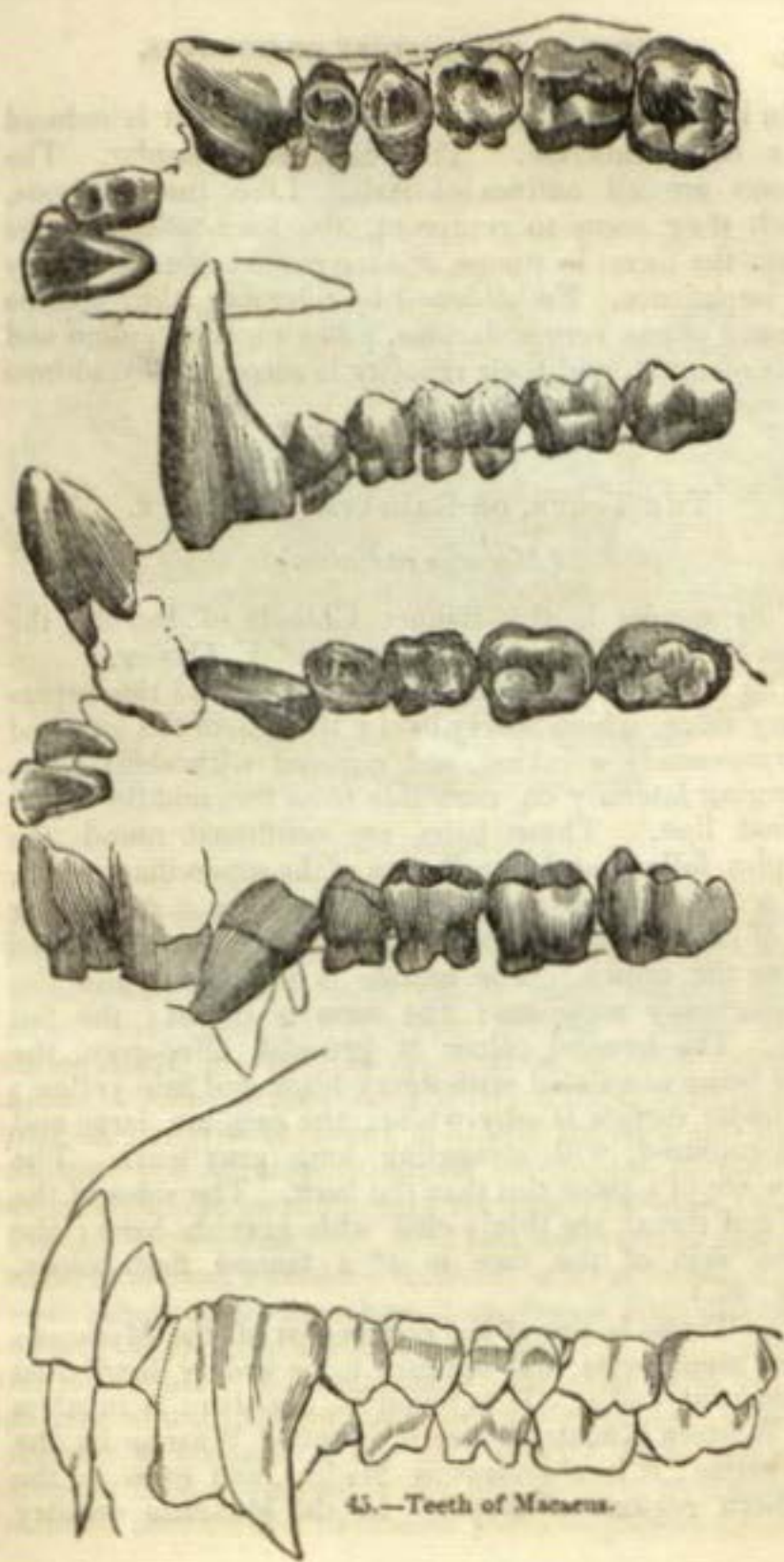
In Martin's 'Natural History of Quadrupeds,' p. 508, a subgenus termed Æthiops is there proposed for two,

if not three, closely-allied species (the White-eyelid Monkeys), which differ on tangible grounds from the Cercopithecæ, namely, in the presence of a fifth tubercle on the last molar of the lower jaw,* the magnitude of the upper middle incisors, and the hairs being destitute of annulations. For these monkeys, with other Guenons by no means closely allied to them, Geoffroy proposed his genus *Cercocebus*—a genus, the indeterminate characters of which, from the incongruity of the species thus brought together, was perceived by Desmarest, who, unwilling to sink it, endeavoured to reform it by the removal of some species and the addition of others: so that the genus as instituted by the one naturalist, and that remodelled by the other, were two different assemblages, and the characters of both equally vague and indefinite. It therefore seems best to sink the genus altogether, and place the White-eyelid Monkeys in a separate subgenus, to which the title *Æthiops* has been already applied.

The Collared White-eyelid Monkey (the Mangabey à Collier of Buffon and F. Cuvier), like the Sooty White-eyelid Monkey, is a native of Western Africa. The general colour is fuliginous or sooty-black, passing into black on the limbs and hands. The top of the head is chestnut-coloured; the whiskers, throat, and collar round the neck are white. The upper eyelids are conspicuously dead-white. (Fig. 44.)

The native habits of this monkey are not known: in captivity it is gentle, active, and familiar, and testifies by a sort of jabber and grin its recognition of those for whom it has a partiality. We have observed many individuals, and have found them to be among the most diverting of their race. They would play a number of amusing tricks in order to attract the attention of bystanders, and gain a share of the nuts and biscuits they saw dealt out to their companions; and they testified their gratitude by a quick vibratory movement of the lips, producing a jabbering noise. When offended their ill-temper was

* See 'Proceedings of Zoological Society,' London, 1838, p. 117.



45.—Teeth of Macacus.

again it is short and slender; and in others it is reduced to a mere tubercle. The ears are angular. The Macaci are all natives of Asia. Like the Guenons, which they seem to represent, the long-tailed species tenant the forest in troops, and are remarkable for activity and impudence. Emboldened by tolerance, they become in many places very audacious, pillaging the gardens and fields of grain, and their rapacity is seconded by address and cunning.

THE TOQUE, OR RADIATED MACAQUE.

(*Macacus radiatus.*)

This species is the Bonnet Chinois of Buffon; the *Simia Sinica* of Gmelin; the Toque of F. Cuvier.

The forehead is abruptly depressed behind the superciliary ridge, which is very bold; the skin of the forehead is transversely wrinkled, and covered with short hairs, diverging laterally on each side from the middle longitudinal line. These hairs are continued round the temples, following the projection of the superciliary ridge, and occupying the space before the ears. A circular cap of rather long hair radiating from the centre is seated flat on the crown. The muzzle is prominent, and the physiognomy malicious; the form is robust; the tail long. The general colour is greenish olive-gray, the hairs being annulated with dusky-black and pale yellow; the under surface is ashy-white; the ears are large and flesh-coloured, with straggling long gray hairs. The limbs are of a paler tint than the back. The sides of the face and throat are thinly clad with grayish hairs; the naked skin of the face is of a tanned flesh-colour. (Fig. 46.)

The Toque is one of the commonest of the Macaques in our menageries, and appears to be widely distributed throughout India. It is found in Malabar: it inhabits the Western Ghauts, where it is called Waanur by the Mahrattas: it is abundant in Madras, and even in the southern regions of Nepal. In the Mahratta country



46.—Toque.

portions of the mighty forest are, as Mr. Elliot states, left untouched by the axe or knife, forming an impervious shade for the growth of the black pepper, cardamom, and maripalm (*Caryota urens*). These parts, called kans, are the favourite resort of wild animals: here the Entellus abounds, and its loud and piercing cries may be frequently heard sounding through the dense foliage: the radiated Macaque, also, which is common over the whole country, may be seen in troops, tenanted the wildest jungles. It is not, however, confined to these woodland recesses: it lives, as if at home, in the most populous towns, where it carries off fruit and grain with the greatest coolness and address, and commits incessant petty depredations. The examples of this species which we have seen in captivity have been all remarkable for intelligence and activity, and equally so for petulance when young, and irascibility—even ferocity—when adult. We have seen them display every mark

of rage against persons who did not appear to give any definite offence. Numbers of these animals are kept in the Hindoo temples, where they are exceedingly jealous of intruders of any other species, which they drive forth from their asylum with the utmost hostility—a circumstance witnessed by M. de Maisompré in the enclosures of the pagodas of Cherinan.

No monkey affords greater amusement in menageries than the Toque; and the imperturbable gravity with which it accompanies all its actions is truly diverting. When young, it is sufficiently gentle and familiar, and may be instructed to perform every action that monkey genius is capable of aspiring to. It is indescribably droll to see these animals, when two or three of them are together, hugging and nursing each other, or kindly performing the office of combs, and searching through one another's fur, with the most laudable assiduity, for fleas and other vermin, which they take effectual means to prevent from giving further annoyance, in the mode equally adopted by the Hottentots, Esquimaux, and Australians, in similar circumstances,—namely, by forthwith eating them on the spot. Happy, no doubt, does the monkey consider himself whose good fortune it is to pounce upon a fine fat jumper, and he evidently devours it with the gusto of an accomplished gastronome. But the penchant of the Toque for nursing is not confined to its own species: when only one of these animals happens to be possessed by a menagerie, a kitten is very frequently given to it as a companion, and nothing can exceed the ridiculous caricature of humanity which it presents,—petting, nursing, and hugging the unfortunate kitten, at the imminent risk of choking it, with all the gravity and fondness that a little child will display in similar circumstances. Thus it will continue for hours together, to the manifest annoyance of the object of its solicitude, who, however, is in no condition to escape from the loving embrace, as the least attempt at resistance to the arbitrary will of the Toque is followed by prompt and sometimes severe punishment. We recollect in one instance witnessing a singular and laughable instance of this de-

scription. A Toque exhibited in a travelling caravan had a cat of considerable size to keep it company in its confinement. Puss, at the moment when our story commences, happening to feel somewhat drowsy, as cats will sometimes do, even in the presence of their betters, had retired to the back and quietest part of the cage, and composed herself to have a comfortable nap. Pug, however, was neither inclined to sleep himself, nor to let any one else do so within his range; he therefore selected a stiff straw, and amused himself by poking it up the cat's nose, which, after bearing this annoyance for some time with exemplary stoicism, at length lost all patience and gave her tormentor a smart scratch on the face with her not very velvet paw. This was more than the offended dignity of the monkey could brook: he seized the unfortunate culprit by the tail, and, flying like lightning to the top of the cage, there held her suspended between heaven and earth, like Mahomet's coffin, and with something worse than the sword of Damocles over her, whilst he inflicted upon her such a series of cuffs and pinches as no doubt warned her in future to be on her better behaviour.

But though, generally speaking, thus gentle and amusing in youth, the Toque is extremely irascible, and ever ready to take offence on the slightest occasion. This is particularly apparent when it is tantalized by offering and then withholding any species of food; and it is ludicrous upon such occasions to witness the serious anger which is depicted in its countenance, whilst it pouts with its lips, looks fixedly in your face, and mutters a low complaint, or suddenly darts out its hand and endeavours to scratch you. Even when not thus provoked, however, it is always precipitate in its actions, and snatches with hasty rudeness the food which is offered to it, never pausing to eat it at the moment, but stowing it away in its capacious cheek-pouches, and begging with pouting lips and outstretched arms for a further supply. So long as the visitors continue to give, it never refuses to receive; and it is only when the offerings are exhausted that it retires to a corner, and, emptying its

reservoirs with the assistance of the bent knuckles pressed upon the outside of the cheeks, devours their contents piecemeal, and is ready to fill them again from the liberality of the next comer.

When adult, the Toque becomes excessively sullen and morose, and the deeply sunk eyes, and projecting superorbital crests, give him an aspect of gloomy ferocity which accords but too truly with his natural disposition, and warns the visitor against attempting a familiarity which is not likely to be reciprocated.

We know little of the habits of the Toque in its wild state, if it be not the species mentioned by Buchanan in his admirable 'Journey through Mysore, Canara, and Malabar,' and which he describes as a great nuisance to the gardens and plantations of the natives. "The monkeys and squirrels," says he, "are very destructive, but it is reckoned criminal to kill either of them. They are under the immediate protection of the *dáséries*, who assemble round any person guilty of this offence, and allow him no rest until he bestows on the animal a funeral that will cost from one to two hundred fanams, according to the number of *dáséries* that have assembled. The proprietors of the gardens used formerly to hire a particular class of men, who took these animals in nets, and then by stealth conveyed them into the gardens of some distant village; but as the people there had recourse to the same means of getting rid of them, all parties have become tired of this practice. If any person freed the poor people by killing these mischievous vermin, they would think themselves bound in decency to make a clamour, but inwardly they would be very well pleased; and the government might easily accomplish it by hiring men whose consciences would not suffer by the action, and who might be repaid by a small tax on the proprietors."

THE BHUNDER, OR RHEBUS.

(*Macacus Rhesus*.) This is the Patas à queue courte of Buffon; the Maimon or Rhesus of F. Cuvier.

The general colour of the fur is olive-green, with a wash of brown on the back; the crupper and thighs externally orange-red; the face orange-red; the callosities, and naked skin around, intense red: the tail short. The skin of the throat and abdomen is loose, and usually hangs in folds. (Fig. 47.) The Bhunder is a native of



47.—Bhunder.

India, and is very abundant on the banks of the Ganges, being greatly revered by the Hindoos. It swarms not only in the woods, but in towns and villages, tenanted

the tops of the houses. It would appear from the account of Mr. Johnson, in his 'Indian Field Sports,' that in some places ample provision is made for the support of these animals. At Bindrabun, a town near the holy city of Muttra, more than a hundred gardens are cultivated and all kinds of fruit grown, at the expense of pious and wealthy natives, for their supply. Not content with remaining outside the houses, they boldly invade the rooms and steal everything that tempts them, such as bread, sugar, fruit, &c., ransacking every place in their search. To injure one is not only to bring down the vengeance of the whole host, but, what is more, of the besotted natives, as was experienced by two young officers who imprudently fired while on a sporting excursion at one of these monkeys. They were mounted on an elephant, and no sooner was the profane assault committed than the inhabitants of Bindrabun rose incensed to the highest degree: they pelted the gentlemen and the elephant with bricks and stones, and drove them into the river: the two officers and the driver were drowned; but the elephant landed about six miles lower down the river, and was saved. In the district of Cooch Bahar a large tract of country is considered by the natives as in part the property of these monkeys; and therefore, when they cut the grain, they leave a tenth part piled in heaps for these creatures, which come down from the hills and carry off their allotted tithes.

In captivity the Rhesus, or Bhunder, displays cunning and sagacity, but is at the same time obstinate, savage, and irascible. It is, however, one of the few species of the Simia tribe known to breed in confinement, and of the occurrence of an event of this kind M. F. Cuvier has given the following interesting account:—

"The young *rhesus*," says he, "of which I have here given a figure, was produced on the 18th of December, 1824, with all its senses perfectly developed. I could not exactly ascertain the period of gestation, but presume it to have been about seven months, which was about the period I had remarked in the instance of other

species. Immediately after being born, this young rhesus fixed itself to the belly of its mother, holding her firmly by the fur with its hands and feet, and applying its mouth to the nipple, which it never quitted for fifteen days, unless to change from one breast to the other, never altering its position during the whole of that time, sleeping when the mother was quiet, but never quitting its hold even when asleep. Thus passed the first fifteen days of its life, during which it made no movements, except those of its lips and tongue for the purpose of sucking, and of its eyes to see; for, from the first moment of its life, it appeared to distinguish objects and to regard them attentively: it followed with its eyes the different movements that were made around it, and nothing announced the necessity of touch to inform it, not only of the effort which would be required to reach a distant body, but of the greater or less distance of these bodies from itself.

"The care and attention of the mother, in everything relating to the nurture and preservation of her infant, were as devoted and as provident as can be well imagined. She could never hear a sound or observe a movement without having her attention excited and her solicitude roused for its protection; its weight never seemed to impede her movements, which she managed so adroitly, that, in spite of their complication and variety, its safety was never for a moment endangered. At the end of about fifteen days the little creature began to detach itself from its mother; and, from its very first attempt, displayed an address and a precision which could result neither from exercise nor experience, and which proved that all the theories which have been propounded, as to the absolute necessity of touch for exercising certain functions of sight, are illusory and unfounded. At first it fixed itself to the vertical bars of its cage, and climbed and descended them at will; but the mother's eye always followed it, and her hand was ever ready to support or assist it: after thus enjoying its liberty for a few seconds, it returned to its original position. At other times it would advance a few steps along the

bottom of the cage, and from its first attempts I have seen it voluntarily precipitate itself from top to bottom, and light with the utmost precision on its feet, then leap upon the bars and seize them with an exactness which at least equalled that of the mother herself. Presently the mother might be seen at times attempting to get rid of the trouble of nursing, though she never forgot her solicitude for the young one's safety, for no sooner did danger threaten than it was again pressed in her arms, and the burthen and the trouble equally forgotten.

“In proportion as its powers were developed, the leaps and gambols of this little creature became perfectly surprising. I took a pleasure in examining it during these moments of gaiety, and I may say that I never knew it to make a false movement or a false calculation, or fail to arrive with the utmost precision at the very spot it intended. From this observation I had an evident proof that a particular instinct guided it in judging of distances, and determining the degree of force necessary to accomplish a particular action. It is certain that, with the intelligence of man, this animal would have required numerous trials and multiplied attempts to accomplish what it here did perfectly well from the first, yet it was now scarcely a month old.

“It was only at the end of about six weeks that a more substantial nutriment than milk became necessary for the support of this young animal; and then it was that I observed a new fact in the intellectual nature of these creatures. This mother, formerly filled with such tenderness, and animated with such solicitude,—which supported her young one constantly at her breast, and exhibited so much maternal love and affection that one would have imagined her more likely to feed it from her own mouth,—yet would not permit it to touch the least morsel of food, deprived it of the fruit and other things given to it, drove it away whenever it approached the vessel containing their common provisions, and hastened to fill her cheek-pouches and hands that nothing might escape her. Nor could these actions be traced

to any other sentiment than pure gluttony; she could not have been desirous of compelling it to suck, for her milk was already dried up, nor could she have feared that the aliment would injure the young one, for it sought it of its own accord. Hunger, however, made this little creature extremely bold and adroit; the blows of the mother, which, indeed, were never very heavy, were disregarded; and, whatever care she took to drive it away and possess herself of the whole, it always contrived to steal a portion, which it retired to devour in the farthest corner of the cage, always taking care to turn its back to the mother,—a precaution by no means useless, since I have seen her more than once quit her own place, and go to the other end of the cage to take out of its very mouth the morsel it was eating. Except at meal-times, the mother never displayed these unnatural feelings, but attended to all the wants and actions of her offspring with the utmost care and affection. The little creature itself perfectly distinguished those who fed and caressed it, and showed no signs of malice, or any other character of the monkey, except in its vivacity and address."

THE WANDEROO.

(*Macacus Silenus*.) Ouanderou and Lowando, Buffon;
Lion-tailed Baboon, Pennant and Shaw.

The general colour of this species is black; the tail is of moderate length and tufted at the tip; the face is encircled by a mane of long hairs of a whitish or light ash colour, sometimes pure white; the face is black; the callosities flesh-coloured. (Fig. 48.)

This large and powerful Macaque is a native of Malabar and Ceylon. Knox, in his Historical Relation of Ceylon, evidently describes this animal. They are, he says, "as large as our English spaniel dogs, of a darkish gray colour, with black faces, and great white beards from ear to ear, which make them show just like old men. They do but little mischief, keeping in the woods, eating only leaves and buds of trees; but when they are

ought they will eat anything. This sort they call in their language Wanderows." (Fig. 49.)



49.—Wanderoo.

In captivity, judging from the specimens we have seen, the Wanderoo is surly and unsocial, and disposed to tyrannise over the other inmates of its compartment. Of its manners in a state of nature we have no detailed account.

GENUS *CYNOCEPHALUS*.

In the massive Baboons composing this genus we find the characters of the Macaques exaggerated, so to speak, to their ultimum, and consequently impressing us with an idea of disgradation in the scale; we recognise an approach in form and aspect to the Carnivora, and on reflection appreciate the distance to which we have receded from the Chimpanzee.

Of large stature and prodigious force, the Baboons, though never voluntarily assuming an erect attitude, are

to a great degree terrestrial, inhabiting rocky and mountain districts, rather than forests and woodlands. The head is heavy, not from cranial development, but from that of the face, which is prolonged and thick, resembling that of a mastiff, the muzzle being truncated, and the nostrils at its extremity.

The maxillary bones are more or less swollen, and the superciliary ridge beetles over the scowling eyes, giving an expression of brutal and revolting ferocity.

The neck and shoulders are voluminous, the chest is deep, and the great power and equal proportions of the limbs are favourable for quadrupedal movements. They climb trees with facility, but prefer craggy rocks and precipices, among which they dwell in security. In temper they are morose and daring, and their physical powers render them formidable. It is only during youth that they are tractable. They congregate in troops, and are bold and skilful in their predatory excursions.

To bulbous roots, berries, and grain, the Baboons add eggs, scorpions, and insects, as their diet; nor is it quite clear that they are not carnivorous as well as herbivorous. In domestication they relish cooked meat, and even devour raw flesh with avidity. They do not arrive at maturity till the seventh or eighth year of their age.

All the Baboons are African: one indeed, the Hamadryas, is found in the mountain districts of Arabia, as well as in those of Abyssinia, and was well known to the Egyptians.

THE CHACMA (*Cynocephalus porcarius*).

The Singe noir of Le Vaillant; the Choak-Kama of Kolbe;
Papio comatus, Geoffroy.

About the shoulders and neck the hairs are long and mane-like; the general colour is grizzled dusky black, with a tinge of olive-green; the face is black, with a hue of violet; the upper eyelids are white; the tail descends to the hock-joint, and is carried arched yet drooping down, as in Figs. 50 and 51. The male attains the size of a large mastiff, and is very formidable. Length of



50.—Chacma.

adult nearly 3 feet, exclusive of the tail, which measures about 27 inches. (Fig. 52.)

The term Chacma is a corruption of the Hottentot name T'chacamma for this species, which inhabits the rocky mountains throughout the colony of the Cape of Good Hope, where, in the remoter districts, it is very abundant, and well known to the farmers from the depredations it commits in their cultivated enclosures. In its mountain fastnesses it is safe from pursuit, and troops may be frequently seen on the overhanging rocks gazing at the traveller as he traverses the mountain passes.

An old male Chacma is more than a match for two large dogs; and the boors of the interior will rather venture their hounds upon a lion or panther than one of these animals. Yet to no animal do the dogs show a more inveterate hostility. Burchell states that on one occasion a small company of them, being chased by his

dogs, suddenly turned upon their canine foes and defended themselves most effectually. They killed one dog on the spot by biting it through the great blood-vessels of the neck, and disabled another by laying bare its ribs. Even the leopard, hyæna, or wild-dog is sometimes mastered by a troop; though the former, surprising individuals, destroys numbers.

The devotion of the females to their young is very great, and in their defence they are ready to brave every danger.

The food of the Chacma consists in a great measure of bulbous roots, particularly of the Babiana; and it is customary for the troops to descend from the precipices into the secluded valleys of rich alluvial soil where these plants luxuriate. When suddenly surprised, the cry of alarm is raised, and the troop ascend the rocky cliffs, often several hundred feet in perpendicular height, with surprising agility, the young clinging to their mothers, and the old males bringing up the rear. Besides bulbs and grain, they are fond of eggs, and greedily devour scorpions, which they seize, nipping off the sting with so rapid an action as to prevent the hands from being wounded. In captivity, while young, the Chacma is good-tempered and frolicsome, but as age advances it becomes savage and dangerous.

It is of an individual of this species that Le Vaillant, in his 'Premier Voyage dans l'Intérieur de l'Afrique,' has given so amusing and, in some instances, perhaps, so apocryphal an account, under the name of *Kees*. *Kees* was a young animal, and a deserved favourite with his master, whom he accompanied on his travels, amused by his tricks, and sometimes essentially served by his intelligence and sagacity. We must present our readers with a leaf or two out of the biography of *Kees*, in the words of the lively and entertaining French traveller, because, as far as we are aware, he has not been hitherto introduced to the English reader. "An animal," says M. Le Vaillant, "which often rendered me essential services, whose presence has frequently interrupted or banished from my memory the most bitter and



51.—Chaema.

harassing reflections, whose simple and touching affection even seemed on some occasions to anticipate my wishes, and whose playful tricks were a perfect antidote to *ennui*, was a monkey of the species so common at the Cape and so well known by the name of *bavian*. It was very familiar, and attached itself particularly to me. I conferred upon it the office of my taster-general; and when we met with any fruits or roots unknown to my Hottentots, never ventured to eat them till they had been presented to and pronounced upon by Kees: if he ate, we fed upon them with confidence and a good appetite; if he rejected them, we did so likewise. The baboon has this quality in particular, which distinguishes him from the lower animals, and approximates him more nearly to man; he has received from nature equal portions of curiosity and gluttony; without appetite, he tastes everything you give



44.—The Collared White-eyed Monkey.

transient, and they soon became reconciled to the object of their anger. In their gambols with other monkeys they were invariably good-natured.

GENUS MACACUS.

The distinctions between the genera *Macacus* and *Cercopithecus*, though in some points definite, are in others rather variations in degree than anything positive. In the Macaques, or Macaci, the body is stouter, the head larger in proportion, the limbs more muscular, and the tail shorter than in Guenons. The muzzle is heavy; the forehead is flattened behind a bold superciliary ridge; the callosities are large, and mostly surrounded by a naked space of skin. There are ample cheek-pouches, and Cuvier states that a laryngeal sac is always present. The last molar of the lower jaw has a fifth tubercle, and the molars are broad. (Fig. 45.) The tail is variable: in some it is of considerable length, and in these the general form approaches to that of the Guenons. In others



48.- Wanderoo.



52.—Chacma.

have considered as an act of great injustice. To pluck up the roots he resorted to a most ingenious method, which greatly amused me. Seizing the tuft of leaves with his teeth, he dug about and loosened the root with his fingers, and by then drawing his head gently backwards he commonly managed to extract it without breaking; but when this method failed, he would seize the tuft as before, and as close to the root as possible, and then, suddenly turning a summerset, he would throw himself head over heels, and the kameroo rarely failed to follow.

“ On these little expeditions, when he felt himself fatigued, it was most ludicrous to see him mounting upon

him; without necessity, he touches whatever comes in his way. But in Kees I valued a still more precious quality. He was my best and most trusty guardian; night or day, it mattered not, the most distant approach of danger roused him to instant watchfulness, and his cries and gestures invariably warned us of any unusual occurrence long before my dogs got scent of it. Indeed, these otherwise faithful guardians became so habituated to his voice, and depended so implicitly upon his instinct, that they became utterly careless of their own duty, and, instead of watching our encampment, went to sleep in full confidence; but no sooner had he given the alarm than the whole pack were up and on the alert, flying to defend the quarter from which his motions directed them to expect the threatened danger. . . . I often took him out with me on my hunting and shooting excursions; on the way he amused himself by climbing the trees in search of gum, of which he was passionately fond: sometimes he would discover the honey-combs which the wild bees deposit in the hollows of decayed trees; but when neither gum nor honey was to be found, and he began to be pressed by hunger, an exhibition of the most comic and amusing nature took place. In default of more dainty fare, he would search for roots, and above all for a particular kind which the Hottentots call *kameroo* (*babiana?*), which he greatly admired, and which, unfortunately for him, I had myself found so refreshing and agreeable that I often contested the possession of the prize with him. This put him upon his mettle, and developed all his talents for *ruse* and deception. When he discovered the *kameroo* at any distance from me, he commenced devouring it, without even waiting to peel it, according to his usual custom, his eyes all the while eagerly fixed upon my motions: and he generally managed matters so adroitly as to have finished the banquet before I reached him: occasionally, however, I would arrive rather too soon for him; he would then break the root and cram it into his cheek-pouches, from which I have often taken it without his displaying either malice or resentment at what he must

the back of one of my dogs, which he would thus compel to carry him for hours together. One of the pack, however, was more than a match for him, even at his own weapons, cunning and finesse. As soon as this animal found Kees upon his shoulders, instead of trying to shake him off or dispute the point, which he knew by experience to be useless, he would make a dead halt, and with great resignation and gravity stand as immoveable as a statue, whilst our whole train passed by and proceeded on their journey. Thus the two would continue, mutually trying to tire out one another's patience, till we were nearly out of sight. This had no effect upon the dog, who, to do him justice, possessed a most praiseworthy firmness of character, and an obstinacy which would have done honour to a logician; but with Kees it was a different matter: he saw the distance increasing without any better chance of overcoming his adversary's resolution than at first. Then commenced a most ludicrous and amusing scene. Kees would alight, and both follow the caravan at full speed; but the dog, always distrusting the finesse of the monkey, would adroitly allow him to pass on a little before him for fear of a surprise, running alongside and a little behind him all the way, and never for a moment taking his eye off him. In other respects he had gained a complete ascendant over the whole pack, which he undoubtedly owed to the superiority of his instinct, for among animals, as among men, cunning and address are frequently more than a match for physical force. It was only at meal-times, however, that Kees ever showed any ill-nature towards the dogs; but when any of them approached him on that important occasion, the administration of a sound box on the ear warned him to keep at a more respectful distance, and it is singular that none of the pack ever disputed the point or resented the affront.

“ A singularity in the conduct of this animal, which I have never been able to account for, was that, next to the serpent, he had the greatest dread of his own species — whether it was that he feared a partner in my affection for him, or that his domestication had impaired his

faculties for a life of freedom. Yet, notwithstanding his manifest terror at their appearance, he never heard the other baboons howling in the mountains without replying; but no sooner would they approach in answer to his voice, than he would fly, in great trepidation, and trembling in every limb, to the protection of his human companions. On such occasions it was difficult to restore him to his self-possession, and it was only after the lapse of a considerable time that he recovered his usual tranquillity. Like all monkeys, he was incorrigibly addicted to petty larceny, and, had he been an Englishman, would have been long since tried at the Old Bailey and transported to Botany Bay; but, being a free-born Africaner, for such is the name by which the Cape Colonists delight to be called, he committed his depredations with impunity, or only fled for an hour or two to the woods, to escape immediate chastisement, always, however, taking good care to return by nightfall. Never but on one occasion did he absent himself during the night. It was near dinner-time, and I had just prepared some fricasseed beans on my plate, when suddenly the cry of a bird which I had not before heard called off my attention, and I seized my gun and set off in pursuit of it. I had not been more than a quarter of an hour absent when I returned with my bird in my hand; but Kees and my dinner had both disappeared in the mean time, though I had severely chastised him for stealing my supper on the previous evening. I concluded, however, that, as usual, he would return on the approach of night, when he thought that the affair would be forgotten, and so thought no more of it; but for once I was mistaken in him; evening came without any appearance of Kees, nor had any of my Hottentots seen him on the following morning, and I began to fear that I had lost him for good. I really began seriously to feel the loss of his amusing qualities and watchfulness, when, on the third day after his disappearance, one of my people brought me the welcome intelligence that he had encountered him in the neighbouring wood, but that he concealed himself among the branches upon seeing that he was dis-

covered. I immediately proceeded to the place indicated, and, after beating for some time about the environs to no purpose, at length heard his voice, in the tone which he usually adopted when supplicating for a favour or a remission of punishment. Upon looking up, I perceived him, half hid behind a large branch, in a tree immediately above me, and from which in fact he had been watching our encampment ever since his departure; but all my persuasions could not prevail upon him to descend, and it was only by climbing the tree that I finally succeeded in securing him. He made no attempt to escape me, however, and his countenance exhibited a ludicrous mixture of joy at the meeting and fear of being punished for his misdeeds."

Kees, like many people of more rational pretensions, had his taste greatly perverted by civilization, and could drink off his glass of brandy with the *gusto* of an accomplished toper: but a trick of M. Le Vaillant effectually cured his addiction to the bottle, and rendered his after-life an example worthy of the most rigid "teetotaler;" it would have delighted the president of a Temperance Society, had such excellent institutions existed in his days. "On one occasion," continues his biographer, "I had resolved to reward my Hottentots for their good conduct; the pipe went merrily round, joy was pictured in every countenance, and the brandy-bottle was slowly circulating. Kees, all impatience for the arrival of his turn, followed it with his eyes, holding his plate ready for his allotted portion, for I had found that in drinking out of a glass his impatience generally caused some of the liquor to run up his nose, which greatly incommoded him, and kept him coughing and sneezing for hours afterwards. I was engaged at the moment in sealing a letter; he had just received his share of the brandy, and was stooping down to drink it, when I adroitly introduced a slip of lighted paper under his chin: the whole plate suddenly burst into flame, and the terrified animal, with a yell of indescribable horror, leaped backwards at least twelve or fifteen feet at a single bound, and continued, during the whole time the brandy

was burning, to chatter and gaze intently at a phenomenon which he no doubt considered of preternatural occurrence. He could never afterwards be prevailed upon to taste spirits of any kind, and the mere sight of a bottle was at all times sufficient to frighten and alarm him."

THE MANDRILL.

(*Cynocephalus Mormon*). Le Choras, Buffon; Mantegar, Bradley; Great Baboon, Pennant; Variegated Baboon, Lev. Mus.; Ribbed-nosed Baboon, Pennant; *Simia Mormon* and *Maimon*, Linn.

Adult male:—General colour olive-brown, passing into whitish in the under parts; a golden-yellow beard hangs from the chin; the hair of the forehead and temples converges to a peak; skin round the callosities red. The nostrils have a broad rim around them, at the extremity of the muzzle; the tail is short, and nearly hid by the fur. The cheek-bones are enormously swollen, rising like two ridges, and the skin is obliquely marked with deep furrows; its colour is a fine blue, with a tinge of scarlet in the furrows; a streak of brilliant vermilion, commencing on the beetling superciliary ridge, runs down the nose, and is diffused over the muzzle. Ears, palms, and soles, violet-black. In the female the cheeks are less swollen, and the scarlet is pale or wanting. In the young the cheeks are little if at all swollen, the furrows barely discernible, and the colour black. It is not until the fourth or fifth year, when the second dentition is fully complete, that the characters of maturity are assumed; and to this point there is a gradual progress, the bones of the face developing, the colour of the skin changing, the muzzle becoming broader and thicker, and the furrows more marked. (Fig. 53.)

This massive, powerful, and ferocious baboon is of huge size, and very dangerous. It is a native of Guinea and other parts of western Africa, where it is greatly dreaded by the natives, who assert that it frequently attempts to carry off women into the deep forests where



53.—Mandrill.

it resides, and occasionally succeeds. However this may be, certain it is that in captivity the appearance of a female will excite in the Mandrill unequivocal manifestations of brute passion, and any attention to her the most furious jealousy.

In its native forests the Mandrill associates in large troops, which are more than a match for the fiercest beasts of prey, and often make incursions into villages and cultivated fields, which they plunder with impunity. In their movements on the ground they are quadrupedal; but their activity is very great, and they leap and climb with the utmost facility. Their voice is deep and guttural, consisting of hoarse, abrupt tones, indicative of fury or malice. That the species is abundant in western Africa is proved by the numbers of young individuals

These have often been confounded with the young of the Mandrill; indeed, it is to Frederic Cuvier that we owe the recognition of the Drill as a distinct species, for the confused descriptions of Pennant afford us nothing tangible. In its wild state the Drill resembles the Mandrill as regards habits and manners; and travellers seem to have confounded the two species together, and even mixed up their history with that of the Chimpanzee.



54.—Drill.

AMERICAN MONKEYS (*Cebidæ*).

The American monkeys differ from the monkeys of the Old World in the following particulars:—The thumb of the fore-hands is never opposable to the fingers.

The dentation, excepting in the Marmozets, is as follows:—Incisors, $\frac{4}{4}$; canines, $\frac{1-1}{1-1}$; bicuspid molars, $\frac{3-3}{3-3}$; true molars, $\frac{3-3}{3-3} = 36$, instead of 32.

Callosities always wanting. Cheek-pouches always wanting. Nostrils lateral, with elevated margins, and separated from each other by a wide septum. Tail often prehensile, never wanting or rudimentary.

The American Monkeys, or *Cebidæ*, are exclusively confined to the warmer regions of the New World; so that, although the species are numerous, their extent of territory is far more limited than that occupied by the Old World monkeys. Their northward range is bounded (in the tenth or eleventh degree of latitude) by the Caribbean Sea; for they occur neither in the Caribbean group of islands, nor in Hayti, Cuba, or the Bahamas. Though found in the region south of the territory of Panama, they do not advance to Yucatan or Mexico. South of the line their range extends to the twenty-fourth or twenty-fifth degree of latitude, including Brazil, Peru east of the great chain of the Andes, and Paraguay. All are arboreal, frequenting the dense forests, which, as Humboldt observes, are so thick and uninterrupted on the plains of South America between the Orinoko and the Amazon, that, were it not for intervening rivers, the monkeys, almost the only inhabitants of these regions, might pass along the tops of the trees for several hundred miles together without touching the earth.

In South America monkeys are ordinarily killed as game by the natives for the sake of their flesh ; but the appearance of these animals is so revolting to Europeans, that it is only from necessity, and after custom has familiarised the sight, that they can force themselves to partake of such fare. The manner in which these animals are roasted also contributes to render their appearance disgusting. " A little grating or lattice of very hard wood is formed and raised a foot from the ground. The monkey is skinned and bent into a sitting posture, the head generally resting on the arms, which are meagre and long ; but sometimes these are crossed behind the back. When it is tied on the grating, a very clear fire is kindled below ; the monkey, enveloped in smoke and flame, is broiled and blackened at the same time. Roasted monkeys, particularly those that have a round head, display a hideous resemblance to a child ; the Europeans, therefore, who are obliged to feed on them, prefer separating the head and hands, and serve only the rest of the animal at their tables. The flesh of monkeys is so dry and lean, that M. Bonpland has preserved in his collection at Paris an arm and hand which had been broiled over the fire at Esmeralda, and no smell arises from them after a number of years."—Humboldt.

GENUS ATELES.

This genus, which includes the Spider-Monkeys, is characterised thus:—Head round ; face moderately developed ; limbs long and slender. Tail longer than the body, thick at the base, strongly prehensile, and naked for a considerable space beneath at its extremity. Forehands either destitute of an externally apparent thumb, or with the thumb a mere tubercle. Nostrils separated by a wide septum and obliquely oval. Ears moderate, naked, with reflected margins. Dentation as described. Fur long, crisp, or rather harsh, sometimes silky ; prevailing colour black.

In the slenderness of the limbs, and in the staid, quiet, and almost melancholy expression of the face, the Spider Monkeys remind us of the Gibbons; both are timid and gentle, with an air of listlessness, lost only under excitement.

From the length of the limbs and the remarkable flexibility of the joints, the motions of the Spider Monkeys on all fours on the ground seem to be crawling and indeterminate. They tread on the inner edge of the fore-paws, and to a great degree on the outer edge of the hind-paws, and endeavour to assist themselves by attaching the tail to every object as they proceed. They often, however, assume the erect attitude, and walk thus better than any other of the long-tailed monkeys. When proceeding in this manner the tail is raised up as high as the shoulders, and then bent downwards at its extremity, evidently acting as a balancer while the animal moves steadily along. The proper place of these monkeys is among the branches of the forests; there their movements are rapid, easy, and unconstrained; their progression is by a series of swinging evolutions, in the performance of which the limbs and tail take an equal share. The latter organ, the strength and prehensile powers of which are very great, enables them to assume the most varied attitudes. In ascending or descending trees, or in traversing the branches, it is in continual requisition; they coil it round branch after branch in their passage, turning it in various directions, and applying it with wonderful precision. They often suspend themselves exclusively by it, and, swinging until a sufficient impetus is gained, launch themselves to a distant branch, or, stretching out their arms, catch it as they vibrate towards it. The advantages of this additional instrument of prehension are palpable; its sense of touch is finger-like; and it is capable of seizing small objects with great address. They are said to introduce the extremity of the tail as a feeler into the fissures and hollows of trees, for the purpose of hooking out eggs or other substances.

THE CHAMECK (*Ateles subpentadactylus*).

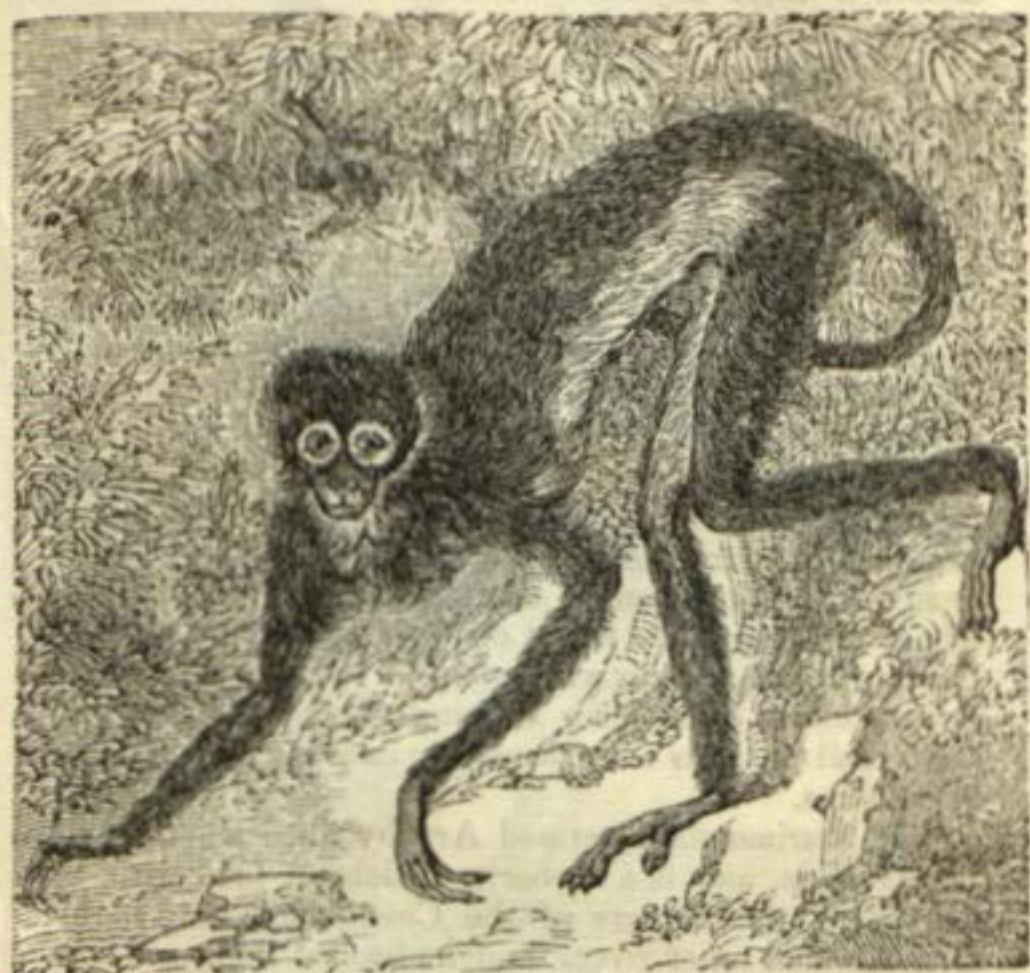
Fur long, flowing, glossy, and jet black. The fore-hands have a minute nailless tubercle in place of a thumb. The face and ears are naked, and of a red flesh-colour, with a tint of dusky brown. Length of head and body, about 20 inches: of the tail, 25 inches. Native country, Peru. (Fig. 55.)



55.—Chameek.

THE MARIMONDA (*Ateles Belzebuth*, Desm.).

Fur smooth and glossy; general colour brownish black, deeper on the hands and feet, but fading on the loins and sides of the haunches to a glossy grayish brown; the long hairs at the angle of the jaw, those of the throat, under parts, and inside of the limbs, dirty straw-colour or



56.—Marimonda.

yellowish white; a space along the under surface of the tail, at its base, rusty yellow; skin of the face blackish brown, becoming of a tanned flesh-colour about the lips and nose and around the eyes. Native country, the borders of the Orinoko, Cassiquiare, &c. (Fig. 56.)

THE COAITA (*Ateles paniscus*).

The Quatto of Vosmaer.

General colour black, the fur being long, coarse, and glossy; more scanty on the under parts of the body than on the upper: face and ears of a flesh-colour, with a tanned or coppery tinge. Neither in this nor the Mari-

monda is there any thumb on the fore-hands. Native country, Surinam and Guiana. (Fig. 57.)

In their general habits and manners these three species of Spider Monkeys agree so closely, that the details of one are applicable to the rest. In captivity the Chameck is grave and gentle, but displays extraordinary agility: its intelligence approaches that of the Gibbons. We have seen individuals repeatedly walk upright with great steadiness, cross their compartment to the window, and there gaze for a considerable time with an air amusingly like that of a human being, as if contemplating the state of the weather, the progress of vegetation, or the actions of persons passing by. At the same time the Chameck (and the same observation applies to the others) is not disposed to court the notice of the spectators around it, or invite the attention of strangers. Towards those by whom it is regularly fed it displays confidence and partiality. In its gambols with others of the genus it exhibits great address in avoiding or returning their sportive assaults, and executes with surpassing ease the most fantastic manœuvres.

The Marimonda is termed Aru by the Indians of the Rio Guiana, and is a favourite article of food with the natives of the borders of the Cassiquiare, the higher Orinoko, and other rivers, and its broiled limbs are commonly to be seen in their huts. It is listless and indolent in its habits, and is fond of basking in the warm rays of the sun. Humboldt states that he has frequently seen these animals, when exposed to the heat of a tropical sun, throw their heads backwards, turn their eyes upwards, bend their arms over their backs, and remain motionless in this extraordinary position for hours together. They traverse the branches leisurely, and unite in companies, forming the most grotesque groups, their attitudes announcing complete sloth.

In captivity the Marimonda is gentle, and exhibits nothing of the petulance of the Guenons or the violence of the Macaques. Its anger, when excited, is very transient, and announced by pursing up the lips and uttering a guttural cry, resembling ou-ô. Humboldt notices the



57.—Coaita.

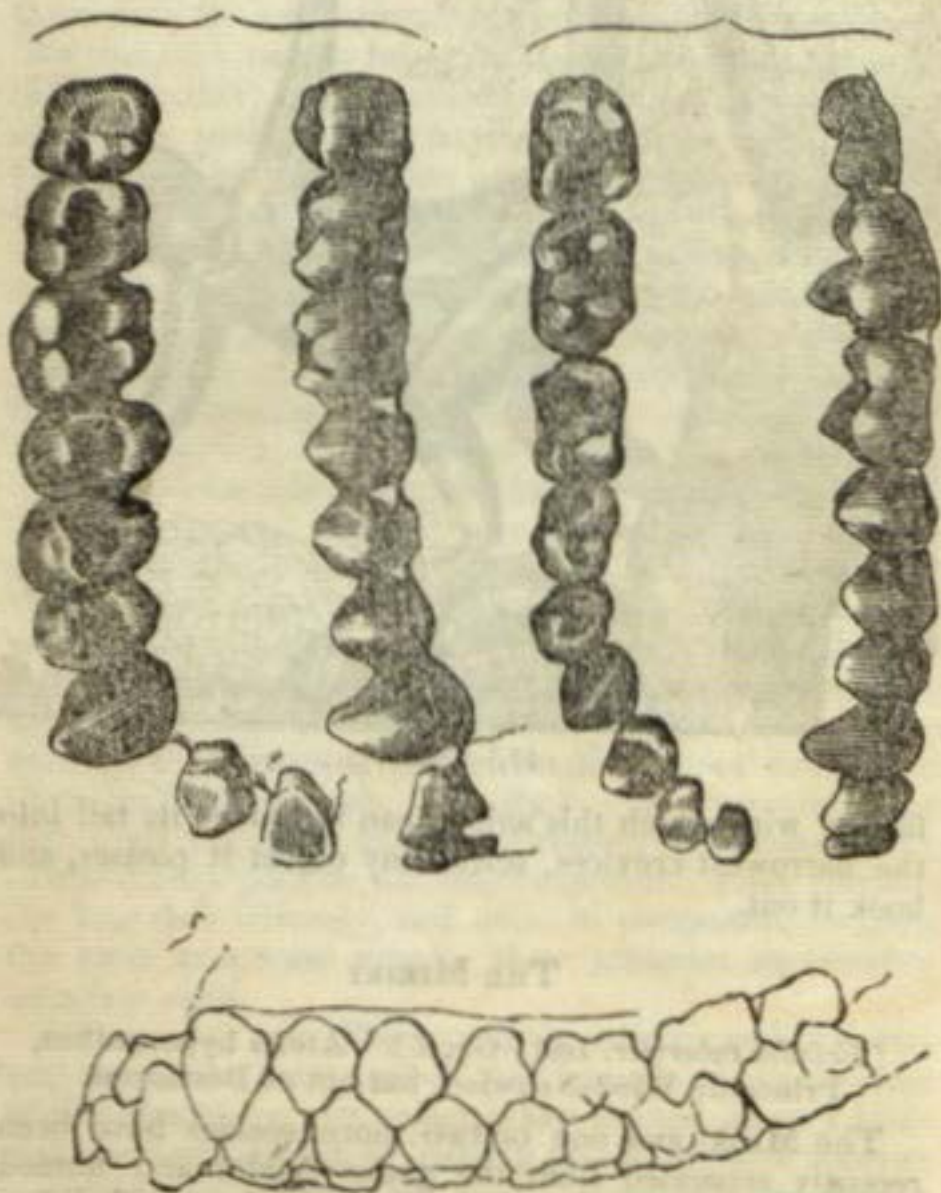
facility with which this animal can introduce its tail into the narrowest crevices, select any object it pleases, and hook it out.

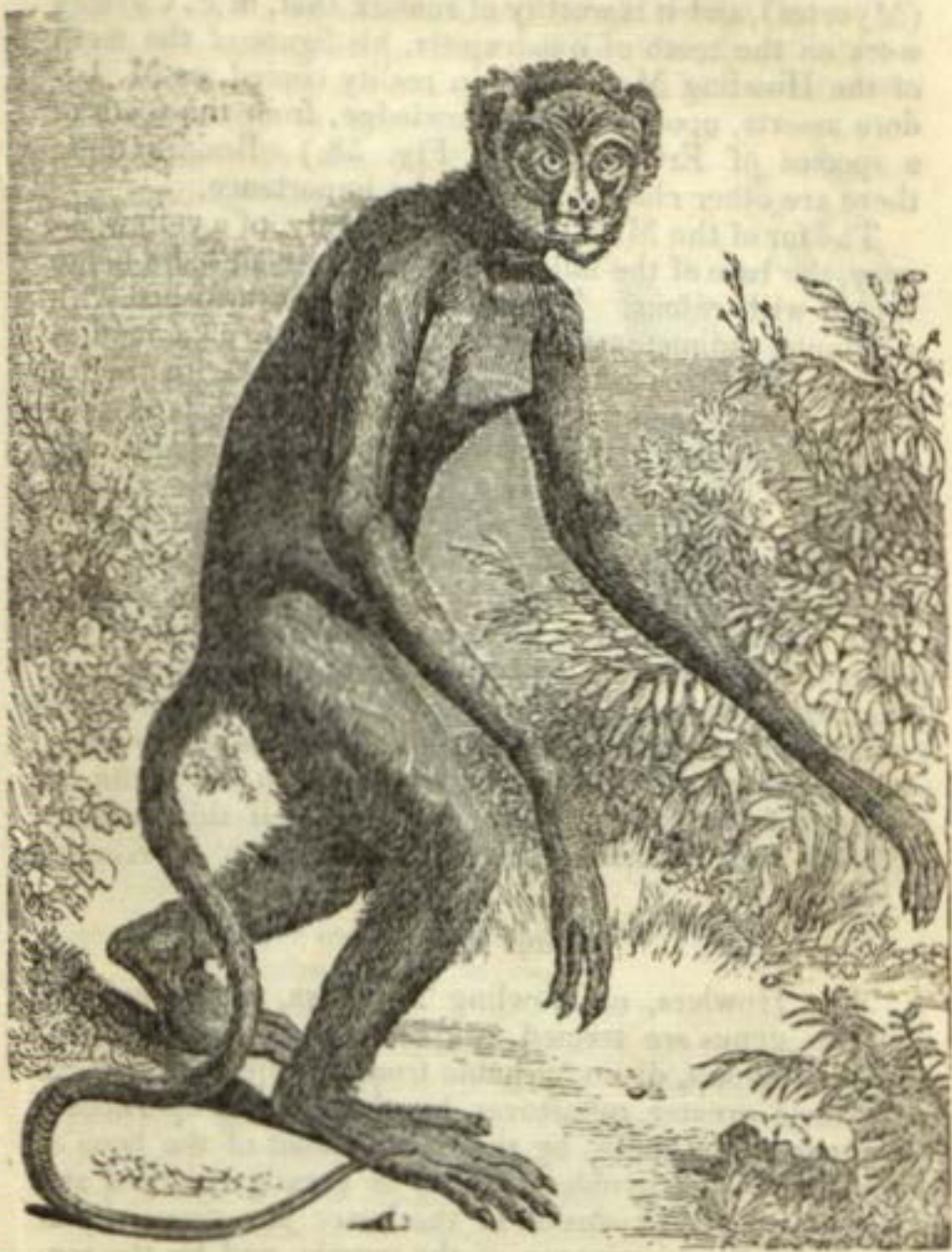
THE MIRIKI

(*Eriodes tuberifer*, Isid., Geoff.). *Ateles hypoxanthus*, Prince de Wied-Neuwied, but not of Desmarest.

The Miriki and one or two more species have been recently separated from the genus *Ateles* and formed into a distinct group. There are indeed several differ-

ences between these animals and the ordinary Spider Monkeys, which, if taken together, justify the adoption of the genus *Eriodes*. The nostrils are rounded, the interval between them is narrow, and their aspect is downwards, not lateral. The molar teeth, instead of being small, are large and quadrangular, and the crown of the first two molars of the upper jaw is boldly and irregularly tuberculate; the incisors are small. The

58.—Teeth of *Eriodes*.



59.—Miriki.

dentation in fact approaches close to that of the Howlers (*Mycetes*), and it is worthy of remark that, in F. Cuvier's work on the teeth of quadrupeds, his figure of the teeth of the Howling Monkeys is in reality copied, as M. Isidore asserts, upon his own knowledge, from the teeth of a species of *Eriodes*. (See Fig. 58.) Besides these there are other characters of minor importance.

The fur of the Miriki is soft and woolly, of a yellowish-gray, the base of the tail and the circumjacent hairs being tinged with rufous. The fore-hands are furnished with a minute rudimentary thumb, in the form of a nailless tubercle; the face is flesh-coloured, sprinkled with grayish hairs. Native country, Brazil. The Miriki in its general habits agrees with the Spider Monkeys. It lives associated in troops in the vast forests, and displays great agility. Fruits form its principal diet. The Prince of Wied-Neuwied states that the Miriki seldom approaches the abodes of man, keeping to the depths of the woods; Spix also states that it lives in troops, which make the air resound with their loud cries incessantly uttered during the day. At the sight of the hunter they ascend with extraordinary rapidity the topmost branches of the trees, and, passing from one to another, are soon lost in the recesses of the forest. The Brazilians call this monkey Miriki and Mouriki; the Botacudas term it Koupo. (Fig. 59.)

GENUS MYCETES.

The Howlers, or Howling Monkeys, as the animals of this genus are termed, constitute a natural and well-marked group, distinguishable from the Spider Monkeys by their greater robustness, by the more proportionate contour of the limbs, by the development of the bone of the tongue (*os hyoides*), which is greatly enlarged and hollow, by the expansion of the lower jaw, especially at its angle, the prominence of the muzzle, and by the possession of a thumb (not opposable) on the fore-hands. The form of the head is pyramidal; the fur of the forehead is directed upwards, that of the rest of the head forwards; on the external surface of the fore-arms it is directed from

the wrist to the elbow; the under parts of the body are almost naked; on the back and shoulders the fur is full, long, soft, and glossy. The tail is strongly prehensile, and naked at its extremity beneath. The hollow drum formed by the os hyoides communicates with the interior of the cartilaginous expansion of the larynx (Fig. 60), in which are several membranous valvular pouches. This apparatus gives to the voice extraordinary volume and intonation. The howlings uttered by the troops of these monkeys are astounding, and usually heard in the morning, at sunset, and during the darkness of night. Shrouded amidst the gloomy foliage of the woods, they raise their horrid chorus, "making night hideous," and startling the traveller who for the first time hears it. It is not, however, only during the night or at daybreak and evening that the Howlers exert their voices: they are affected by electric changes in the condition of the atmosphere, and when, during the day, the gloomy sky fortells the approach of a thunderstorm, their dissonant yells resound through the gloomy woodlands. The range of the Howlers is from Guiana to Paraguay. According to Spix and Humboldt, they subsist principally upon fruits and leaves. The females produce one at a birth, and the mother carries her young clinging to her back until old enough to act for itself. In their disposition the Howlers are melancholy and morose; their movements are tardy and inert; on the ground they never attempt to walk on the hinder limbs alone. When pursued or alarmed, they retire slowly and take refuge in the highest



60.—Drum of Howling
Monkey.

branches of the trees, to which, if shot with a bullet or arrow, they often remain suspended by the tail when life is extinct. As they are of large size and fatter than other monkeys, they are in great request with the Indians as food ; but are seldom or never kept in confinement, having nothing pleasing in their manners, voice, or appearance.

THE ARAGUATO, OR URSINE HOWLER

(*Myectes ursinus*).

Araguato de Caracas of Humboldt. The extent of the face destitute of hair is more circumscribed than in most of the genus, and is of a bluish-black colour, with long scattered black bristles on the lips and chin. The chest and abdomen are well clothed with hair. The fur is long, resembling that of a young bear. The general colour is golden rufous, paler round the sides of the face,



61.—Araguato.

but deeper on the beard. In the figure of this species given in Humboldt's work, the hair of the head is represented as all directed backwards from the forehead to the back of the neck; we hesitate not to say, by a mistake of the artist. Native country, Brazil, Venezuela, &c. (Figs. 61, 62.)



62.—Araguato.

It was after landing at Cumana, in the province of New Andalusia, that Humboldt and Bonpland first met the Araguato, while on an excursion to the mountains of

Cocollar and the cavern of Guacharo. The convent of Caripé is there situated in a valley, the plain of which is elevated more than 400 toises above the level of the ocean; and though the centigrade thermometer often descends during the night to 17 degrees, the surrounding forests abound with Howlers, whose mournful cries, uttered when the sky is overcast, or threatens rain or lightning, are heard at the distance of half a league. The Araguato was also met with in the valleys of Aragua to the west of Caracas, in the Llanos of the Apuré and of the Lower Orinoco, and in the Carib missions of the province of New Barcelona, where stagnant waters were overshadowed by the Sagoutier of America, a species of palm with scale-covered fruit and flabelliform leaves, among which it dwells in troops. South of the cataracts of the Orinoco it becomes very rare. Of all the gregarious monkeys the Araguato was observed in the greatest abundance; on the borders of the Apuré Humboldt often counted 40 in one tree, and in some parts of the country he affirms that more than 2000 existed in a square mile. They travel in the forests in long files, consisting of 20 or 30 individuals or more, and proceed with deliberation. An old male usually leads the troop, the rest follow his movements, and when he swings from one branch to another, the whole file one by one perform in "order due" the same action on the same spot. In other species also this habit has been observed. According to Waterton, the Araguato is very partial to the seeds of the vanilla, a creeper which ascends the trees to the height of forty or fifty feet.

GENUS CEBUS.

The Sapajous, as the animals of this genus are termed, are prehensile-tailed, but the tail is everywhere clothed with fur, so that, though capable of grasping, and naturally curled round at its extremity when not in use, as in the Spider Monkeys and Howlers, it is not, as in these latter animals, an organ of tact, nor so powerful a grasper.

The monkeys of this genus are all diurnal in their habits and for the most part of small size. The French call them Sapajous, Sajous, Saïs, and Capucins: they are also called Weepers (*Singes pleureurs*), from the plaintive piping noise which many of them utter. Humboldt states that the Creoles of South America call them "Matchi," confounding under this denomination very distinct species. In temper and disposition the Cebi are lively and docile; they show great attachment to some persons, and a capricious aversion to others. They are intelligent, mischievous, and inquisitive. Their activity and address are surprising; in their native forests they live in troops, feeding on fruits, grain, insects, and eggs. So amusing are they in their gambols, that even the apathetic natives will stop their canoes and watch their frolics with interest. They are, from their liveliness and docility, great favourites, and often kept domesticated, but their amusing habits do not protect them from the poisoned arrows of the Indians.

The head is round, the muzzle short, and limbs the well proportioned. The dentation as usual: the incisors of the upper jaw are larger than those of the lower; the canines are often strong and large; the molars are rather small. The ears are rounded. The species are very numerous, and involved in much confusion.

THE HORNED SAJOU

(*Cebus Fatuellus*, Linn.). Sajou cornu, F. Cuvier
(not of Buffon).

The general colour of the fur is brown, deepening to an almost black tint on the top of the head, on the middle of the back, and on the legs, hands, feet, and tail. A bandeau of hair rises on the forehead, the extremities of which are elevated in the form of egrets, or pencil-like tufts: these tufts are less conspicuous in the female. The sides of the face are garnished with white hairs. All the naked parts, and the skin under the fur, are violet-coloured. Native country, Brazil: it is found in the provinces of Rio Janeiro. It is not until maturity

that the horns or frontal tufts are acquired. In captivity the horned Sajou is lively and amusing, active and good-tempered. Its habits in a state of nature are not detailed. (Fig. 63.)



63.—Horned Sajou.

THE YELLOW-BREASTED SAJOU

(*Cebus zanthosternos*, Prince Maxim., Kuhl, Desmar) Saï à grosse tête, *Cebus monachus*, F. Cuv.; *C. zanthocephalus*, Spix.

This is one of the species which has been in confusion, but from which, we trust, it is extricated. The head is large, the forehead broad and covered with very short hair; the limbs are robust, the tail thick: in size this species is superior to the Horned Sajou. The forehead and anterior part of the head, and the hairs of the cheeks, which are full on the malar bones are yellowish white;



64.—Yellow-breasted Sajou.

a dusky line, commencing before the ears, encircles the face; the chest, the shoulders, and the anterior part of the humerus, are orange-yellow; the fore-arms, the legs, the anterior portion of the back, and the tail, are black; the sides of the body and the haunches are reddish brown; the abdomen rich rufous chestnut. The depth of the tints varies with age; the fore-arms and legs are often freckled with rufous, and the tail grizzled with yellowish-white, especially at its base and underneath. (Fig. 64.)

This species inhabit the woods of Rio Janeiro and St. Paul. We have seen a fine specimen from Bahia, Brazil. It is a young male which F. Cuvier figures as the *Sai à grosse tête*. He adds also the scientific appellation *Monachus*, which having been already given to a very distinct monkey (*Cebus monachus*, Fischer; *Pithecia monachus*, Geoffroy), cannot be retained without confusion. According to Spix, the Yellow-breasted Sajou associates in large troops, which often visit the fields of maize, where they commit great depredations. In captivity it is gentle, mild, and confiding; and though timid, foud of being noticed by those to whom it is familiarized.

THE BROWN SAJOU

(*Cebus Apella*). Sajou, Buffon.

Head round: colouring variable both as to intensity and markings. The following details are taken from specimens we have rigorously examined:—Hair of the temples short, scanty, and directed upwards. On the top of the head the hair is moderately long, and forms a cap with an anterior slightly elevated marginal ridge advancing from the centre of the forehead along the sides of the head, so as produce a somewhat triangular figure; face covered with short dusky hair, that about the lips white; ears large and nearly naked. From the black cap on the top of the head a blackish line extends down before the ears and spreads over the beard-like hairs of the throat. The outer surface of the humerus is grayish, but a black line from behind the ears sweeps over the

shoulder and runs along the anterior margin of the humerus to the fore-arm, which is black, grizzled with brownish-gray. The general colour is brownish-black, passing into black on the middle of the dorsal line, on the haunches, tail, thighs, and legs: the fur is glossy. Another specimen has the sides of the body and outside of the thighs of a glossy pale chestnut brown, and the temples yellowish gray, washed in the middle with black. The *Cebus Apella* is the Capucin Monkey of Pennant and Shaw, but not the *Simia Capucina* of Linnæus, which is the Saï of Buffon, the Weeper Monkey of Pennant and Shaw. (Fig. 65.)



65.—Brown Sajou.

The Brown Sajou is a native of Guiana, and is plentifully brought over by vessels trading to the coast, so that it is common in our menageries. Its liveliness and activity are remarkable, and it bears our climate well. There are several instances of its having produced young in France, and each time a single offspring, to which

both parents were strongly attached. In disposition the Brown Sajou is good-tempered, but capricious. It is very intelligent and amusing. A male which was living a few years since in the gardens of the Zoological Society would employ a stone for the purpose of breaking nuts too hard to be crushed by the teeth, or if no stone were at hand he would strike them forcibly against any hard surface, so as to split the shell: we have seen other sajous do the same. This species is continually in the habit of making grimaces; it grins, wrinkling up the face in a very singular manner: its ordinary cry is plaintive, but when in anger the voice is shrill and elevated. In climbing the tail is in constant requisition as a grasper. Though fruits and other vegetable productions constitute the diet of this species in its native forests, they are not exclusively so; insects are highly relished, and there is reason to believe that eggs and young birds are also acceptable. A linnet, which by way of experiment was introduced into a cage where two of these monkeys were confined, was instantly caught by the strongest of them, and killed and eaten with scarcely even the ceremony of stripping off the feathers.

GENUS PITHECIA.

The monkeys of this genus are termed Saki by the French. The tail is not in the slightest degree prehensile: it is shorter than the body, and generally bushy. The head is round, the muzzle moderately prominent. In the lower jaw the incisors project almost as in the Lemur, being compressed, narrowing at the points, and are closely compacted together; the upper incisors are nearly vertical and square, differing greatly in appearance from those of the lower jaw. The canines are large, strong, and three-sided. The molars bluntly tuberculate.

The Sakis, or Fox-tailed monkeys, live either in pairs or small troops of ten or twelve, and are usually seen on the outskirts of forests bordering rivers. They are to a certain degree nocturnal in their habits: some

indeed have been considered decidedly so, but it would appear that, like the Howlers, they are the most animated just before sunrise and after sunset, at which times they utter their loud cries in concert. All are active and vigilant, and not easy to be surprised or captured.

THE CACAJO (*Pithecia melanocephala*)

This monkey is also called in America Caruiri. The body is rather robust, but elongated; the head is ovate, oblong, and depressed on the crown; the ears have a backward situation; the tail is short, and ends abruptly. The face is black, as are also the ears; the head is covered with full long black hairs, directed from the



66.—Cacajao.

occiput forwards to the forehead, where they become parted in the centre. The hairs of the back are long, and of a brownish yellow: this colour passes on the thighs and tail into a brighter or ferruginous tint. The fore-arms and legs are black or blackish. The chin is beardless, and the nose short, broad, and flat. Native country, the borders of the Cassiquiare and Rio Negro; and in Brazil, those of the rivers Solimoëns and Ica. (Fig. 66.)

The present Saki is described by Humboldt, and is doubtless identical with one also described and figured by Spix, which he terms Ouakary, and which he found in the forests between the rivers Solimoëns and Ica (Brazil). He states that these monkeys congregate in troops, frequenting the margins of large streams; and that during their journeys from one part of the forest to another they fill the air with their piercing and disagreeable cries. Humboldt informs us that the Cacajo, or Cacao, as it is called by the Maratitan Indians of the Rio Negro, is not common in the territories which he investigated, for he only saw one individual, which he bought, in an Indian cabin at San Francisco Solano; and from which, after death, he took an accurate drawing. It was young, but he was assured by the Indians of Esmeralda, that though it attains to a considerable size, its tail is not sensibly augmented in length. According to the information obtained by Humboldt, the Cacajao inhabits the forests which border the Cassiquiare and Rio Negro, associating in troops: when kept in confinement it is voracious and listless, but gentle and timid, even shrinking from the society of other small monkeys. Baron Humboldt's specimen trembled violently at the sight of a crocodile or serpent. When irritated it opens its mouth in a strange manner, and its countenance becomes distorted by a convulsive sort of laugh.

From the length and slenderness of its fingers, it grasps anything awkwardly, and when about to seize an object bends its back and extends its two arms, at the same time assuming a singular attitude. It eats all sorts of fruits—the most acid, as well as the sweetest. It is

termed Caruiri by the Cabres of the mission of San Fernando, near the junction of the Orinoco, the Atabapo, and the Guaviare; Mono feo (hideous monkey), and Chucuto, or Mono rabon (short-tailed monkey), by the Spanish Missionaries of the Cassiquiare.

THE COUXIO, OR JACKETED MONKEY

(*Pithecia sagulata*, Traill, in 'Mem. Wern. Soc.' iii.).

The confusion in which this species has been involved is very remarkable. The following are its synonyms:—*Cebus sagulatus*, Fisch; *Cebus Satanas*, Hoffmans.; *Pithecia Satanas*, Kuhl and Geoffr.; *Simia chiropotes*, Humboldt; *Pithecia chiropotes*, Geoffr., Kuhl, Desm.; *Brachyurus Israëlita*, Spix.

Head, limbs, and tail black,—the general tint of the back and top of the shoulders is grizzled rusty-brown or brownish-gray, differing in depth in different individuals. The hairs of the body are pale at the roots, sometimes indeed nearly white. The under parts are scantily clad. The hair of the head radiates from a point on the occiput, and on the sides of the forehead forms two conspicuous elevated tufts, with a depression between them. These tufts fold over and conceal the ears, which are black and naked. The face is black and furnished at its sides with full bushy whiskers which meet under the chin, forming an enormous glossy-black beard, directed obliquely forwards, and which gives a peculiar aspect to the physiognomy. The teeth are large,—the canines formidable. The head is large and rounded, and the nostrils very widely separated from each other. On the outer side of the fore-arms the hairs are reverted. Native country, Guiana and the borders of Rio Negro, &c. (Figs. 67, 68.) Of the four distinct specific appellations (viz. *Sagulata*, *Satanas*, *Chiropotes*, and *Israëlita*), which we regard as belonging all to one animal, that of *Sagulata* claims the preference, being the name under which the species was first described by Traill. Baron Humboldt, who erroneously regards the *Satanas* of Hoffmanseg (which he calls *Couxio de Grand*



67.—Couxio.

Para) and his Chiropotes (which he terms Capucin de l'Orénoque) as distinct, thus describes the latter (a description applicable to each variety, under whatever name it may stand in the works of naturalists):—The Capucin de l'Orénoque (Couxio, *P. sagulata*) is robust, agile, wild, and very difficult to tame. When irritated, it raises itself up, grinds its teeth, rubs the extremity of its beard, and leaps around the object of its revenge. In these accessions of fury, Humboldt says that he has seen it drive its teeth into thick boards of the *Cedrela odorata*. It drinks but rarely, and takes the water in the hollow of its hand, which it carries carefully to the mouth, so as to avoid wetting its beard. If aware that it is observed, it does not perform this singular action.

Sir Rt. Ker Porter (see 'Proc. Zool. Soc.' London, 1834, p. 41), in a description of the *P. sagulata*, distinctly states that the animal drinks frequently, bending down and putting its mouth to the water, apparently heedless of wetting its beard, and indifferent to the observation of lookers-on. He never saw it take the water in the hollow of the hand, as described by Humboldt. Yet that is what was observed by the latter we cannot doubt; in our menageries, however, it drinks in the ordinary way of other monkeys. According to Humboldt, the Capucin de l'Orénoque does not associate in troops; a male and female in company wander by themselves through the forests, where their cry may be heard. In the vast wilds of the Upper Orinoco, south and east of the cataracts, this monkey is common, and the Aturian Indians, as well as those of Esmeralda, eat many of these animals at certain seasons of the year. In other parts of Guiana it seems to be much more rare.

The individuals which we have seen in captivity have all displayed a morose and savage temper on the slightest



68.—Couxio.

provocation they would menace the offender with their teeth, wrinkling up the skin of their face and displaying their immense canines, their eyes at the same time gleaming with fury. Towards other monkeys they were reserved, and disliked to be intruded upon.

THE YARKE', OR WHITE-HEADED SAKI

(*Pithecia leucocephala*).

The male and female of this species differ so much, that it is not surprising that they should have been described as distinct species. The synonyms are as follows:—**MALE**—*P. leucocephala*, Geoffr., Desm.; Saki, Buffon; Yarquè, Buff., 'Supp.'; Yarké, F. Cuv.; *P. ochrocephala*, Kuhl. **FEMALE**—*P. rufiventer*, Geoffr., Desm., Kuhl, &c.; *P. rufibarbata*, Kuhl; *P. capillamentosa*, Spix; *S. Pithecia*, Linn.; Singe de nuit, Buff.; Fox-tailed Monkey, Pennant.

Male.—The whole of the anterior part of the head covered with short close hairs of a white or rusty-white tint varying in depth; occiput jet-black, whence a narrow line is continued over the head to the nose; fur of the body and tail very long, rather harsh, and of a brown colour, more or less inclined to black; under part of chin and throat naked and of an orange tint; abdomen also nearly naked; tail bushy; on the shoulders the long flowing hair has a tendency to divide.

Female.—The hairs of the head, excepting on the anterior part of the forehead, instead of being short, close, and stiff, are long, like those of the body, and radiate forwards and laterally. Between the eyes is a patch of short pale hairs. The fur of the body is long, of a dark or blackish brown tint, freckled paler, the hairs being annulated once or twice at the top with pale rusty-brown. In the male there is no annulation of the hairs. The scanty hairs of under parts are pale rusty-red. The long radiating hair of the head is of the same colour as that of the rest in the upper parts. In Fig. 69, which is that of the female, it is represented too pale. Till recently, the female of the present Saki has been regarded

brought from time to time to Europe; these, however, very rarely attain to maturity, the period of dentition, which is accompanied by such marked changes, being peculiarly critical. In captivity this baboon is ferocious and malevolent; one in the possession of Mr. Wombwell killed a monkey, a beagle, and a Java sparrow, which by accident came within his reach. A splendid specimen died some years ago in Mr. Cross's menagerie. He was accustomed to smoke, and to drink porter, which latter he quaffed with an amusing air of gravity, holding the mug with great address while seated in his arm-chair. His temper was violent in the extreme, and the slightest offence roused him to fury: his appearance was then terrible, and well calculated to alarm the boldest; nor could any man, without weapons, have had any chance in a contest.

THE DRILL (*Cynocephalus leucophus*).

The Drill is a native of Guinea. The head is large; the muzzle thick, with elevated maxillary protuberances, which, however, are not furrowed. The general contour is robust. The tail is very short, and carried erect. The general colour is greenish olive above, ashy white beneath; the beard is short and orange-coloured; the face and ears are glossy black; the palms copper-coloured. The female is smaller, with a shorter muzzle and paler tint of colouring. The young males resemble the female till their second dentition is complete. It would appear that the Wood Baboon, the Cinereous Baboon, and the Yellow Baboon of Pennant, are the young of the Drill at different stages of growth. (Fig. 54.)

The Drill approaches the Mandrill in size; and though gentle when young, becomes when adult as sullen and ferocious as that animal. Adults are, however, rare in menageries, the acquisition of the permanent teeth being critical: but young specimens are far from uncommon.



69.—Yarké.

by naturalists as a distinct species. The determination of its identity with the Yarké is due to M. Schomburgk, whose opportunities of observing this monkey in its native regions of Guiana have been very abundant, and who a few years since transmitted specimens of both sexes to the Zoological Society, London. More recently he brought other specimens to England. His testimony on the point is clear and decisive.

Buffon, who figures a young male, which he terms Saki, describes the hair of the head as radiating, and of a whitish tint; whence we may suppose that till approaching maturity the males resemble the females in their "chevelure mal rangée," as he calls it, excepting as regards its colour.

The Yarké appears to live in small troops, which tenant the bushes rather than the trees of the forest, living, according to M. de la Borde, upon the fruit of

Insects, and especially spiders, are eagerly sought for and devoured by this monkey; and, as Humboldt states, it gives no little trouble to entomological travellers who may be tempted to keep it domesticated. If it can obtain access to their store-boxes, it will devour every specimen, taking each from the pin without injury to its own fingers.

In their dense and humid forests troops of these monkeys may be seen traversing the branches in single file, the females carrying their young on their backs. The foremost leads and regulates the movements of the rest, and as he leaps from branch to branch with admirable grace and precision, all follow in succession. They ascend the "nebees," or natural ropes of creeping plants which intertwine among the trees, with great rapidity. Towards sunset they ascend to the very tops of the palm-trees, and there sleep in security. Accustomed to dense and humid forests, under a sky often covered with clouds, the *Saimiri* endures with difficulty the dry and burning atmosphere of the coasts of Guiana or the adjacent districts; and it becomes melancholy and dejected in proportion as it quits the region of the forests and enters the Llanos. In captivity in our climate, though depressed by its influence, the *Saimiri* is very engaging. It has a habit of gazing intently on the faces of those who notice it, a peculiarity alluded to by Humboldt, who says that it will attentively watch the motion of a person's lips in speaking, and that if it can climb on his shoulder, it will touch his teeth or tongue with its fingers.

The usual voice of this species is a low and quickly repeated whistle: but when hurt, or incommoded by wet, rain, or other cause of annoyance, it utters a plaintive cry.

Genus NOCTHORA.

Head large; muzzle short; eyes large and nocturnal: nostrils separated by a moderate septum. Ears moderate, with an acute folded apex, the free portion being circumscribed. Nails long, narrow, and channelled;

the guava, and also upon bees, demolishing their combs : they also eat all kinds of grain. The female produces only a single offspring at a birth, which she carries on her back.

GENUS CALLITHRIX.

Head short and rounded : muzzle short ; ears large ; general form slender ; tail equalling or exceeding the length of the body ; not prehensile ; nails, excepting on hind thumbs, long and narrow. Fur soft and delicate. Canines moderate ; lower incisors vertical and contiguous to the canines. Ears large, and more or less triangular.

The animals of this genus are light, active, and graceful, but so extremely delicate, that they do not endure removal from their own country without the greatest care. With the exception of the Saimiri, we have seen no living example. These little monkeys are termed Sagoins by the French : in their native regions they inhabit the depths of the forests, and are diurnal in their habits ; most are gregarious ; fruits, insects, eggs, and birds constitute their food, and though habitually gentle and timid, they become animated even to ferocity at the sight of living prey. The ordinary voice of these monkeys is a short reiterated note, which when they are hurt or alarmed is changed to a shrill cry.

THE SAIMIRI, OR SQUIRREL MONKEY

(*Callithrix sciureus*, Desm.). Titi de l'Orénoque,
Humboldt.

General colour, grayish-olive ; the face white, the lips and chin black ; the limbs tinged with fine rufous or gold colour ; the tail black at its tip ; ears large and white ; palms flesh-coloured ; eyes large and hazel, with a pink circle round the iris ; under parts of body grayish-white. Length of head and body 12½ inches ; of tail 17 inches. Native country, Brazil, Cayenne, Guiana. (Fig. 70.)

This slender and elegant little monkey is widely spread : it is one of the earliest of the American species with which naturalists became acquainted ; and is most probably the Sapajou de Cayenne of Froger. (See 'Relat.



70.—Saimiri.

du Voy. de Gennes,' 1698.) Its intelligence, its beauty, and sportiveness, render it a favourite in its own country, where it is domesticated in preference to most others of its race. It is frequently imported into Europe, but our climate is very uncongenial. Though the tail of the Saimiri has no truly prehensile power, it is used as a sort of boa, for protection against cold; and when numbers crowd, huddled together, as they are often seen to do in the woods, they bring it between the hind legs, and twine it over the shoulders and round the neck, interlocking their arms and legs for the sake of warmth. This use of the tail we have observed in specimens in captivity.

Highly sensitive and susceptible, the Saimiri displays its feelings by the expression of its countenance; in which pleasure, surprise, and fear, as they are experienced, are strongly depicted.

fingers of fore-hands (Fig. 71) not extensible to the full. Tail long, non-prehensile.



71.—Profile and Feet of *Douroucouli*.

Humboldt proposed the term *Aotus* for this genus, which, by right of priority, should be retained; it is rejected, however, because its meaning (earless) involves an error.

This genus has been regarded by many naturalists as a transition form between the American monkeys and the Lemurs. It is true that, as far as general aspect and nocturnal habits are concerned, the resemblance between

the Douroucouli and Lemurs is apparent: still, however, the relationship (setting aside that common to all the *Quadrumana*) is one of analogy, not affinity; for the Douroucouli in its dentation is more remote from the Lemurs than is the genus *Pithecia*, and in this point it agrees with *Callithrix*.

THE DOUROUCOULI

(*Nocthora trivirgata*, F. Cuv.). *Pithecia miriquouina*, Geoffr.; *Callithrix infulatus*, Lichtenst.; *Nyctipithecus felinus*, and *vociferens*, Spix.

Head round; muzzle short; eyes large, with circular pupils. General colour grayish-brown above, pale rufous below; a whitish triangular mark over each eye, bounded by an intervening mark of black ascending from the root of the nose, and another running from the angle of the mouth, passing the outer angle of the eye. Tail black at the apex. General form slender; palms flesh-coloured; face dusky; nails black. Length of head and body, 13 inches; of the tail, 18 inches. Native country, Guiana, Brazil. (Fig. 72.)

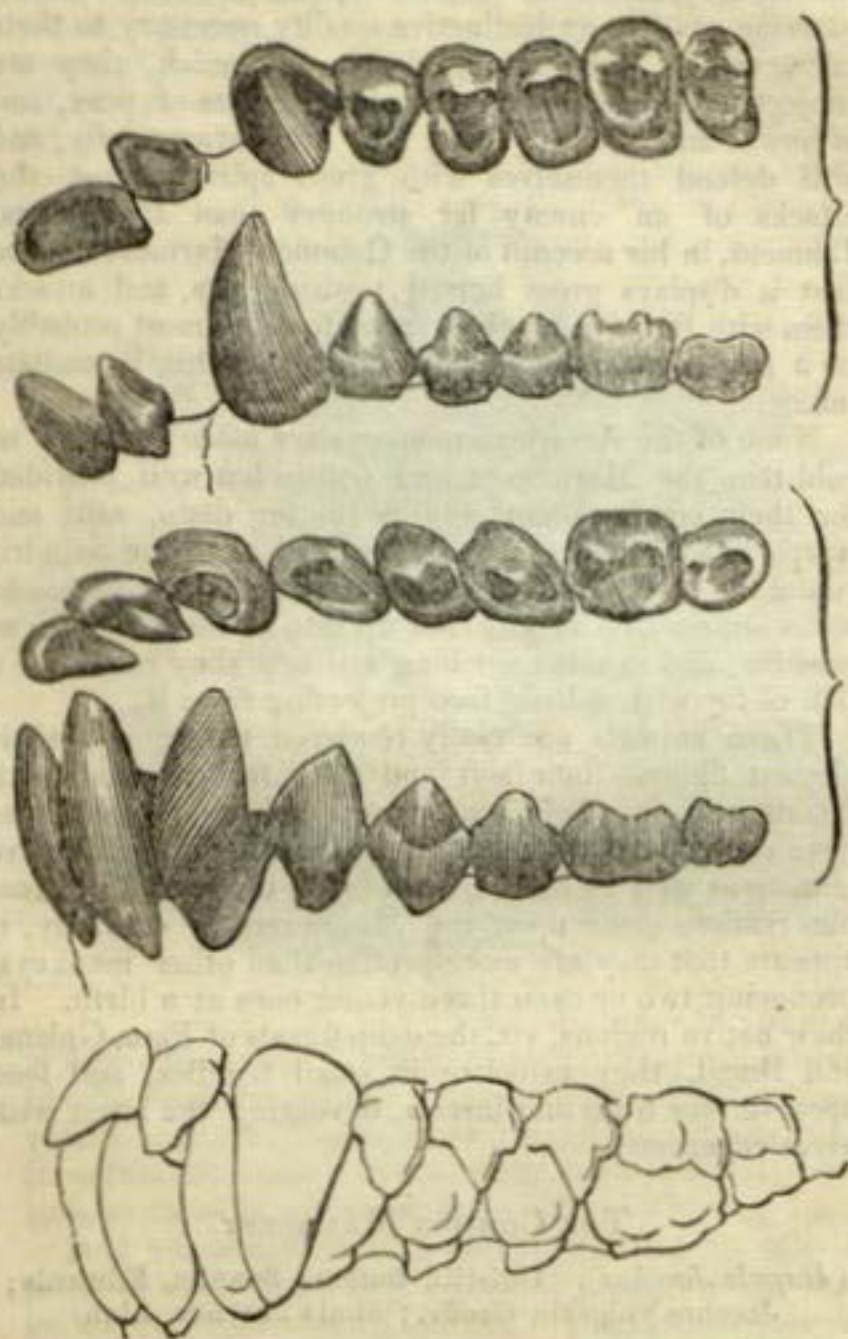
According to Humboldt, the Douroucouli inhabits the dense forests of the Cassiquiare and Esmeralda, at the foot of Mount Duida, and the environs of the cataracts of Maypures, between the 2nd and 5th degrees of N. lat., 300 leagues from the coast of French Guiana. According to Spix it is found near Para, and in the forests of Tabatinga, on the confines of Brazil and Peru.

The Douroucouli is nocturnal in its habits, and sleeps during the day. It is greatly incommoded by light, and seeks the holes of trees or similar places for concealment. When roused it is dull and oppressed, and can scarcely open its large white eyelids. Its attitude during repose is crouching. On the approach of dusk, all the lethargy of the Douroucouli leaves it, and it becomes restless and impetuous, and roams about in quest of insects and small birds. In addition to these, various fruits, seeds, and vegetables constitute its food; but the quantity of solid aliment it consumes is comparatively little: it drinks even less, and but seldom. It glides cat-like through



72.—Douroucouli.

apertures so narrow as to appear incapable of admitting it, and its actions resemble those of viverrine animals. Its beautiful glossy fur is in great request, the natives make tobacco-pouches and other articles of it, which they sell. A male and female are often taken together in the same hole asleep; for the Douroucouli lives not in troops, but in pairs, and is strictly monogamous. The nocturnal cry of this animal is extremely loud and sonorous, and resembles that of the Jaguar: besides this, it utters a mewing noise like that of a cat, and also a



72.—Teeth of Marmoset.

prominent feature in their disposition seems to be extreme caution, an instinctive quality necessary to their preservation; for though nimble and quick, they are subject to the assaults of the smaller beasts of prey, and of hawks and snakes. Still they are not cowardly, and will defend themselves with great spirit against the attacks of an enemy far stronger than themselves. Linnæus, in his account of the Common Marmozet, states that it displays great hatred towards cats, and attacks them with ferocity, an observation founded most probably on a single example which came under his immediate notice.

None of the American monkeys are more sensitive of cold than the Marmozets, and nature has well provided for their comfort: not only is the fur deep, soft, and warm, but the long, full tail is twisted, as in the Saimiri, round the body, which, during their nocturnal repose in some hollow tree, is gathered up into as small a space as possible, and in this crouching attitude they resemble a ball of fur with a little face projecting from it.

These animals are easily rendered tame; and their elegant figure—their soft and silky fur coloured with blending tints—their nimbleness and diminutive size, have contributed to render them favourites in their native climate as well as in other parts of the world. From observations made upon the Marmozets in captivity, it appears that they are more prolific than other monkeys, producing two or even three young ones at a birth. In their native regions, viz. the deep forests of Para, Guiana, and Brazil, they associate in small families, and feed upon various fruits and insects, devouring the latter with great eagerness.

THE COMMON MARMOZET

(*Hapale Jacchus*). Ouistiti, Buffon; Sanglin, Edwards;
Jacchus vulgaris, Geoffr.; *Simia Jacchus*, Linn.

Fur long and soft, variegated black, white, and rusty yellow, the black and white forming alternate undulations. Ears surrounded by a large plume of erect hairs,

white, sometimes tipped with dusky black, and sometimes perhaps largely washed with black, if not quite black. Head and throat dusky black; a white frontal mark above the root of the nose. Tail annulated, dusky black and white. Native country, Brazil, Guiana. (Figs. 73 and 74.)



73.—Marmo. et.

Little has been recorded respecting the natural habits of this beautiful animal, beyond the facts of its congregating in small families, of being active and shy, and of its subsisting upon insects and eggs, together with fruits, such as bananas and mangoes, of which it is very fond.

It is frequently brought to Europe, and has not only lived several years, but produced young in the menageries of France and England. Distrustful, especially towards those whom it is not accustomed to see, it retires from observation, and on being touched utters its peculiar whistling cry, or becomes angry and resists the unwelcome

attempt to court its confidence. When undisturbed it displays much liveliness, and exerts its activity, leaping from perch to perch with squirrel-like address, and in all its actions justifying the expression of "nimble marmozet," used by Shakspeare.

Extremely sensitive to cold, no little of the Marmozet's time is passed in protecting itself against the changes of temperature to which our atmosphere is subject. All the wool, cotton, or other soft materials with which it is furnished, it will carry to some convenient corner of its cage, or to an inner dormitory, and there completely bury itself in the downy mass, from which it will peep out on a person's approach, but from which, unless induced by the offer of tempting food, it can seldom be induced to emerge altogether. When two or three are confined in the same cage, they huddle themselves together, and lie nestled in their bed.

The Marmozet eats bread, fruits, and finely-minced meat: it feeds in a crouching attitude, and usually holds everything between its two fore-paws, the long hooked nails assisting it. Edwards, in his 'Gleanings,' speaking of one of these animals which came under his own observation, informs us that it fed upon various articles of diet, as biscuits, fruits, pulse, insects, and snails; and that, being one day at liberty, it darted upon a small gold-fish which was in a bowl, killed it, and greedily devoured it. After this occurrence, some small eels were offered to it, which at first frightened it by twisting round its neck, but it soon overcame and eat them.

In the first number of the 'Magazine of Natural History' (1822), an interesting account is given, by Mr. Neill, of the manners of one of these monkeys, which he purchased at Bahia, the capital of the province of San Salvador, Brazil. At first, as he states, it displayed great wildness and even fierceness, screeching most vehemently when any one offered to approach it, and it was a long time before it was so reconciled even to those who fed it as to allow the slightest liberty in the way of touching or patting its body; it was impossible to do this by surprise, or by the most stealthy and cautious approach,



74.—Marmoset

as the creature was not still for a moment, but was continually turning its head from side to side, eyeing every person with the most suspicious and angry look; and its sense of hearing was so exceedingly acute, that the slightest noise, or even a whisper, was sure to rouse it. Its diet consisted of fruits, such as bananas, mangoes, and Indian corn, but when during the voyage these failed, it eagerly fell upon the cockroaches, of which it effectually cleared the vessel. It would frequently eat

a score of the larger kind, which are two inches and a half long, and a great number of the smaller ones three or four times in the course of the day. It was quite amusing to see the Marmozet at its meal. When it got hold of one of the large cockroaches, it held the insect in its fore-paws, and then invariably nipped the head off first: it then pulled out the viscera and cast them aside, and devoured the rest of the body, rejecting the dry elytra (wing-cases) and wings, and also the legs of the insect, which are covered with short, stiff bristles. The small cockroaches it ate without such fastidious nicety. In addition to these insects, milk, sugar, raisins, and crumbs of bread were given to it. From London it was conveyed to Edinburgh, where it was living, when Mr. Neill wrote his account, in perfect health: there, contrary to the statement of Linnaeus, who says that it is an enemy to cats, it made acquaintance with one, with which it fed and slept, and lived on the best terms imaginable. Though it became gradually tamer, it never lost its original wildness and distrust.

The first account of the Marmozet having bred in Europe is given by Edwards ('Gleanings'), who received it from a lady living at Lisbon, a pair of these animals, during her residence there, having produced young. They were at first ugly, and almost destitute of fur, and clung to the breasts of the mother; but as they grew larger, they mounted her shoulders and back: when tired with carrying them, she would detach them from her by rubbing them against a wall or anything in her way: the male would then take charge of them, till she was inclined to resume her duties.

In the year 1819, three young ones, a male and two females, were produced in the menagerie of Paris. Their colour was of a uniform deep gray; the tail was almost destitute of hair; and they were born with their eyes open. M. F. Cuvier, in describing their domestic economy, confirms the account given by Edwards; but confinement in this instance so far destroyed the admirable instinct common even to the most savage animals, that one of the little ones was killed by the

mother before it had an opportunity of asserting the strongest claim to her affection; and the other two, which she eagerly cherished the moment they commenced deriving their nutriment from the natural fountain of life, were deserted by both parents when the supply from that source, probably from improper nourishment, prematurely ceased. During the short time they existed, the task of nursing them almost wholly devolved upon the male parent, which, at first, most assiduously cherished them, placing them, when they claimed his protection, either under him or upon his back, and thus carrying them about. The female avoided, as much as possible, the troublesome charge, receiving them unwillingly from her partner; and the moment she had supplied them with nourishment, again forcing them upon his attention, at the same time uttering a peculiar cry, as if asking him to ease her of a burthen with which she was intolerably fatigued.

In 1832 a pair bred in the Gardens of the Zoological Society, at the Regent's Park, London, and produced twins, which, however, died. Other examples are also upon record.

THE MARIKINA, OR SILKY TAMARIN

(*Hapale rosalia*). Midas Rosalia, Geoffr.

The Marikina is one of the species of the present group, which M. Geoffroy has separated, upon not very tangible grounds, into a genus termed Midas. Fur long, silky, and of a glossy golden yellow; hairs of the head long and falling, parted down the middle of the crown by a line of short rust-brown hairs; ears concealed by the long hair of the head; tail almost tufted at the apex. Native country, Guiana, Brazil. (Fig. 75.)

This species is subject to considerable variation in the richness of its colouring: we have seen specimens of a straw-yellow, with a silvery lustre.

Two or three opportunities have been afforded us of observing this beautiful species in captivity. Judging from these individuals, this animal is more confiding and less irritable than the common marmoset, which, how-



75.—Marikina.

ever, it resembles in its actions. When alarmed or angry, it utters a shrill cry, and slightly raises the long hairs round the sides of its face, displaying its teeth as if threatening to bite. Contrary to Buffon's opinion, who considers it to be more hardy than most of its congeners, it appears to be full as susceptible of the changes of our climate, and indeed dies immediately if exposed to damp or wet.

In this opinion Fred. Cuvier fully coincides. These animals, he observes, are natives of Brazil, and from the delicacy of their constitution they cannot be kept alive in

France without the greatest care to preserve them from the influence of atmospheric changes, and especially from the cold and humidity of the winter season: under the depressing effects of wet and chilly weather, they lose all their sprightliness, droop, and die. Speaking of the individual figured in his splendid work, and which was brought, in 1818, from Brazil to Paris, where it lived for a short time in the Menagerie of the Jardin des Plantes, he states that it was very active and lively, and, like a bird, preferred the topmost perches of the cage. On the least alarm it always concealed itself; and though it appeared gratified with the notice and caresses of those whom it knew, and came to them when called, it never returned any expressions or signs of attachment as other monkeys do when noticed by persons to whom they are attached. It disliked strangers and retired from them, regarding them with looks of defiance, and menacing with its feeble teeth. Fear or anger it expressed by a short, sharp, whistling cry, but sometimes, as if from ennui, it raised its voice into a louder or more prolonged note. In these details the individual described by Fred. Cuvier resembled the specimens which have lived in the vivarium of the Zool. Soc. Lond. The interest which attached to them resulted only from the lustre of their silky fur and from the elegance of their actions, for it was evident that their intelligence was very circumscribed. That prying curiosity, always amusing, sometimes troublesome, which monkeys in general exhibit, appeared to form no part of their character, and the confidence they manifested towards those accustomed to feed them was unmixed with tokens of attachment or gratitude. Still it is difficult to form a correct idea of the character of animals from individuals in confinement; and it cannot be doubted that in its native forests, of which it is one of the ornaments, the Marikina, like the squirrel of our woods, displays habits and manners calculated to excite the interest of the observer. Of these, however, nothing is definitely known. According to Prince Maximilian, the Marikina is more rarely found in Brazil than in Guiana.

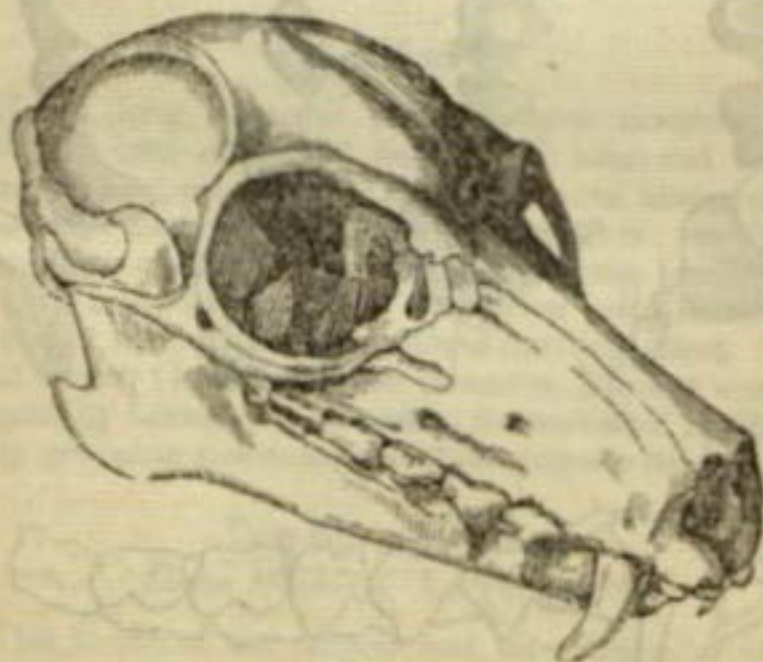
CHAPTER VI.

LEMURS (*Lemuridae*).

THE Lemurs (Les Makis of the French) differ from the monkeys of both worlds in dental characters, but in quadrumanous structure they approach those of the old, having opposable thumbs on the fore-hands as well as on the hinder pair. The contour of their body is very peculiar: the general form is slender and elongated, the head is pointed and somewhat fox-like; the nostrils have a sinuous opening, terminating a sharp, naked, and somewhat prominent muzzle; the eyes are large and of a nocturnal character; the limbs are long, especially the hinder pair, which in some species greatly exceed the anterior; the fore-hands have a true thumb, but in some species the index-finger is abbreviated; the thumb of the hinder-hands is large, and greatly expanded at the tip; the index-finger of these hinder pair (and in the Tarsier, the next also) is armed with a long, subulate, slightly curved claw; the other nails are flat; the fur is full and woolly; the tail varies, it is never prehensile, and is sometimes wanting: habits pre-eminently arboreal. If we compare the skull of the monkey (Fig. 76) with that of the ordinary Lemurs (Fig. 77), we shall observe many distinctions. The volume of the Lemur's skull, taken in relationship to that of the face, is greatly diminished; no trace of a forehead remains, but the frontal bone falls so completely back behind the developed and projecting facial portion, or muzzle, as to present an almost level surface along the nasal bones to the top of the head. The occipital condyles have the same posterior situation as in the dog, so that the head is suspended from, rather than even partially balanced on, the vertebral column. The orbits are not completely walled within, but open into the temporal fossæ, and have an obliquely lateral

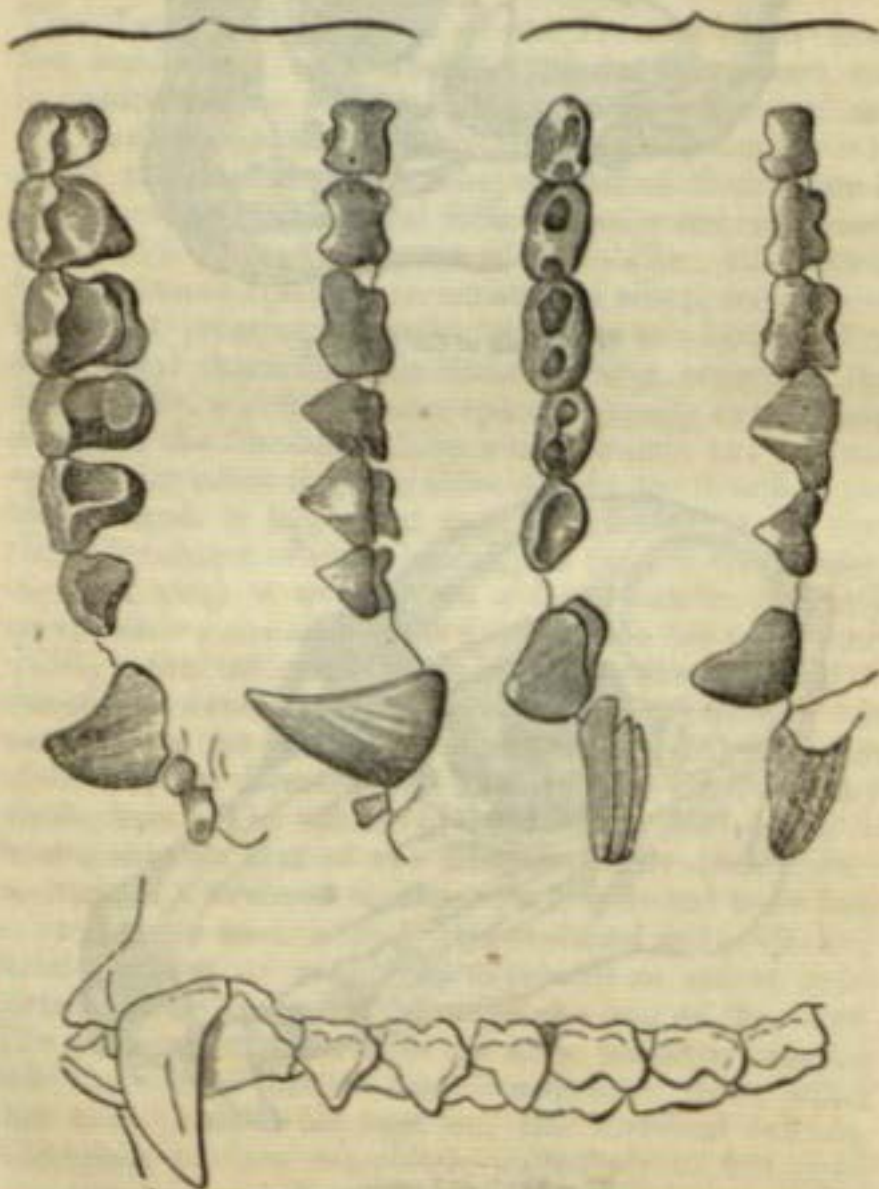


76.—Skull of the Monkey.



77.—Skull of Lemur.

aspect: the nasal bones run the whole length to the tip of the snout, or nearly so; the lower jaw is long and narrow, and consists of two rami perfectly separate at the chin. Here, indeed, we first meet with the symphysis of the lower jaw unobliterated even in the most advanced period of life. In man and the monkeys this suture is not apparent, even in the youngest subjects;



78.—Teeth of Lemur.

but in the lower mammalia, excepting in the Pachydermata, as a general rule, it is always present. The teeth are as follows:—Four small incisors above in pairs, with an intermediate space between them for the reception of the points of the lower incisors and lower canine teeth. The lower incisors (in the true Lemurs) are four in number, but they are accompanied by the lower canines, which, except that they are stronger and larger, resemble the incisors in form and direction. They are long, pointed, compressed, in close contact with each other, and directed obliquely forwards. The canines of the upper jaw are compressed, pointed, and sharp on their posterior edge. The molars are crowned with sharp angular tubercles.

Dental formula of the genus Lemur (Fig. 78):—

Incisors, $\frac{4}{4}$; canines, $\frac{1-1}{1-1}$; molars, $\frac{6-6}{6-6}$. The first false molar below is stout, and resembles a canine, whence has arisen the idea that it is so really, and that the lower incisors were 6 instead of 4.

GENUS LEMUR.

Head long, muzzle pointed, eyes moderate and oblique; ears short and hairy; tail long and bushy; mammae two, pectoral. All are natives of Madagascar; arboreal, nocturnal. Their movements are light, sweeping, elegant, and precise. Their usual voice is a low inward grunt, but they often break forth into an abrupt hoarse roar, producing a startling effect. The term Lemur (from the Latin *Lemures*, Ghosts) was first adopted by Linnæus in allusion to the nocturnal habits and stilly sweeping movements of these singular animals.

THE RUFFED LEMUR

(*Lemur Macaco*). Le Vari, Buffon

This is one of the largest and most beautiful of the genus, exceeding a cat in size. Its fur is of admirable texture, being full, fine, and silky; the tail is long and

bushy. The general ground is pure white, on which large black patches are tastefully arranged; the tail is black; a full ruff of longer hairs than those of the body surrounds the face: whence its English appellation. (Fig. 79.)



79.—Ruffed Lemur.

Of the native habits of this and the other Lemurs in the deep forests of Madagascar little is known: they avoid the presence of man, and though harmless, will defend themselves with great resolution, inflicting severe wounds with their sharp canines. They associate together in troops, and after sunset their hoarse loud roar may be heard in dissonant chorus, resounding among the recesses of the woodland wilderness. The roar of the Ruffed Lemur is peculiarly deep and sonorous. During the day the Lemurs sleep in their retreats. Fruits, insects, reptiles, small birds, and eggs constitute their food.

deep, harsh, guttural note, represented by the syllables *quer, quer*. When irritated, its throat becomes distended; and in the posture then assumed, and in the puffed state of the fur, it resembles a cat attacked by a dog.

In 1833 a young male lived for a short time in the menagerie of the Zool. Soc., London. Its aspect and movements were very lemurine: its large eyes, which it opened when the dusk of the evening came on, were brilliant, and gave an animated expression to its countenance not exhibited during the day, when it rested crouching on its perch, lethargic and motionless. It lived chiefly upon bread sopped in milk, refusing meat, either dressed or raw.

Genus HAPALE,

Illiger (*Jacchus* and *Midas*, Geoff.; *Saguinus*, in part, of Lacépède).

The Marmozets, or Ouistitis, as the monkeys of this genus are termed, are distinguished from the rest of the American groups by some peculiarities in their dentation.

Dental formula:—incisors, $\frac{4}{4}$; canines, $\frac{1-1}{1-1}$; false molars, $\frac{3-3}{3-3}$; true molars, $\frac{2-2}{2-2}$ = 32. (Fig. 72.) Of the incisors of the upper jaw the two middle are the largest; those of the lower jaw equal the lower canines in length: the tubercles of the molars are acute. The muzzle is short; the nose is salient, with nostrils widely separate; the limbs are short; the fingers slender, and all, excepting the hind thumbs, which are remarkably short, are furnished with sharp, long, compressed, hooked claws, like those of a squirrel. The fur is full and soft; the tail longer than the head and body, and generally bushy. General contour, stature, and actions, squirrel-like. The Marmozets, or Ouistitis (so called from their sharp whistling cry), are diurnal in their habits; they are irritable in their temper, but timid, and by no means remarkable for intelligence. The most

many yards, pitches so lightly on its fingers as hardly to attract the notice of the ear. If it take a leap from a table to the back of a distant chair, or even to the upper angle of an open door, it never misses its hold. Under the points of the fingers are elastic cushions, which no doubt assist it in performing these feats. It is a very affectionate animal, and a most amusing companion. One in a state of domesticity and suffered to go at large, when tired of playing about in the evening, made its perch on the uppermost leg of his master, as he sat cross-legged before the fire. Having obtained leave, he used to take his seat,



80.—White-fronted Lemur.

When taken young, these animals soon become familiar, and are fond of being noticed and caressed, exhibiting considerable attachment to those who attend them; but we have known them bite severely persons who have irritated them.

In captivity, with due care, they bear our climate well, though they are impatient of cold, as might be inferred from their soft thick fur. They are fond of sitting perched on the fender before a fire, and in this situation they will spread their hands, half close their eyes, and testify unequivocal satisfaction. During the day they sleep in a ball-like figure on their perch; and if two be in a cage together, they sit close to one another with their tails wrapped boa-like round each other's body, so as to make one round ball, from which, on being disturbed, two heads suddenly make their appearance. Though less intelligent than monkeys in general, they are more gentle and confiding: they will put their heads to the bars of their cage, to have them scratched and rubbed, and by their actions invite notice. They have little of the prying, mischievous, petulant disposition of monkeys, so that with due precautions they may be trusted in a room at liberty. When presented with food, they usually take it in their hands; but we have seen them feed upon soft bread without holding it. They lap fluid like a dog. They bound and leap with the most astonishing agility, gracefulness, and address; and when in motion the tail is elevated in a sigmoid form, and not trailed after them. Strong light greatly incommodes them: their eyes gleam at night; and the pupil is transverse, dilating with the advance of evening dimness.

THE WHITE-FRONTED LEMUR (*Lemur albifrons*).

Fur ruddy or bronzed-gray above; male with the forehead and sides of the face white; female with the same part of a deep gray. The female and the Lemur Anjuanensis (Maki d'Angouan) are distinct, contrary to the opinion of Lesson. (Figs. 80 and 81.)

The White-fronted Lemur is gentle, affectionate, and lively: it leaps with great agility, and after a spring of



81.—White-fronted Lemur.

wrap his boa-like tail round his shoulders and back, and take his nap.

THE FLOCKY LEMUR

(*Maki à Bourre* of Sonnerat). Lemur Langier, *Lichanotus Laniger*, *Indris Laniger*.

This species, which was first described and figured by Sonnerat as the *Maki à Bourre*, has been, we know not why, regarded as a species of *Indris* (*Lichanotus*, Illiger), and placed in that genus. Cuvier doubted its alliance to that group; and for ourselves we hesitate not in referring it to the genus *Chirogaleus*, Geoffr., founded for the reception of certain Lemurs described and figured by Com-merson, but till lately unknown to European naturalists.

The fingers of both fore and hind hands are furnished with long pointed claws, the thumbs only having flat nails.

The Flocky Lemur is about a foot in the length of the head and body, the tail being nine inches long. The

colour is pale ferruginous above, white beneath; the fur is extremely soft and curled, deepest about the loins. Face black; eyes large and greenish-gray. (Fig. 82.)

In the museum at Paris we examined a species of *Chirogaleus* closely allied to (perhaps identical with) the Flocky Lemur: it was labelled *Chirogaleus Miliii*. Head broad and flat; ears moderate and hairy. Fur soft, full, curly, and glossy, of a fine fawn-brown, paler between the eyes, which are large and surrounded by a brown disk. The hairs are all lead-coloured at the base: chin, throat, under surface, and inside of limbs white. Tail fawn-brown. Teeth as in the genus *Lemur*. Nails minute, flat, but sharp-pointed; those of the thumbs as usual. Length of the head and body about 14 inches; of the tail 12. Of two specimens one was presented to the museum by M. Goudot; the other, alive, by M. le Baron Milius. Native country, Madagascar.



82.—Flocky Lemur.

THE SHORT-TAILED INDRIS

(*Lichanotus brevicaudatus*). L'Indri, Sonnerat?; Indris brevicaudatus, Geoffr.

The genus *Lichanotus* (or *Indris*) differs in some details of dentation from the genus *Lemur*, to which in most points it is closely allied. The following description of the *Indris* was taken from a fine specimen in the Paris Museum. The anterior part of the face nearly naked; the forehead, temples, throat, and chest white; the ears, the occiput, shoulders, arms, and hands black. The lower part of the back brown, which colour divides on the haunch into two lines, which run down the buttocks and spread on the thighs, leaving the crupper, tail, and posterior part of the thighs white; the root of the tail is tinged



83.—Short-tailed Indris.

with yellow. Anterior part of thighs and feet deepening into black; heels white, with an anklet of grayish-white; breast brown. Flanks and lower part of belly white; and also the inside of the arms. Fur beautifully soft and woolly. Thumbs very large and powerful; fore-toe small and united to the next, almost to the last joint: it is armed with a long sharp nail. The nails of the thumbs and fingers, and also of the toes, the first excepted, are small, flat, subkeeled, and pointed. Length from muzzle to root of tail, two feet; of the tail, three inches; of the hind feet, seven inches and a half. (Fig. 83.)

The Indris is a native of Madagascar, where it is said to be frequently trained by the natives for the chase. Its voice resembles the wailing cry of a child. The word Indris is said to signify in the Madagascar language a "man of the woods."

THE DIADEM LEMUR (*Propithecus diadema*, Benn.).

Mr. Bennett proposed the genus *Propithecus* for this Lemur, which is a native of Madagascar, and which appears to us, notwithstanding the length of the tail, to belong in reality to the genus *Lichanotus*. It is in fact a long-tailed Indris. Of its habits nothing is known.

Face nearly naked, with short blackish hairs about the lips, and equally short yellowish-white hairs in front of the eyes. Above the eyes, the long, silky, waved, and thickly-set hairs which cover the body commence by a band of yellowish white crossing the front and passing beneath the ears to the throat. This is succeeded by black, extending over the back of the head and neck, but becoming freely intermingled with white on the shoulders and sides, the white gradually increasing backwards, so as to render the loins only slightly grizzled with black. At the root of the tail fulvous, that colour gradually disappearing until the extreme half of the tail is white with a tinge of yellow. Outer side of the anterior limbs, at the upper part, of the slaty-gray of the sides, below which it is pale fulvous. Hands black, except tufts of long fulvous hairs at the extremities of the thumb and

fingers, extending beyond and covering the nails. Outer sides of the hinder limbs, after receiving a tinge of fulvous from the colour surrounding the root of the tail, of a paler fulvous than the anterior limbs: this becomes much deeper on the hands, which are fulvous, except on the fingers, where there is a very considerable intermixture of black, the terminal tufts, equally long with those of the anterior bands, being, as in them, fulvous. The under surface white throughout, except the hinder part of the throat, where it is of the same colour with the



♂4.—Diadem Lemur.

sides of the body. Hairs generally long, silky, waved, erect, and glossy; shorter and more dense on the crupper, where they offer a sort of woolly resistance. General character of those on the tail, that of the body hair, but shorter. Thumb of anterior hands slender, placed far back, and extremely free; thumb of hinder hands very strong. Length of body and head, measured in a straight line, one foot nine inches; of the tail, one foot five inches. Anterior limbs, exclusive of hands, seven and a half inches in length from the body; posterior limbs, fifteen inches and a half. Muzzle shorter than in the Lemurs generally; the distance from the anterior angle of the orbit to the tip of the nose (one inch and a quarter) being equal to that between the eyes. Ears rounded, concealed in the fur: length one inch; breadth one inch and a half. (Fig. 84.)

In a young specimen which we examined at Paris the yellow tint on the limbs was very bright and golden.

Genus *STENOPS* (*Loris* and *Nycticebus*, Geoffr.).

In the genus *Stenops* the dentation is the same as in the Lemur, but the tubercles on the crowns of the molars are more acute. The animals of this group are termed *Loris*, or Slow Lemurs. They are characterised by the head being round, the muzzle short and acutely pointed; the eyes large, full, bright, and approximating to each other; the ears short, round, open, and almost buried in the fur; the tail completely rudimentary, and the limbs slender. Two species are known, both natives of India and its islands, especially Ceylon, Java, Sumatra, &c.

These animals have been long celebrated for the slowness and caution of their movements, to which may be added a remarkable tenacity of grasp, in conjunction with the power in the limbs of exerting a long continuance of muscular contraction. In the arteries both of the anterior and posterior extremities there is a peculiarity first detected by Sir A. Carlisle, and met with in the limbs of the Sloth and a few other instances. No sooner has the main artery, a single tube, reached the

commencement of the limbs, but it assumes another character: instead of continuing its course as a simple tube, giving off branches as it proceeds, the usual mode, it becomes suddenly subdivided into a congeries of small tubes intertwined together, and communicating with each other freely, thus forming an elongated plexus, which may act as a sort of reservoir, and carry onwards a large volume of blood. The relation of this plexus to the bulk of the limb it supplies with blood is greater in point of volume than that of the simple artery in ordinary animals.

THE SLOW-FACED LORIS (*Stenops tardigradus*).

Fur soft and full; colour brownish gray, a deep chestnut stripe passing down the middle of the back; this



85.—Slow-paced Loris.

stripe, continued on to the head, gives off a branch which encloses each ear, and another which encircles each eye, and extends to the angles of the mouth. Figure short; hind limbs longer than the fore limbs. Eyes large, nocturnal, with transverse pupils; muzzle short and pointed. Length 12 or 13 inches. (Fig. 85.)

THE SLENDER LORIS (*Stenops gracilis*).

Muzzle produced, slender, acute; figure slight; limbs very long, thin, and meagre. General colour rufous-gray; the under parts whitish; space round the eyes dusky; fur soft; a whitish or white frontal spot points to the interval between the eyes. Length of head and body, nine inches. (Figs. 86 and 87.)

The Slow-paced and Slender Loris are eminently nocturnal and arboreal: they sleep during the day on their perch, in a crouching attitude, with the body drawn together, and the head doubled down upon the chest. At night they prowl among the forest boughs in search of food: their large glaring eyes now glow with peculiar lustre; not an insect, not a bird escapes their scrutiny: they mark their victim; stilly, and imperceptibly as the minute-finger traverses the dial-plate, do they advance upon their prey; and not less surely does the minute-finger attain a given mark than they their prey: when it is once within range of their grasp, they seize it by a rapid instantaneous action. Besides birds, insects, and eggs, fruits also form part of their diet.

Of all the Lemuridæ which we have seen alive, none appear to be so susceptible of cold or so incommoded by daylight, nor are any so apparently dull and inanimate from morning till evening. They appear as if in a state of continual torpor; yet if exposed to the influence of warmth, they will rouse up, not only on the approach of twilight, but even during the hours of day, if shielded from the glare of the sun. When fairly awake, and comfortably warm, they delight to clean and lick their full soft fur, and will allow themselves to be caressed by those accustomed to feed them.



86.—Slender Loris.

Mr. Baird, in an interesting paper in the 'Magazine of Nat. Hist.' vol. i., 1829, remarks that all the known Mammalia close their eyelids in a direction upwards and downwards, and, in general, the upper eyelid is the one possessing the greatest degree of motion. He found, however, that in his Slow-paced Lemur the eyelids were brought together in a diagonal direction, or outwards and inwards, which gave the animal at the moment of shutting its eyes a most peculiar look. It was the under or outer eyelid that had the greatest degree of motion, the upper or inner one being almost fixed; and he concludes that the orbicularis oculi must be very powerful. After the death of the animal, and when Mr. Baird had left this country on a second voyage to India, the eye was dissected by Dr. Knox, who found that the peculiar

movement of the eyelids above described did not depend on any peculiar structure, but merely on the greater degree of strength of the orbicularis muscle.

Mr. Baird also observed another peculiarity in the species. "Beneath the tongue proper," says he, "if I may so call it, which is somewhat like that of the cat, though not rough, is another tongue, white-coloured, narrow, and very sharp-pointed, which he projects along with the other one when he eats or drinks, though he has the power of retaining it within his mouth at pleasure." Mr. Baird, however, had not been able to see any particular purpose to which he applied it; but he saw him use this double tongue when eating flies, of which he was exceedingly fond, snapping them up most eagerly when presented to him, and catching them himself when they were reposing in the evening upon the walls of the room.

Pennant, Vosmaër, Sir W. Jones, Mr. Baird, M. d'Obsonville, and others have published detailed observations made upon *Loris* in captivity, and their accounts coincide with the facts which have come under our own notice.

Vosmaër's specimen (*S. tardigradus*) ate fruits, such as pears and cherries, with relish; and also dry bread and biscuit; but if dipped in water, would touch neither. When offered water, it smelt it, but drank not. Eggs were favourite diet. "Il aimoit à la fureur les œufs," are the words of Vosmaër, who, concluding from its appetite for eggs that it would eat birds, gave it a live sparrow, which it instantly killed with a bite, and ate the whole very greedily. He gave it a live cockchafer, to try whether it would eat insects: it took the offering in its paw, and devoured it completely. Vosmaër afterwards gave it a chaffinch (*pinçon*), which it ate with much relish, and afterwards slept for the remainder of the day. He often saw it still awake at two hours past midnight; but from half-past six in the morning its sleep was so sound, that its cage might be cleaned without disturbance to its repose. If forcibly awakened during the day in order to tease it, it was vexed, and bit the stick; but



87.—Slender Loris.

with a very slow motion, repeating the cry Ai, ai, ai, drawing out the Ai each time into a plaintive, languid, and trembling note, in the same manner as is reported of the American sloths. When it was thus harassed for a long time and thoroughly roused, it crawled two or three times round its cage, and then slept again. Mr. Baird informs us that he obtained his specimen at Pulo-Penang (Prince of Wales Island); and at the time he wrote, it had been nearly ten months in his possession. Its food consisted of fruit and small animals, such as birds and mice. The plantain was the fruit of which it was most fond, and was the only food Mr. Baird saw it eat when he first got it into his possession. The necks of fresh-killed fowls formed the major part of its sustenance during the voyage. It was particularly fond of small birds. these, when put into the cage, it killed speedily, and, stripping off the feathers, soon devoured them, eating

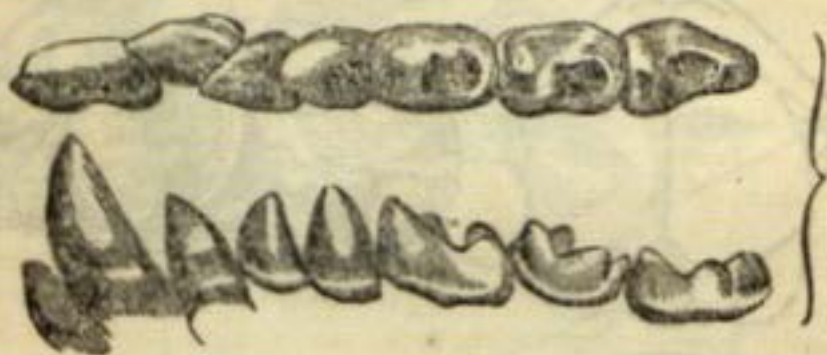
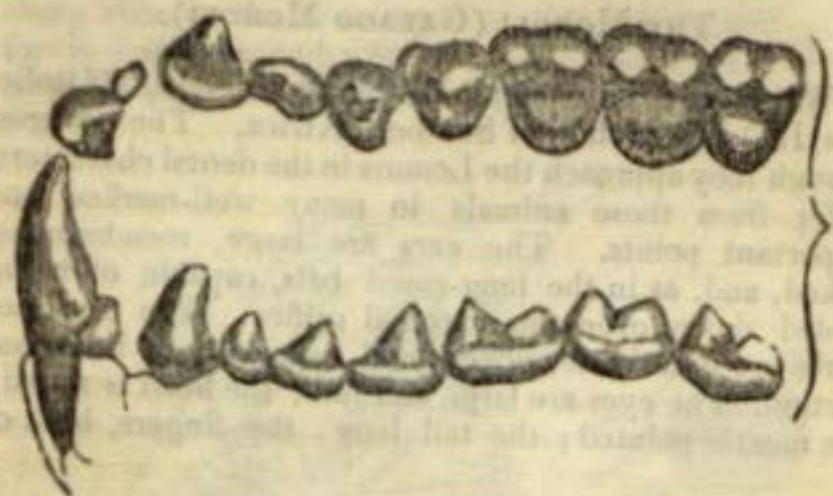
the bones as well as the flesh. Veal was preferred to all other butcher's meat, and it was fond of eggs: meat boiled, or otherwise cooked, it would not touch. Sugar appeared to be grateful to its palate, and it ate gum-arabic. The juice of oranges was also greatly relished, and, unlike Vosmaër's specimen, it readily fed upon bread sopped in water and sprinkled with sugar; and lapped water eagerly like a cat.

Genus TARSIVS.

The Tarsiers, of which two species are known, are distinguished by the rounded figure of the head, and the extreme shortness of the muzzle; by the enormous size of the eyes; and the extraordinary length and slenderness of the hinder limbs, of which the tarsus is thrice as long as the metatarsus. The fingers both of the anterior and posterior limbs are elongated and slender; the hind thumb is well developed, with a small triangular nail, and the first and second fingers are furnished with small, pointed, narrow claws. The ears are large, naked, and capable of being folded. Tail long, covered with short hair. The first description of the Tarsier (*T. spectrum*) is due to Daubenton, who gave it this title in allusion to the length of the tarsi. Gmelin, misled by its apparently anomalous structure, placed it in his genus *Didelphis* (the receptacle alike of opossums and kangaroos), under the name of *D. macrotarsus*. Pennant, misled by the tarsi, termed it the Woolly Gerboa. M. F. Cuvier considers its dentation to approximate to that of some of the bats.

Dental formula (Fig. 88):—Incisors, $\frac{4}{2}$; canines, $\frac{1-1}{1-1}$;
molars, $\frac{6-6}{6-6} = 34$.

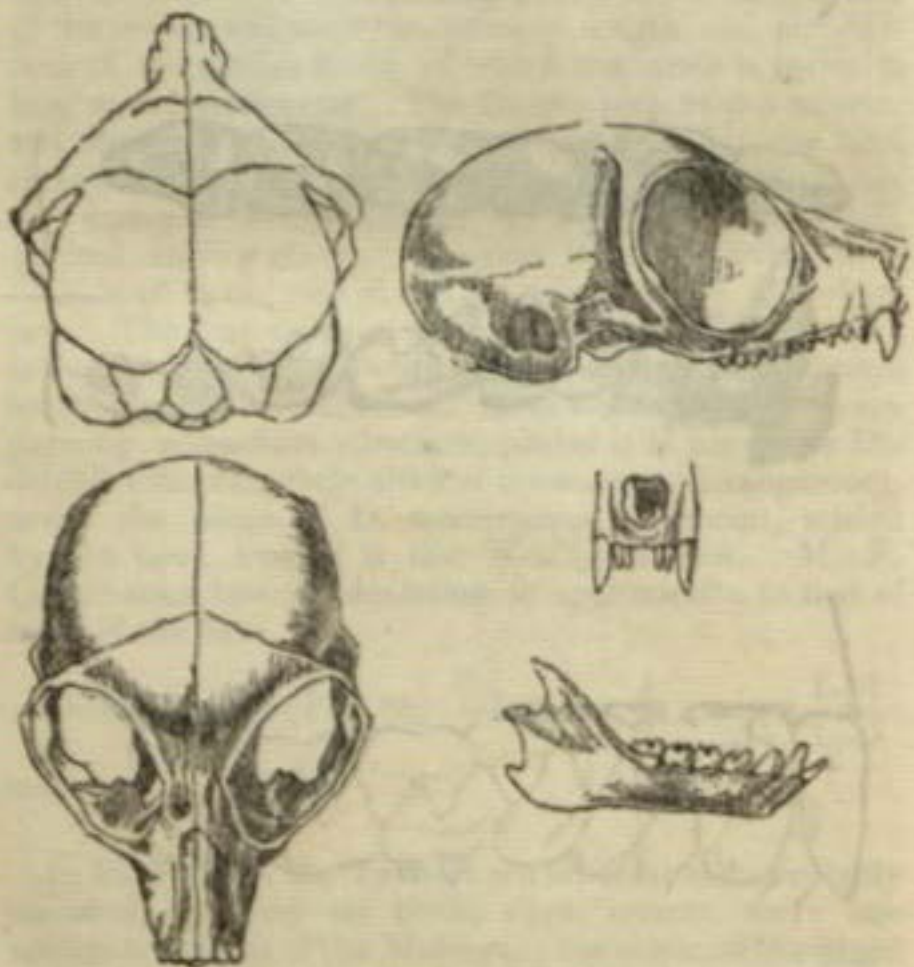
In their habits the Tarsiers are arboreal and decidedly nocturnal, preying on birds, eggs, insects, &c.: one species is a native of the Moluccas; the other, of the island of Banca.



88.—Teeth of Tarsiers.

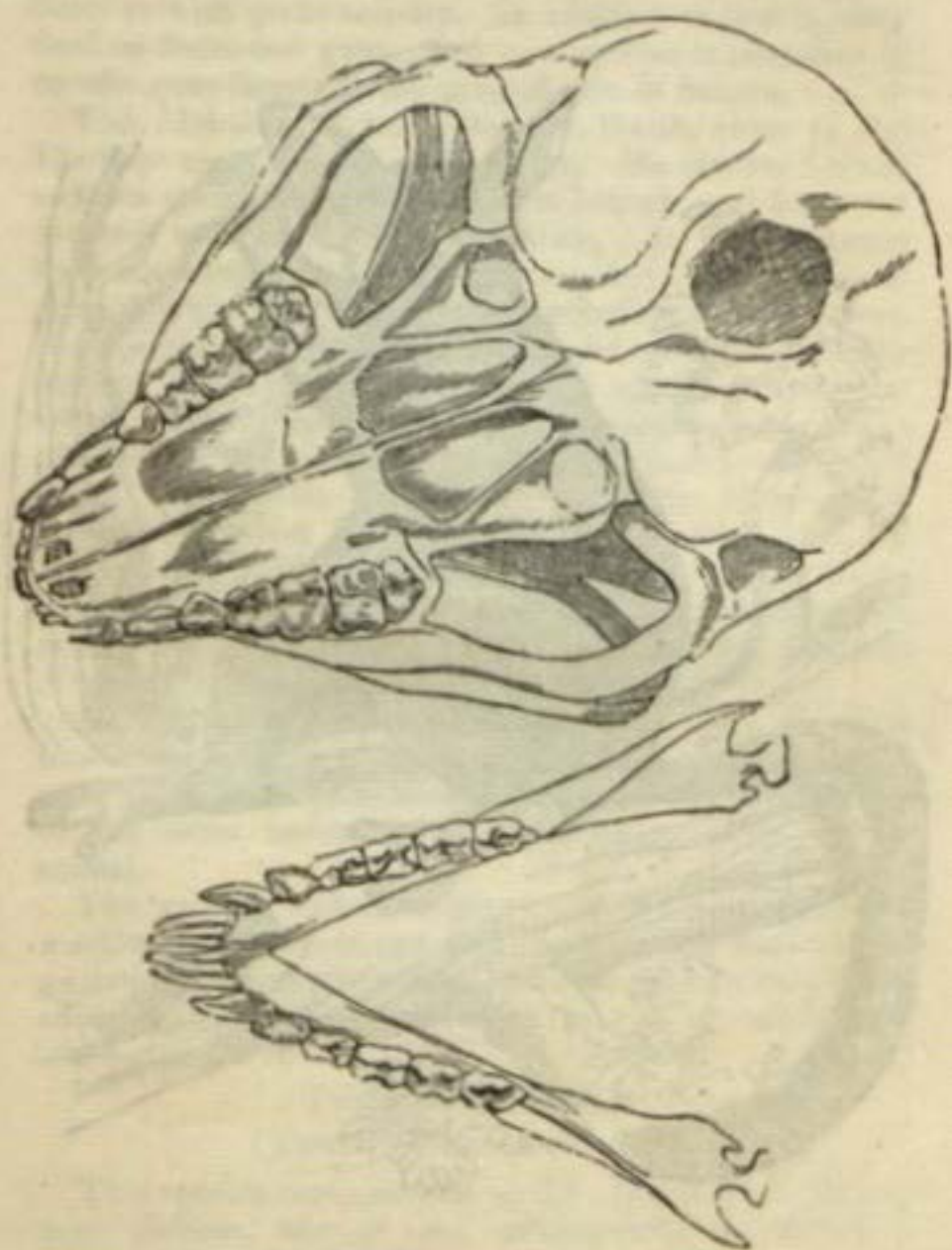
THE MOHOLI (*GALAGO MOHOLI*).

We select as an example of the genus *Galago* (*Otolicinus*, Ill.), the Moholi of Southern Africa. The Galagos, though they approach the Lemurs in the dental characters, differ from those animals in many well-marked and important points. The ears are large, membranous, naked, and, as in the long-eared bats, capable of being folded down over the external orifice. The posterior limbs are greatly developed, and especially at the tarsal portion. The eyes are large and full; the head is round; the muzzle pointed; the tail long; the fingers, both of



89.—Skull of Moholi.

the fore and hind hands, long and slender, with the usual sharp claw on the first finger of the hinder pair. The fur is full, soft, and woolly. The skull (Figs. 89, 90) is more globular, and with larger orbits than we find



90.—Base of Skull of Moholi and lower Jaw, natural size.

in the Lemurs: it is more elevated above, and broader.
(Fig. 91.)

The Galagos are nocturnal animals: during the day they sleep on the branches, their ears being folded down;



91.—Moholi

on the approach of night they are all animation, and, with ears expanded and glistening eyes, they begin their prowling for food. They watch the insects flitting among the leaves: they listen to the buzzing of their wings amidst the foliage, and dart upon the incautious flutterer with great activity. In addition to insects, they feed on fruits and gum; and one species is abundant in certain gum-forests in the great desert of Sahara.

The Moholi was found by Dr. Smith, close to the Limpopo river, in about 25° S. lat. He observed these animals springing from branch to branch, and from tree to tree, with extraordinary facility. In their manner they considerably resembled the monkeys, particularly in grimaces and gesticulations. According to the natives, the species is entirely nocturnal, and rarely to be seen during the day, which the animal spends in the nest which it has formed in the forks of branches or in cavities of decayed trees; and in these nests, constructed of soft grass, the females bring forth and rear their young (generally two at a birth). Dr. Smith states that the food of the Moholi consists principally of pulpy fruits, though there is reason to believe it also consumes insects, as remains of the latter were discovered in the stomachs of several individuals which he examined.

Dr. Smith, for the reasons stated in his work, considers this animal different from *Galago Senegalensis*. He gives an elaborate anatomical description and good figures of the more important and interesting parts of this animal.

The general colour is gray, with wavy or brindled markings of a darker tint, and the limbs are washed with yellow; under-parts white; tail red-brown; ears flesh-coloured. Length from nose to tip of tail sixteen inches.

THE BANCA TAESIER
(*Tarsius Bancanus*, Horsfield).

This species was obtained by Dr. Horsfield in Banca, near Jeboos, one of the mining-districts, where it inhabits the extensive forests.

The fur is deep, soft, thick, and woolly, enveloping the head, body, limbs, and root of tail, where it terminates abruptly. The general colour is brown inclining to gray, especially on the inside of the limbs and the under parts; a rufous wash appears on the head and outer



92.—Banca Tarsier.

surface of the limbs. The tail, which equals the head and body in length, is nearly naked, except at its base: towards the extremity it is covered with a soft down, which forms, near the tip, a very obscure tuft. The backs of the hands are covered with a very soft down: the palms are naked, and provided with several prominent cushions, calculated to assist in climbing and perching with safety on the branches. Of its habits no details have been collected. (Fig. 92.)

GENUS CHIROMYS.

This genus was established by Cuvier for the reception of that extraordinary animal the Aye-Aye, respecting the affinities of which so many conflicting opinions have been advanced.

THE AYE-AYE

(*Chiromys Madagascariensis*)

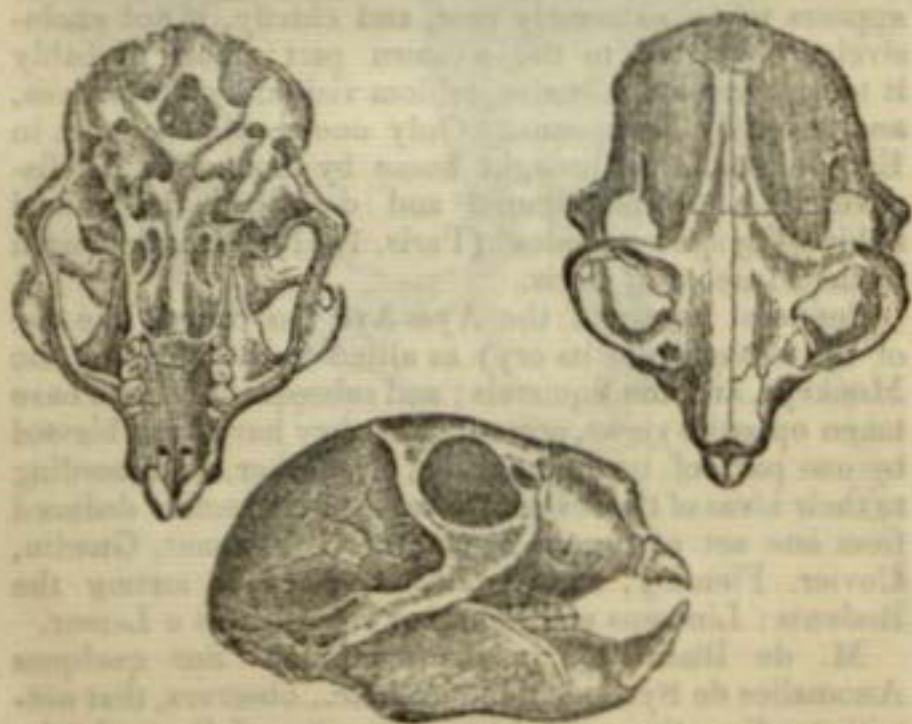
This animal is a native of Madagascar, where it appears to be extremely rare, and chiefly, if not exclusively, restricted to the western part: most probably it tenants remote solitudes, seldom visited by the natives, and never by Europeans. Only one specimen exists in Europe, viz. that brought home by Sonnerat, its discoverer, who first figured and described the animal in his 'Voyage aux Indes' (Paris, 1781). It is deposited in the Museum of Paris.

Sonnerat regarded the Aye-Aye (so called, like one of the sloths, from its cry) as allied to the Lemurs, the Monkeys, and the Squirrels; and subsequent writers have taken opposite views, according as they have been biassed by one part of its organization or another, or according to their ideas of the respective value of characters deduced from one set of organs or another. Pennant, Gmelin, Cuvier, Fleming, and Swainson, place it among the Rodents; Linnæus and Schreber regard it as a Lemur.

M. de Blainville, in his pamphlet 'Sur quelques Anomalies de Système dentaire,' &c., observes, that notwithstanding the rodent-like character of its teeth, the

rest of its organization, its manners, and habits prove it to be a true Lemur, having absolutely no relationship with the Rodents, no affinity to them, in spite of all that many naturalists have imagined; and, after a careful examination of the specimen and skull, we coincide in this opinion.

The teeth consist only of incisor and molars (see skull, Fig. 93): the incisors are two in each jaw, strong and powerful: those below are compressed laterally, but are deep from back to front; their roots are carried backwards each in an alveolus, or socket, extending almost the whole length of the ramus of the jaw; they are acutely pointed, their apex resembling a ploughshare. These teeth strongly remind one of the huge curved canines in the lower jaw of the Hippopotamus. The upper incisors are not so obliquely pointed, and are also smaller than the lower. Between the incisors and the molars an unoccupied space intervenes. The molars are 4 on each side above, 3 below, small, and of simple structure. The



93.—Skull of Aye-Aye.

head is moderate and rounded, and the muzzle is rather short and pointed. The eyes are very large and nocturnal. The osseous ring of the orbits is complete (Fig. 93). The ears are large; and obscure furrows on their internal aspect seem to denote that, as in many bats, they are capable of being folded down: they are, in fact, bat-like, black, naked, and smooth.

The fore paws have each five fingers; that which represents the thumb is short, and arises beyond the base of the rest; these are long and slender: the middle finger is very thin, but it is exceeded in strength by the third or ring finger; the thumb is not opposable, and, like the other fingers, is furnished with a strong, sharp, hooked claw. The arms are short in proportion to the posterior limbs; the latter being long, and terminating in prehensile feet. The thumb is well developed and protected by a flat nail: the toes are of moderate length and stoutness, but the first is the shortest, and, as in the Lemurs, is armed with a straight pointed claw; the rest have large hooked claws. The tail is long and bushy, with coarse black or brownish-black hairs; the general colour is ferruginous-brown, passing into gray on the sides of the head, the throat, and belly; the feet are nearly black. Beneath the brown outer-coat there is on the back and limbs a fine thick under-coat of soft yellow wool, which appears more or less through the outer. In the female the teats are two and ventral. Length of head and body 1 foot 6 inches; the tail being nearly the same. (Fig. 94.)

According to Sonnerat, who kept two of these animals, a male and female, in captivity, it would appear that the habits of the Aye-Aye are nocturnal. By day they see with difficulty, and the eyes, which are of an ochre colour, resemble those of an owl. Timid and inoffensive, they pass the day in sleep, and when roused up their motions are slow, like those of the Loris: they have also the same fondness for warmth; their thick fur indeed sufficiently proves their impatience of cold. During the day the Aye-Aye conceals itself in its secluded retreat, some hole or excavation, whence it issues forth on the approach



94.—Aye-Aye.

of darkness in quest of food : its diet consists of buds and fruits, together with insects and their larvæ ; for the latter it searches the crevices and bark of trees, drawing them forth by means of its long finger, and so conveying them to its mouth. Sonnerat kept his specimens alive for two months, feeding them upon boiled rice, in taking up which they used their long slender fingers, much in the same manner as the Chinese do their chop-sticks. Sonnerat remarks that, during the whole of the time these animals lived, he never observed them set up their long

bushy tail, like a squirrel, but that, on the contrary, it was always kept trailing at length.

Considering the length of time that has intervened since the discovery of the Aye-Aye by Sonnerat, and visited as the island of Madagascar has been by Europeans, it is somewhat strange that no additional specimens should have been obtained, and that not a single notice of a living individual having been seen or captured should have appeared.

GENUS GALEOPITHECUS.

This genus contains those strange animals the Colugos, called Flying Lemurs, Flying Cats, Flying Foxes, &c., by voyagers. The first notice of the Colugo is by Bontius, who terms it "*Vespertilio admirabilis*." It was afterwards figured by Seba, under the name of *Felis volans Ternatanus*: Linnæus subsequently placed it among the Lemurs under the title of *Lemur volans*. Cuvier places it at the end of the Bats. The query then at once arises, to what group is the Colugo to be referred? M. Geoffroy, who denies its relationship to the Bats, observes that it is still less a Lemur, and that its head is altogether that of a true "Carnassier." Notwithstanding this authority, in our views its affinities, intermediate as they may be between the Lemurs and other groups, place it within the pale of the Lemurine family.

THE COLUGO

is an animal of the size of a cat, furnished with an extensive parachute consisting of a lateral membrane, not only between the anterior and posterior limbs, but also between the posterior limbs, so as to include the tail, which is of considerable length: the fingers of the fore paws are also included in this extensive membranous expansion. The whole of the upper surface of the body and lateral membranes is covered with woolly fur, but the under surface is nearly naked. The parachute is capable of being folded up; but when on the stretch for action it forms a wide expanse, not indeed endowing its possessor

with true powers of flight, but enabling it to take long sweeping leaps from tree to tree with the utmost facility. (Fig. 95.)



95.—Colugo.

The general aspect of the head is Lemurine : the muzzle is produced ; the nostrils are lateral, naked, and sinuous ; the eyes moderate ; the ears short and pointed. The anterior limbs are long : the hands are divided into five fingers ; the first, or thumb, separated from the rest, though not antagonizing with them, is short ; the remaining four are nearly equal ; all are armed, not with flat nails, but with large deep, hooked, sharp-edged, retractile claws. The hinder limbs slightly exceed the fore limbs in length, and the feet are similar in character to the fore hands.

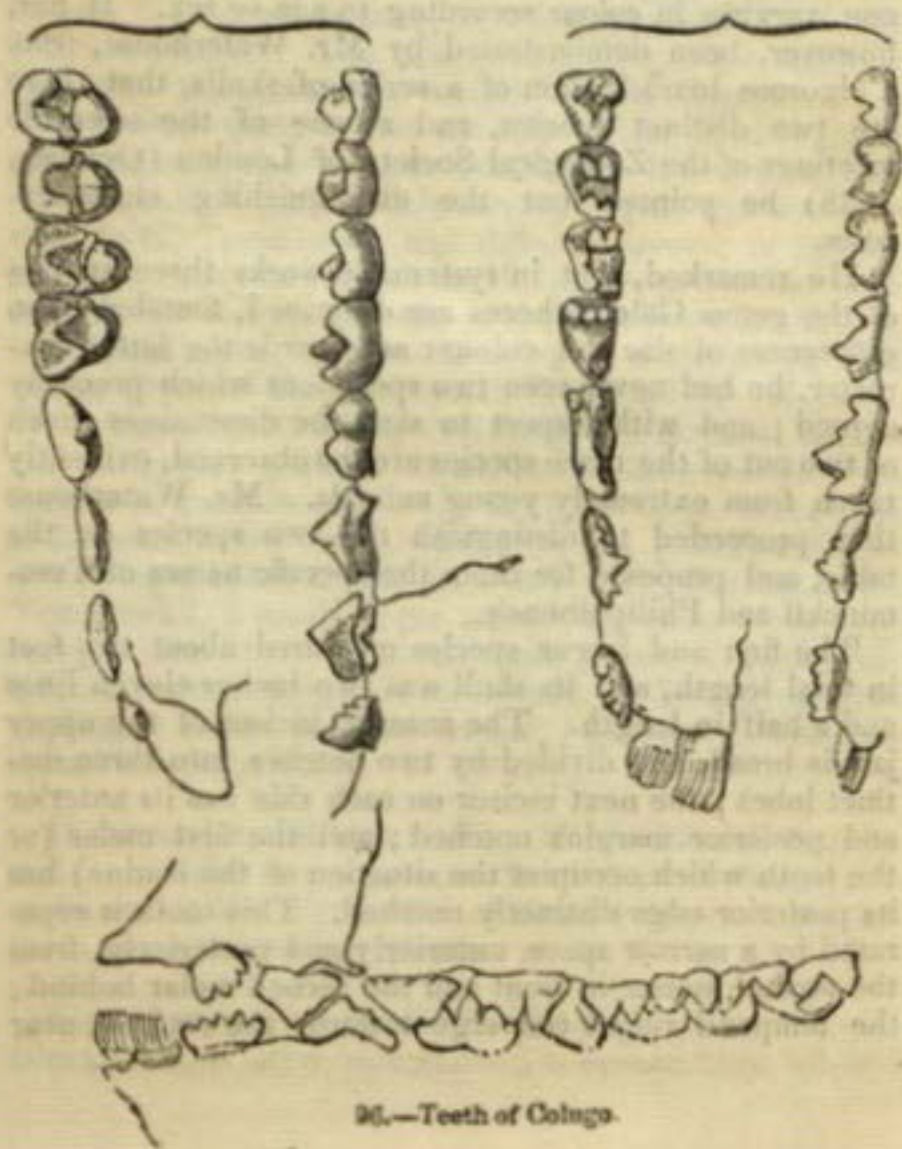
Fred. Cuvier gives the Dental Formula as follows:—

Incisors, $\frac{4}{6}$; canines, $\frac{0-0}{0-0}$; molars, $\frac{6-6}{6-6} = 34$.

(Fig. 96.) Mr. Waterhouse, whose excellent paper on the skull of the Colugo is in the 'Zoological Transactions,' vol. ii., gives the dentation thus:—

Incisors, $\frac{2-2}{4}$; canines, $\frac{0-0}{1-1}$; false molars, $\frac{2-2}{2-2}$; true

molars, $\frac{4-4}{4-4} = 34$.



96.—Teeth of Colugo.

The upper incisors are placed laterally in pairs, with a wide interval between each pair, occupying the anterior part of the jaw: the first is small, compressed, and jagged or pectinated; the second is similar, but somewhat larger. The two false molars above rise up with sharp points; the molars are crowned with acute insectivorous tubercles. The lower incisors are deeply and finely pectinate. (Figs. 97 and 98, Nos. 4 and 5.) The canines are serrated.

Some naturalists have considered the species of Colugo to be three; while Fischer and others recognise only one, varying in colour according to age or sex. It has, however, been demonstrated by Mr. Waterhouse, from a rigorous investigation of a series of skulls, that there are two distinct species, and at one of the scientific meetings of the Zoological Society of London (October, 1838) he pointed out the distinguishing characteristics.

He remarked, that in systematic works three species of the genus *Galeopithecus* are described, founded upon differences of size and colour: as regards the latter character, he had never seen two specimens which precisely agreed; and with respect to size, the dimensions given of two out of the three species are, he observed, evidently taken from extremely young animals. Mr. Waterhouse then proceeded to distinguish the two species on the table, and proposed for them the specific names of *Temminckii* and *Philippinensis*.

The first and larger species measured about two feet in total length, and its skull was two inches eleven lines and a half in length. The anterior incisor of the upper jaw is broad, and divided by two notches into three distinct lobes; the next incisor on each side has its anterior and posterior margins notched; and the first molar (or the tooth which occupies the situation of the canine) has its posterior edge distinctly notched. This tooth is separated by a narrow space, anteriorly and posteriorly, from the second incisor in front and the second molar behind; the temporal ridges converge towards the occiput, near

which, however, he observed, they are separated usually by a space of about four lines. This is probably the *Galeopithecus volans* of authors; but the identity cannot be said to be certain.

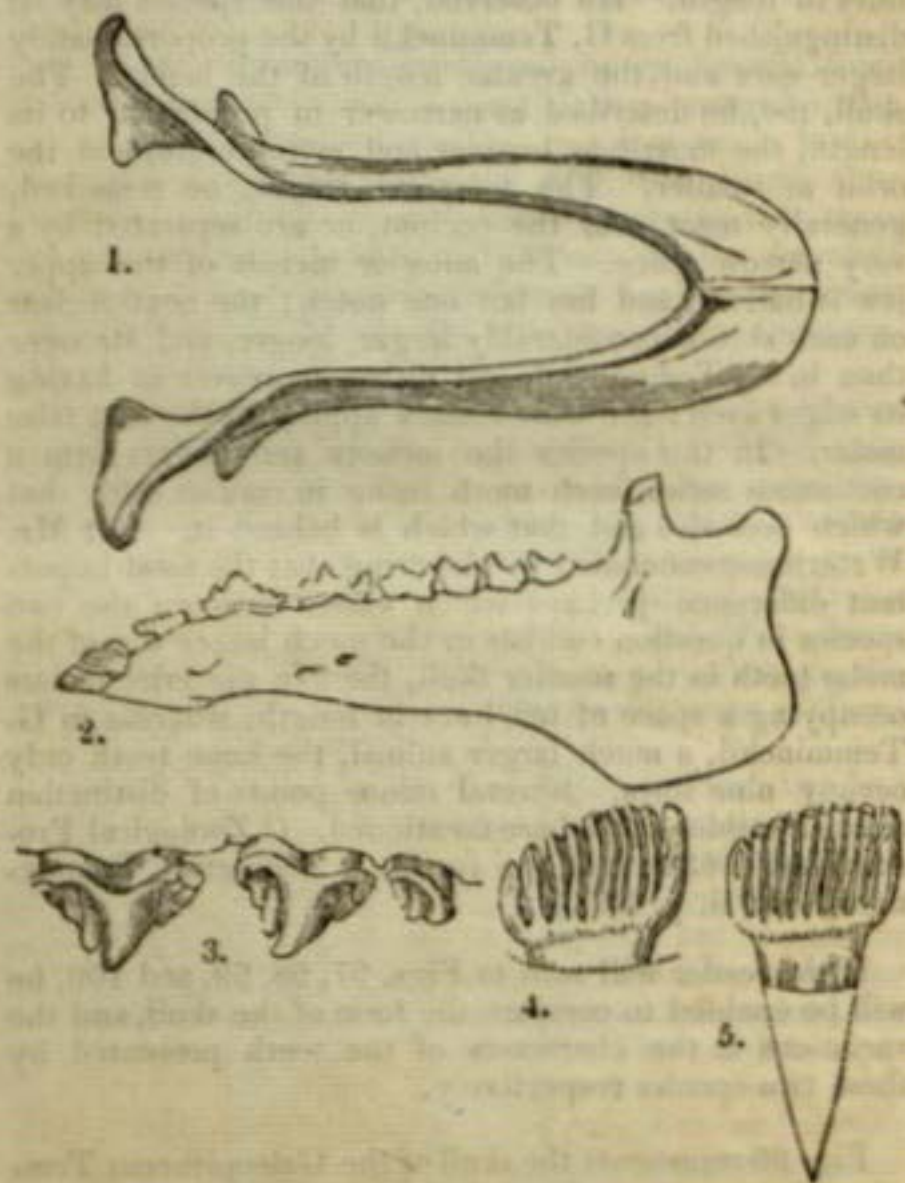
The second species, *G. Philippinensis*, was described by Mr. Waterhouse as being usually about twenty inches in length, and its skull as measuring two inches seven lines in length. He observed, that this species may be distinguished from *G. Temminckii* by the proportionately larger ears and the greater length of the hands. The skull, too, he described as narrower in proportion to its length, the muzzle as broader and more obtuse, and the orbit as smaller. The temporal ridges, he remarked, generally meet near the occiput, or are separated by a very narrow space. The anterior incisor of the upper jaw is narrow, and has but one notch; the next incisor on each side is considerably larger, longer, and stronger than in *G. Temminckii*, and differs moreover in having its edges even: the same remark applies to the first false molar. In this species the incisors and molars form a continuous series, each tooth being in contact with that which precedes and that which is behind it. But Mr. Waterhouse concluded by observing that the most important difference perhaps which exists between the two species in question consists in the much larger size of the molar teeth in the smaller skull, the five posterior molars occupying a space of ten lines in length, whereas in *G. Temminckii*, a much larger animal, the same teeth only occupy nine lines. Several minor points of distinction existed besides those here mentioned. ('Zoological Proceedings,' 1838; and see further, 'Zoological Transactions,' vol. ii. p. 335.)

If the reader will turn to Figs. 97, 98, 99, and 100, he will be enabled to compare the form of the skull, and the variations in the characters of the teeth presented by these two species respectively.

Fig. 99 represents the skull of the *Galeopithecus Temminckii*: *a*, as seen from above; *b*, as seen from below.

Fig. 97 represents the lower jaw and teeth of the same species (*G. Temminckii*): 1, the under side of the lower jaw; 2, side view of the same; 3, the three foremost teeth on either side of the upper jaw; 4, 5, outer and inner incisors of the lower jaw.

Fig. 100 represents the skull of *G. Philippinensis*: *a*, the upper side; *b*, the under side.



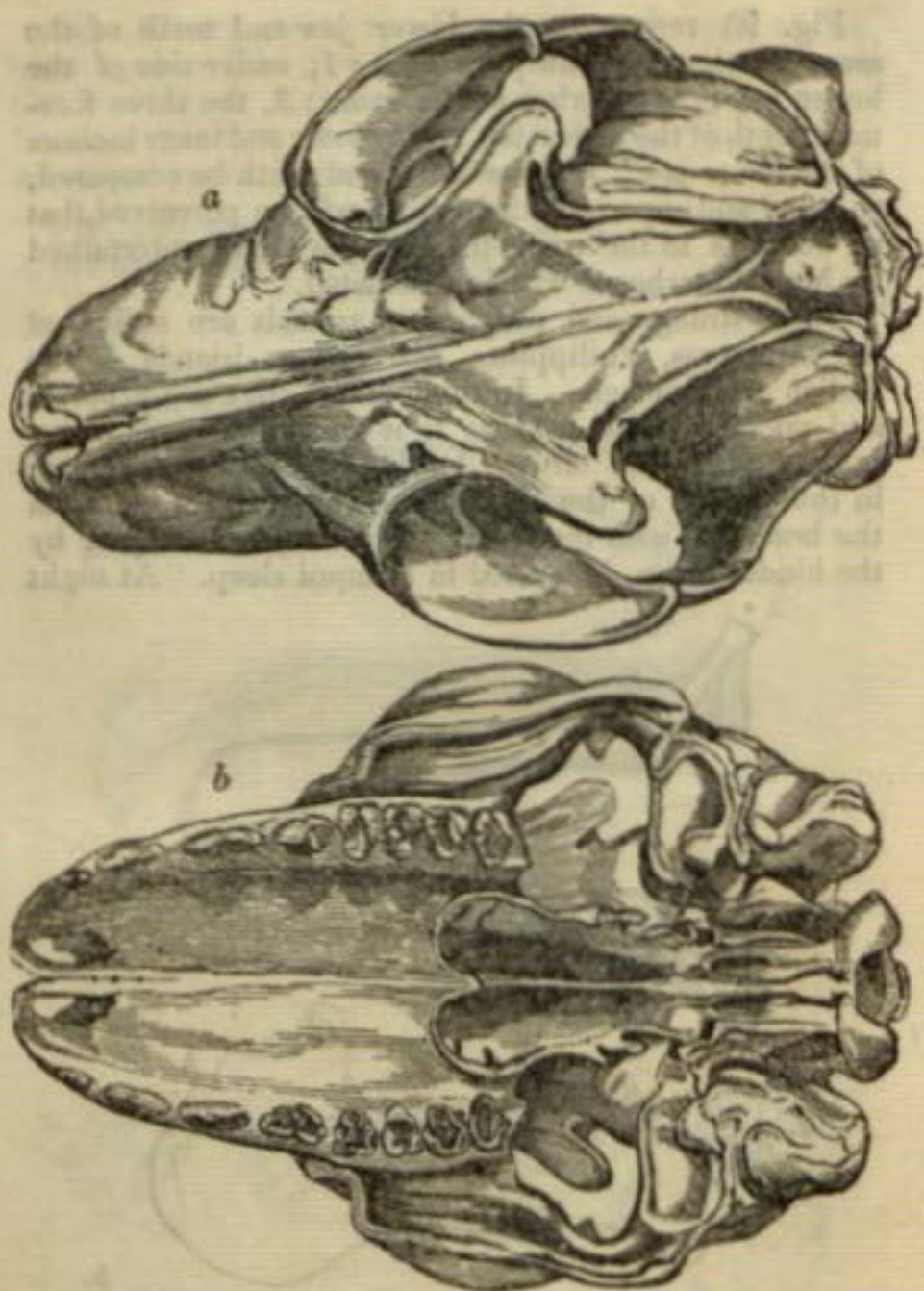
97.—Lower Jaw and Teeth of *Galeopithecus Temminckii*.

Fig. 98 represents the lower jaw and teeth of the same species (*G. Philippinensis*): 1, under side of the lower jaw; 2, side view of the same; 3, the three foremost teeth of the upper jaw; 4, 5, outer and inner incisors of the lower jaw. If these skulls and teeth be compared, so many and important distinctions will be perceived, that all doubt as to the correctness of the views entertained by Mr. Waterhouse will be dissipated.

These strange and perplexing animals are natives of the Moluccas, Philippines, and various islands of the Indian Archipelago. In their habits they are arboreal and nocturnal, and feed, as it is supposed, upon fruits, insects, eggs, and birds. During the day they remain in the depths of the forests, suspended like a bat from the branches, with the head downwards, and clinging by the hinder claws, immersed in tranquil sleep. At night

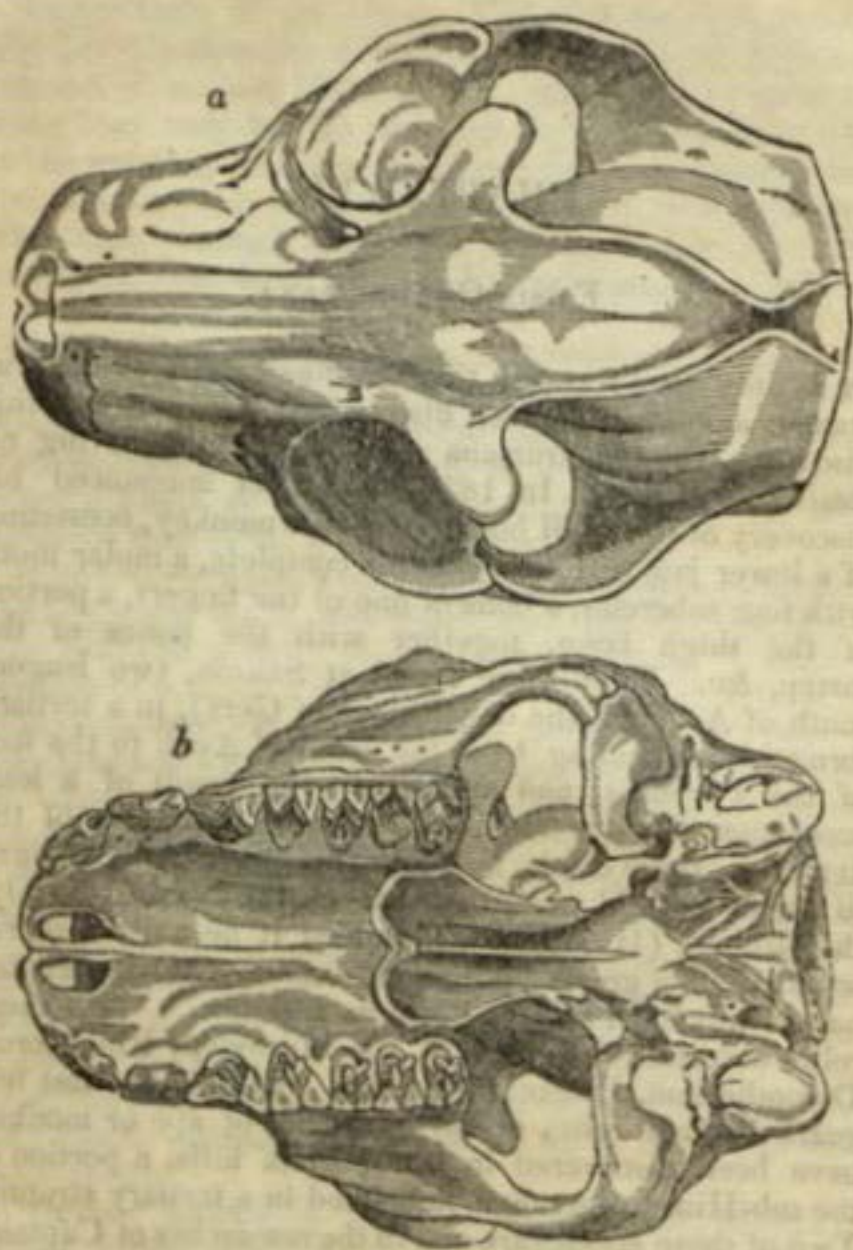


28.—Lower Jaw and Teeth of *Galeopithecus Philippinensis*.



99.—Skull of Galeopithecus Temminckii.

they rouse up, are active in traversing the trees in every direction and sweeping from one to another with great address, in search of food. Though of a disagreeable odour, their flesh is eaten by the natives. The females



100.—Skull of *Galeopithecus philippinensis*.

are said to produce two young at a birth, which adhere to the teats of their parent. Camelli, in a MS. on the subject in the British Museum, asserts the female to have a double abdominal pouch, in which the young are carried, but in this statement he is certainly erroneous.

CHAPTER VII.

FOSSIL QUADRUMANA.

It is only very recently that the fossil relics of quadrumanous animals have been discovered; previously to this discovery, the Quadrumana were regarded as having no fossil prototypes. In 1836 M. Lartet announced his discovery of the fossil bones of a large monkey, consisting of a lower jaw with its dentation complete, a molar tooth with four tubercles, a bone of one of the fingers, a portion of the thigh bone, together with the bones of the instep, &c. They were found at Sanson, two leagues south of Auch (in the department of Gers), in a tertiary formation extending from the south of Auch to the foot of the Pyrenees, and apparently the result of a long succession of water alluvia. From the characters of the dentation, there can be no doubt that the animal belonged to one of the old world sections of the Simiæ, namely, the Gibbons (*Hylobates*), if indeed it be not the representative of a genus no longer extant. M. Lartet has named this fossil species *Pithecus antiquus*. With these relics occurred those also of the Mastodon, Rhinoceros, *Deinotherium*, *Palæotherium*, &c. Within the last few years the fossil relics of three species of ape or monkey have been discovered in the Sewalik hills, a portion of the sub-Himalayan range, imbedded in a tertiary stratum. Two of these species are due to the researches of Captains Falconer and Cautley, and one to the labours of Lieutenants Baker and Duvaud. Of these fossil Simiæ, one, as the fragments indicate, exceeded in size any living species of the present day: the second was also a large animal, superior to the *Entellus* monkey in size; the third appears to have been about equal to the *Entellus*, and was probably an orang

In the basin of the Rio des Velhas in South America, Dr. Lund, a Swedish naturalist, has discovered the fossil remains of extinct *Quadrumana*; and it is interesting to know that they belong to a form closely related to that of the existing American monkeys termed *Sapajous*; but the animals must have far exceeded any living species. The larger, indeed, must have been upwards of four feet in height. Dr. Lund terms it *Protopithecus Brasiliensis*; the other, and smaller, he terms *Callithrix primævus*. We have then evidences of the existence of *Quadrumana* at a remote epoch, in continental Europe, Asia, and America; but what is more unexpected, we have proofs that, at some era, they existed in our island (if then an island), when, as we may imagine, its surface was very different from what it now appears.

The first example, a portion of the lower jaw, containing the last molar teeth, was found with the teeth of sharks (in 1837) in a deep layer of whitish sand, beneath a stratum of blue clay on the banks of the river Deben, at Kingston, near Woodbridge, in Suffolk. This bed of clay is in many places overlaid by crag, and may probably be assigned to the age of the London clay. In the stratum of sand the fossil teeth and portions of the lower jaw of an opossum were also discovered. (See 'Mag. Nat. Hist.' 1839, pp. 448, 450.) The extinct monkey, as proved by the characters of the molar tooth, belonged to the genus *Macacus*, or at least to a genus very closely related to it. The tooth, it may be observed, is somewhat narrower than in any recent species of *Macacus*, but the posterior fifth tubercle presents, as in most of that group, two cusps, instead of being simple as in the genus *Semnopithecus*.

In the 'Annals of Natural History,' Nov. 1839, Professor Owen describes a second tooth found in the same locality, which he identifies as the second molar of a *Macaque*; and from being well worn, it is evident that the individual to which it belonged was aged at the time of its death. It differs from the corresponding tooth of a recent *Macaque*, in having a slight ridge along the base of the interior part of the crown, and the same cha-

racter occurs also in the molar previously alluded to, and which was rigorously examined by the same philosophic anatomist. M. d'Orbigny's remark respecting the beds above the chalk in the neighbourhood of Meudon seems applicable in the present case, viz., that "in the lower part of the plastic clay, new features are discovered to obtain, demonstrating, in an especial manner, that various genera of Mammals were living at the epoch when that layer was formed."

That the Simiæ should have existed in our latitudes at the time of the deposition of the London clay is not surprising, when we consider the tropical character of the fossil fruits so abundant in that deposit: we say London clay (as the geologists designate it), because the blue stratum, beneath which these fossil teeth were found, belongs undoubtedly to that formation. Mr. Wood, in reference to one of these relics, observes, "As this fossil certainly belongs to some quadrumanous animal, there is no formation to which it could be so appropriately assigned as that of the London clay; the tropical character of the Fauna as well as the Flora of that period being such as to justify an assumption of a warmer climate quite suitable to the existence of our macacus." Besides the teeth of animals of the monkey tribe, a fragment of the jaw of an opossum, in which one of the false molars is retained, has been discovered in the same deposit.

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