

T H E
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 The T H E O R Y of the E A R T H in general.

by Buffon (p. 1) Translated from the FRENCH
 Of C O U N T de B U F F O N.

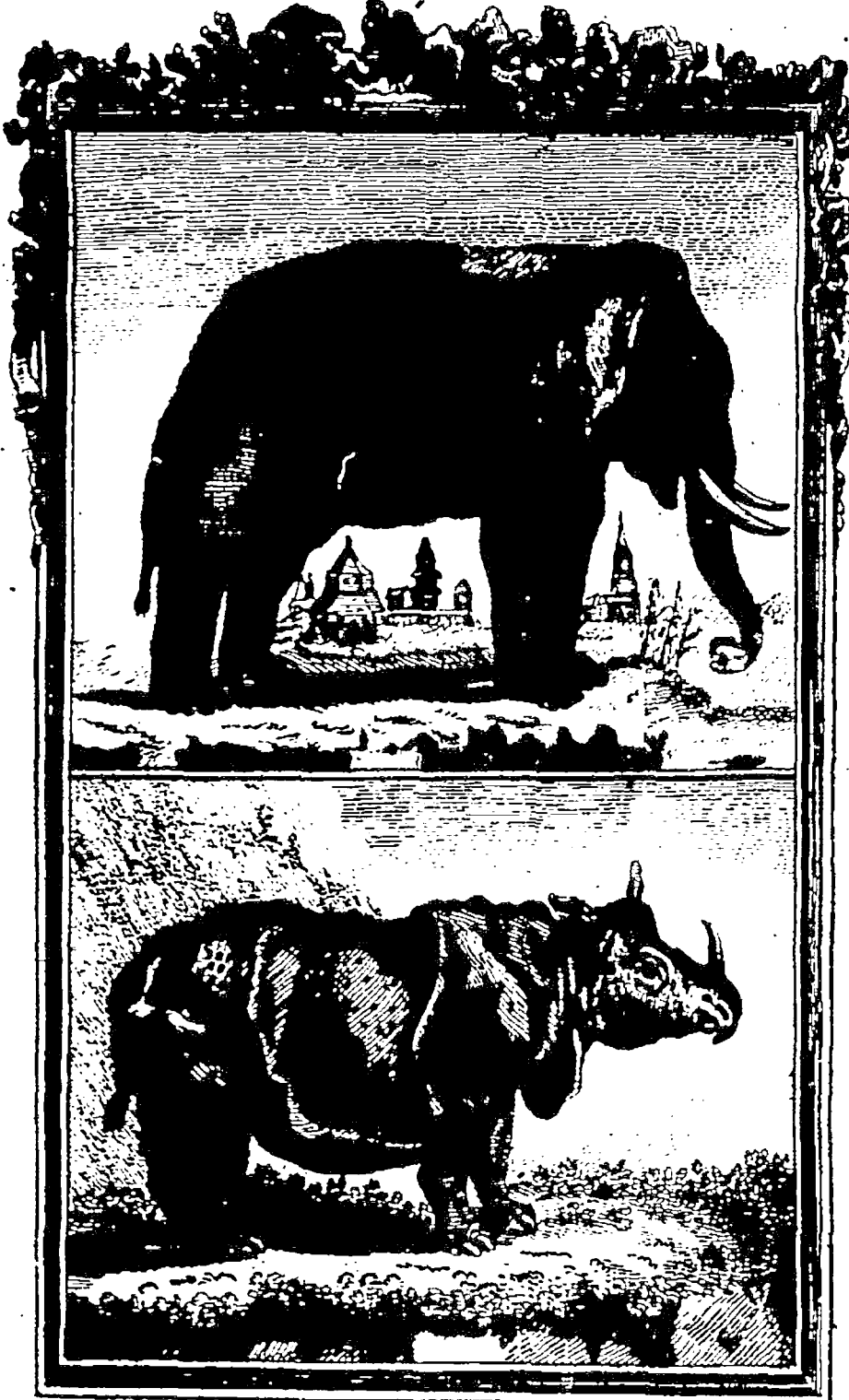
Intendant of the Royal Gardens in France; Member of the
 French Academy, of the Academy of Sciences, and of the
 Royal Societies of London, Berlin, &c.

By W. KENRICK, L.L.D. and OTHERS.

V O L. III.

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The ELEPHANT.



The RHINOCEROS.

naturalists, that these big bones had belonged to an animal much larger, whose species was lost or destroyed. But it is certain, as it has been mentioned before, that some elephants exist who are fourteen feet high, that is, six or seven times bigger (for the bulk is in proportion to the cube in height) than the elephant, the skeleton of which we have spoke of, and which had but seven feet and a half in height: it is certain, besides, from the observations of Mr. Daubenton, that the age changes the proportion of the bones, and when the animal is adult, they grow considerably bigger, though they are come to their full growth: in fine, it is certain, according to the relations of travellers, that some of the elephants' tusks, weigh each of them one hundred and twenty pounds. From these observations, we cannot doubt that those tusks and bones belonged to the elephant. Mr. Sloane was of that opinion, but he had not proved it. Mr. Gmellin said it still more affirmatively; he has given us on this subject various facts; but Mr. Daubenton is the first who has proved them unquestionably by exact measures and comparisons, and reasons founded on the great knowledge that he has acquired in the science of anatomy.

The RHINOCEROS.

AFTER the elephant, the rhinoceros is the most powerful of all quadrupeds; he is at least twelve feet in length, from the extremity of the snout to the tail; six or seven feet in height, and the circumference of the body very near equal to his length. He is therefore, like the elephant in bulk; and if he appears much smaller, it is because his legs are much shorter in proportion to those of the elephant; but he differs widely from that sagacious animal by his natural faculties, and his intelligence; having received
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from Nature merely what she grants in common to all animals; deprived of all feeling in the skin, having no organ answering the purpose of hands, nor distinct for the sense of feeling; he has nothing instead of a trunk, but a moveable lip, in which centers all his dexterity. He is superior to other animals, only in strength, bigness, and the offensive arm which he carries upon his nose, and which is peculiar to him: this arm is a very hard horn, solid throughout, and placed more advantageously than the horn of ruminating animals; these only protect the superior parts of the head and neck, whilst the horn of the rhinoceros defends all the exterior parts of the snout, and preserves the muzzle, the mouth, and the face, from insult; so that the tiger attacks more readily the elephant, in seizing his trunk, than the rhinoceros, which he cannot attack in front without running the danger of being killed; for the body and limbs are covered with an impenetrable skin, and this animal fears neither the claws of the tiger and the lion, nor the fire and weapons of the huntsman: his skin is a black leather of the same colour, but thicker and harder than that of the elephant; he does not feel the sting of flies; he cannot contract his skin: it is only folded by large wrinkles on the neck, the shoulders, and the buttocks, to facilitate the motions of the head and the legs, which are massive and terminated into large feet, armed with three great claws. He has the head larger in proportion than the elephant, but the eyes still smaller, which he never opens entirely: the upper jaw projects above the lower, and the upper lip has a motion, and may be lengthened six or seven inches; it is terminated by a sharp edge, which gives to this animal more facility than to other quadrupeds, to gather the grass and divide it into handfuls as the elephant does with his trunk. This muscular and flexible lip is a sort of trunk very incomplete, but which is equally calculated for strength and
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and dexterity. Instead of those long ivory teeth which form the tusks of the elephant, the rhinoceros has his powerful horn, and two strong incisive teeth to each jaw: these incisive teeth, which the elephant has not, are placed at a great distance from each other in the jaws of the rhinoceros; they are seated one by one to every corner or angle of the jaws: the under jaw is cut in a square form before; and there are no other incisive teeth in all the interior part which covers the lips; but, independently of these four incisive teeth, placed before to the four corners of the jaw, he has besides twenty-four smaller teeth, six on each side of each jaw: his ears are always erect; they are for the form, like those of a hog, only they are larger in proportion to his body; they are the only hairy parts of it. The end of the tail is, like that of the elephant; furnished with a tuft of large bristles very hard and very solid.

Mr. Parsons, a celebrated physician in London, to whom the republic of letters is indebted for several discoveries in natural history, and to whom I have myself singular obligations for the marks of esteem and friendship he has honoured me with, has published, in 1744, a Natural History of the Rhinoceros, of which I shall give an extract much more willingly, that whatever Mr. Parsons writes, seems to deserve credit and attention.

“ Though the rhinoceros was seen several times at the spectacles at Rome, from Pompey to Heliogabale, although many have been transported into Europe in these last ages; and that Bontius, Chardin, and Kolbe, have drawn his figure in the Indies and Africa; he was so badly represented, and his description was so imperfect, that he was known very imperfectly, and at the sight of those who arrived in London in 1739 and 1741, the errors or caprices of those who had published figures of this animal were very visible. That of Albert Durer, which is the

first, is one of the best conformable to Nature; that figure has, nevertheless, been copied by most naturalists, and even some have overcharged it with false drapery, and foreign ornaments. That of Bontius is more simple and more true; but the inferior part of the legs is badly delineated. On the contrary, that of Chardin represents naturally the foldings of the skin and the feet; besides, it does not resemble the animal. That of Camerarius is not better, no more than that which has been drawn after the rhinoceros which was in London in 1685, and which was published by Carwitham in 1739. Those which were engraved on the pavement of Proeneste, or on the medals of Domitian, are very imperfect; but, at least, they have not the imaginary ornaments of that of Albert Durer. Mr. Parsons has taken the trouble to draw himself this animal, before, behind, and in profile; he has also delineated the exterior parts of the generation of the male, and the single and double horns, as well as the tail of other rhinoceros's, the parts of which were preserved in the cabinets of Natural History. The rhinoceros who arrived in London in 1739, had been sent from Bengal: although he was young, being but two years old, the expences of his food, and of his voyage, amounted to near one thousand pounds sterling; he was fed with rice, sugar, and hay: they gave him daily seven pounds of rice, mixed with three pounds of sugar, which they divided into three parts: he had also a great quantity of hay and green grass, to which he gave the preference. His drink was nothing but water, of which he drank at one time a great quantity; he was of a quiet disposition, and let his manager feel him on all the parts of his body: he grew unruly when he was struck, or was hungry, and in both cases he could not be appeased without giving him something to eat. When he was angry, he leaped forwards with impetuosity to a great height, in beating furiously the walls with his head, which he

he did with a prodigious quickness, notwithstanding his heavy appearance and massive corpulence. "I have been often witness (says Mr. Parions) of those motions which produced impatience, or anger, especially in the morning before his rice and his sugar was brought to him; the quickness and celerity of the motions of this animal made me judge (said he) that he is absolutely untameable, and that he would easily overtake in running, a man who should have given him offence."

This rhinoceros, when he was two years old, was not much higher than a young cow who has not yet bore young; but his body was very long and very thick: his head was very big in proportion to his body, taking it from the ears to the horn of the nose, it formed a crooked concave, the extremities of which, that is, the superior end of the snout, and the part near the ears are very high; the horn had but an inch in height, it was black and flecked at the end, but concave in the basis, and directed backwards. The under lip is like that of an ox, and the upper lip resembles that of a horse, with that difference and this advantage, that the rhinoceros can lengthen, direct, and double it, in turning it around a stick, and seize by these means the bodies which he wants to bring to his mouth. The tongue of this young rhinoceros was soft like that of a calf: his eyes had no vivaciousness, they are like those of a hog for the form, and are placed very low, that is, nearer the opening of the nostrils. The ears are large, thin towards the end, and bound up with a sort of wrinkle at the origin. The neck is very short; the skin forms on this part two large foldings which surround him. The shoulders are very big and very thick; the skin makes to their joint another folding which comes under the fore legs. The body of this young rhinoceros was very thick, and resembled that of a cow ready to bring forth a calf. There is another folding betwixt the
body

body and the buttocks; this comes under the hind legs. In fine, there is another folding which furrounds transversally the lower part of the buttocks, at some distance from the tail; the belly was very big, and hung down to the ground, especially the middle part of it; the legs are round, thick, strong, and all crooked behind in the joint, which is covered by a remarkable folding, when the animal lies down, but it disappears when he is standing. The tail is thin and short, comparatively to the volume of the body; that of this rhinoceros had not above seventeen inches in length: it is little wider at the extremity, which is covered with hard, short, and thick hair. The yard is of an extraordinary form; it is wrapped in a sort of preputium case like that of a horse; and the first thing which appears outwardly in the time of erection, is a second prepuce of flesh-colour, from which issues out a hollow pipe in form of a funnel like a fleur de luce, which forms the extremity of the yard; it is of a paler colour than the second prepuce: in the strongest action, the yard extended no more than eight inches out of the body. It was very easy to procure him that state of extension in rubbing the animal upon the belly with bunches of straw, when he lay down. The direction of this member was not straight, but crooked, and backwards. He pissed in that direction, like a cow, from whence one can infer, that, in the act of copulation, the male does not cover the female, but they couple mutually by the buttocks. The female has the exterior parts of generation made and disposed like those of the cow, and resembles perfectly the male for the bigness and the form of the body. The skin is thick and impenetrable: in taking the foldings with the hands, it feels like a wooden plank half an inch thick. "When it is tanned (says Dr. Grew) it is excessively hard, and thicker than the skin of any other terrestrial animal; it is every where more or less covered with a crustaceous-

ccous-like, tuberos scales, which are small on the summit of the neck and the back, and which by degrees become bigger down the sides: the largest of all are on the shoulders and the buttocks, the thighs, and around the legs down to the feet; but betwixt the foldings the skin is penetrable, and even tender, and as soft as silk, while the outward part of the folding is as rough as the rest: this tender skin which is found within the folding is of flesh colour, and the skin of the belly is very near of the same colour and consistence; but those tuberos scales cannot be compared to scales, as have done several authors; they are a mere callosity of the skin, irregular in its figure, having no symmetry in their respective positions: the suppleness of the skin in the foldings, gives to the rhinoceros the facility of moving his head, his neck, and his limbs: the whole body, except the joints, is inflexible like a cuirass. Mr. Parsons says, that he has observed a very particular quality in this animal; he hearkened with a sort of continual attention to the beast's noise; so that, if he was even sleepy, employed in eating, or in satisfying other urgent wants, he awoke instantly, raised up his head, and gave attention, till the noise had ceased.

In fine, after having given this exact description of the rhinoceros, Mr. Parsons examines, whether rhinoceroses with a double horn on the nose, exist or not; and after having compared the relations of ancients and moderns, and the monuments of this species, which are found in the collections of Natural History, he concludes, with some probability, that the rhinoceroses of Asia, have commonly but one horn, and those of Africa, commonly two.

It is certain, that some rhinoceroses have but one horn of the nose, and others two; it is not equally certain, that this variety is constant, always depending on the climate of Africa, or the Indies; so that two distinct species may be established in these kind.

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of animals, in consequence of this difference. It seems, that the rhinoceros who have but one horn, have it bigger and longer than those who have two : there are single horns of three feet and a half, and perhaps, of more than four feet, in length, upon six or seven inches in diameter at the basis ; there are also double horns, which are but two feet in length. Commonly, these horns are brown, or olive-colour, yet some are grey, and even white : they have only a small concavity, in form of a cup, under their basis, by which they are fastened to the skin of the nose ; the remaining part of the horn is solid, and very hard. It is with this arm, that the rhinoceros is said to attack, and sometimes to wound mortally the biggest elephants, whose long legs give to the rhinoceros, who has them much shorter, an opportunity to strike them with his snout and his horn under the belly, where the skin is tender, and more penetrable ; but when he misses to strike the first blow, the elephant throws him on the ground, and kills him.

The horn of the rhinoceros is more valued by the Indians, than the ivory of the elephant : not so much on account of the matter, of which they make several works with the chissel, but for its substance, to which they attribute divers specific virtues, and medicinal properties. The white ones, as the most rare, are also those which they value most. Among the presents which the king of Siam sent to Louis XIV. in 1636, were six horns of rhinoceros. We have seen in the king's cabinet, twelve of different sizes, and one particularly, which, though mutilated, was three feet eight inches and a half in length.

The rhinoceros, without being ferocious or carnivorous, or even very wild, is, nevertheless, untamable. He is of the nature of a hog, blunt and grunting without intellects, without sentiment, and without tractableness ; he must be ever subject to fits of fury, that nothing can calm ; for the rhinoceros which Emanuel,

nuel, king of Portugal, sent to the Pope in 1513, was the cause that the ship, in which he was transported, perished; and that which we have seen at Paris, some years ago, was drowned in the same manner, in going over to Italy. These animals are also, like the hog, very much inclined to wallow, and will throw themselves into the mire; they like damp and marshy places, and seldom leave the banks of rivers. They are found in Asia and Africa, in Bengal, Siam, Laos, in the Mogul dominions, in Sumatra, in Java, in Abyssinia, in Ethiopia, in the country of the Anzicos, as far as the Cape of Good Hope. But, in general, the species is not so numerous, and so universally spread, as that of the elephant. The female brings forth but one young, and at a great distance of time. In the first month, the rhinoceros is not much bigger than a large dog; he has not as soon as brought forth the horn on the nose, although the rudiment of it is seen in the foetus: when he is two years old, this horn is only an inch long; and in his sixth year, it has about ten inches; and as some of these horns are very near four feet long have been seen, it seems, they grow till his middle age, and, perhaps, during the whole life of the animal, which must be long, since the rhinoceros, described by Mr. Parsons, was not come to half his growth when he was two years old, which makes it probable, that this animal lives as a man, seventy or eighty years.

Without being useful as the elephant, the rhinoceros is very hurtful, by the prodigious devastation which he makes in the fields. The skin is the most valuable thing of this animal; his flesh is excellent, according to the taste of Indians and Negroes. Kalbe says, he has often eaten it with great pleasure. His skin makes the best and hardest leather of the world; and not only his horn, but all the other parts of his body, and even his blood, his urine, and his excrements, are esteemed as antidotes against poison, or a
remedy

remedy against several diseases. These antidotes, or remedies, extracted from different parts of the rhinoceros, are of the same use in the dispensatory of the Indians, as the treacle is in that of Europe. Probably, all those virtues are imaginary:—But how many things are sought after, which have no value but in opinion!

The rhinoceros feeds upon herbs, thistles, prickles, shrubs, and he prefers this wild food to the sweet pasture of the verdant meadows; he is very fond of sugar-canes, and eats also all sorts of corn: having no taste whatsoever for flesh, he does not molest small animals, neither fears the large ones, living in peace with them all, even with the tiger, who often accompanies him without daring to attack him: therefore, I doubt, that the battles betwixt the elephant and the rhinoceros, have any foundation; they must, however, seldom happen, since there is no notice for war on either side: and, besides, no sort of antipathy has been observed between these animals. Some have even been seen in captivity, live quietly together, without giving offence or provocation to each other. Pliny is, I believe, the first who has mentioned these battles betwixt the rhinoceros and the elephant. It seems, they were compelled to fight in the spectacles of Rome, and, probably, they have taken from thence the idea, that when they were free, and in their natural state, they fought as desperately; but, I repeat it, every action without motive is not natural, it is, in effect, without cause, which does not happen, or by mere chance.

The rhinoceroses do not herd together, nor march in troops like the elephant; they are more wild and more solitary, and perhaps more difficult to be hunted and subdued: they never attack men unless provoked; but then they become furious, and are very formidable: the steel of Damias, the scymitars
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of Japan, cannot make an incision upon his skin; the darts and lances cannot pierce him through: his skin even resists the balls of a musket; those of lead become flat upon his leather, and the iron ingots cannot penetrate through it: the only places absolutely penetrable in this body armed with a cuirass, are the belly, the eyes, and around the ears; so that huntsmen, instead of attacking this animal standing, follow him at a distance by his track, and wait to approach him for the time that he sleeps or rests himself. We have in the king's cabinet a foetus of a rhinoceros which was sent from the island of Java, and extracted from the body of the mother: it was said, in a memorial which accompanied this present, that twenty-eight huntsmen had assembled to attack this rhinoceros, they had followed him far off for some days, one or two men walking now and then before, to reconnoitre the position of the animal; by these means they surprised him when he was asleep, and came so near in silence, that they discharged all at once their twenty-eight guns into the lower parts of its belly.

We have seen, by the description of Mr. Parsons, that this animal has a good ear, and even very attentive: it is also affirmed, that he has the sense of smelling excellent; but it is pretended, he has not a good eye, and sees only before him: his eyes are so small, and placed so low, and so obliquely, they have so little vivacity and motion, that this fact needs no other confirmation. His voice, when he is calm, resembles the grunting of a hog; and when he is angry, his sharp cries are heard at a great distance. Though he lives upon vegetables, he does not ruminate: thus, it is probable, that, like the elephant, he has but one stomach, and very large bowels, which supply the office of the paunch: his consumption, though very great, is not comparable to that of the elephant, and it appears, by the thickness of

his skin, that he loses less than the elephant by perspiration.

The CAMEL *and the* DROMEDARY.

THESSE two names do not include two different species, but only indicate two distinct breeds, subsisting from time immemorial in the camel species: the principal, and as may be said, the only perceptible character by which they differ, consists in the camel's bearing two hunches, or protuberances, and the dromedary only one; who is also much less and not so strong as the camel; but both of them herd and copulate together, and the production from this cross breed is more vigorous, and of greater value, than the others.

This mongrel issue from the dromedary and the camel form a secondary breed, which also mix and multiply with the first; so that in this species, as well as in that of other domestic animals, there are to be found a great variety, the general part of which are relative to the difference of the climates they are produced in. Aristotle has judiciously marked the two principal breeds; the first, (which has two hunches) under the name of the BACTRIAN CAMEL; and the second, under that of the ARABIAN CAMEL; the first are called TURKMAN, and the others ARABIAN CAMELS. This division still subsists, with this difference only, that it appears, since the discovery of those parts of Africa and Asia, which were unknown to the ancients, that the dromedary is, without comparison, more numerous and more universal than the camel: the last being seldom to be found in any other place than in Turkey, and in some other parts of the Levant; while the dromedary, more common than any other beast of his size, is to be found in all the northern parts of Africa, which extends
from