

# NATURAL HISTORY,

GENERAL AND PARTICULAR,

BY THE

COUNT DE BUFFON,

ILLUSTRATED WITH ABOVE SIX HUNDRED COPPER PLATES.

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THE

HISTORY OF MAN AND QUADRUPEDS

TRANSLATED, WITH NOTES AND OBSERVATIONS,

BY WILLIAM SMELLIE,

MEMBER OF THE ANTIQUARIAN AND ROYAL SOCIETIES OF EDINBURGH.

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A NEW EDITION,

CAREFULLY CORRECTED AND CONSIDERABLY ENLARGED, BY MANY  
ADDITIONAL ARTICLES, NOTES, AND PLATES,

AND

SOME ACCOUNT OF THE LIFE OF M. DE BUFFON.

BY WILLIAM WOOD, F. L. S.

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IN TWENTY VOLUMES.

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RHINOCEROS.

ervation than any other fossil bones; and that notwithstanding these particulars, there is not the least proof, not even any credible testimony, which can lead us to believe that a living animal of the kind has ever been seen, either in North

## THE RHINOCEROS\*.

NEXT to the elephant, the rhinoceros is the strongest quadruped. He is at least twelve feet long, from the extremity of the muzzle to the

### \* CHARACTER GENERICUS.

*Cornu solidum perenne conicum, naso insidens, cum osse non cohaerens.*

*Pedes unguinati.*

### CHARACTER SPECIFICUS.

RHINOCEROS UNICORNIS. R. cornu unico.—*Linn. Syst. Nat. Gmel. i. p. 57.*

Rhinoceros cornu unico conico.—*Gron. Zooph. i. p. 4. No. 13.*

RHINOCEROS.—*Plin. lib. viii. c. 20.—Gesn. Quadr. p. 842.—Ray's Synops. p. 122.—Klein. Quadr. p. 26.—Grew, Mus. p. 29.—Worm. Mus. p. 336.—Brist. Quadr. p. 78.—Phil. Trans. Abrid. vol. ix. p. 93.—Kolben, vol. ii. p. 101.*

LE RHINOCEROS.—*Buff. Hist. Nat. par Sonn. xxviii. p. 283, pl. 9.*

RHINOCEROS.—*Parson's Phil. Trans. vol. xlii.—Edwards, pl. 221.—Penn. Hist. Quadr. i. p. 154.—Shaw's Gen. Zool. i. p. 198, pl. 60.*

### HABITAT

inter et prope tropicos in paludosis. IV.

The rhinoceros has one large horn, sometimes two, placed

origin of the tail, and the circumference of his body is nearly equal to his length \*. In magnitude near the end of the nose; it is sometimes three feet and a half long, black, and smooth. The upper lip is long, hangs over the lower, ends in a point, is very pliable, and serves to collect its food, and deliver it into the mouth. The nostrils are placed transversely. The ears are large, erect, and pointed. The eyes are small and dull. The skin is naked, rough, or tuberculated, and lies about the neck in vast folds. There is another fold from the shoulders to the fore-legs, and another from the hind part of the back to the thighs. The skin is so thick and so strong as to turn the edge of a scimitar and resist a musket ball. The tail is slender, flattened at the end, and covered on the sides with very stiff, thick, black hairs. The belly hangs low. The legs are short, strong, and thick. The hoofs are divided into three parts, each pointing forward. — *Peun. Synops. Quadr.* p. 75.

Though the name of this animal be entirely Greek, it was unknown to the ancient Greeks. Aristotle takes no notice of it. Strabo is the first Greek, and Pliny the first Roman author who mentions it. The rhinoceros probably did not frequent that part of India into which Alexander had penetrated, though he met with great numbers of elephants; for it was about 500 years after Alexander, that Pompey first brought this animal to Europe.

*Rhinocerote*, in Italian; *Abada*, in Portuguese.

\* I have in my possession a figure of a rhinoceros, drawn by an officer of the Shaftesbury East India vessel in the year 1737. The figure corresponds very well with mine. The animal died in the passage from the East Indies to Britain. This officer had written the following note at the bottom of the figure. "His back was about seven feet high. His colour resembled that of a hog, whose skin is beginning to dry after wallowing in the mire. He had three hoofs on each foot. The folds of his skin lay backward on each other. Between these folds were harboured insects, millepedes, scorpions, small serpents, &c. He was not above three years old when his figure was drawn. His penis, when extended, spread out in the form of a flower de luce." In a corner of the plate I

tude, therefore, he makes a near approach to the elephant; and he appears to be much less, only because his legs are proportionally shorter than those of the elephant. But he differs still more from the elephant in his natural powers and intelligence; for Nature has bestowed on him nothing that elevates him above the ordinary rank of quadrupeds. He is deprived of all sensibility in his skin; neither has he hands to enable him to improve by the sense of touching; and instead of a trunk, he has only a moveable lip, to which all his means of dexterity or address are limited. His chief sources of superiority over other animals consist in his strength, his magnitude, and the offensive weapon on his nose, which is entirely peculiar to him. This weapon is very hard horn, solid throughout its whole extent, and situated more advantageously than the horns of ruminating animals, which defend only the superior parts of the head and neck. But

have given a figure of the penis. As this figure was communicated to me by Dr. Tyson, I had not an opportunity of consulting the author, whether these noxious insects, which he says take up their abode in the folds of the animal's skin, were seen by himself, or whether he only related what had been told him by the Indians. I acknowledge that the fact appears very singular.—*Edwards's Gleanings*, p. 25. *Note*, This last fact is not only doubtful, but that of the animal's age, compared with his largeness, appears to be false. We saw a rhinoceros of, at least, eight years of age, which exceeded not five feet in height. Mr. Parsons saw one of two years, which was not higher than a heifer, which may be computed at about four feet. How, then, could the rhinoceros above taken notice of be only three years old, if it was seven feet high?

the horn of the rhinoceros preserves from insult the muzzle, the mouth, and the face. For this reason, the tiger will rather attack the elephant, whose trunk he lays hold of, than the rhinoceros, whom he dare not face, without running the risk of having his bowels torn out; for the body and limbs of the rhinoceros are covered with a skin so impenetrable, that he fears neither the claws of the tiger or lion, nor the sword or shot of the hunter. His skin is blackish, being of the same colour, but thicker and harder than that of the elephant, and is not sensible to the stings of flies. He can neither extend nor contract his skin, which is rolled up into large folds at the neck, the shoulders, and the crupper, in order to facilitate the motion of his head and limbs, which last are massy, and terminated by large feet, armed with three great toes. His head is proportionably longer than that of the elephant; but his eyes are still smaller, and seldom above half open. The upper, which projects over the under lip, is moveable, and can be stretched out about six or seven inches in length; and it is terminated by a pointed appendix, which gives this animal a power of collecting herbage in handfuls, as the elephant does with its trunk. This muscular and flexible lip is a kind of hand or imperfect trunk; but it enables the creature to seize any object with force, and to feel with some dexterity. Instead of those long ivory tusks which constitute the armour of the elephant, the rhinoceros has a formidable horn, and two strong incisive teeth in each jaw. These teeth,

of which the elephant is deprived, are situated at a great distance from each other, one in each angle of the jaw. The under jaw is square before; and there are no other incisive teeth in the anterior part of the mouth, which is covered by the lips. But beside the four cutting teeth, in the four corners of the mouth, there are twenty-four grinders, six on each side of the two jaws. He holds his ears always erect: in figure they resemble those of the hog; but they are proportionally smaller. The ears are the only parts of the body on which there are hairs, or rather bristles. The extremity of the tail, like that of the elephant, is garnished with a bush of large, solid, hard bristles.

Dr. Parsons, a celebrated physician in London, to whom the republic of letters is much indebted for many valuable discoveries in natural history, and to whom I owe the highest acknowledgments for the marks of esteem and friendship with which he has been pleased to honour me, published, in the year 1743, a history of the rhinoceros, from which I shall the more willingly make extracts, because every composition of that gentleman merits the attention and confidence of the public.

Though the rhinoceros was frequently exhibited in the Roman spectacles, from the days of Pompey to those of Heliogabalus; though he has often been transported into Europe in more modern times; and though Bontius, Chardin, and Kolben, have drawn figures of him both in India and Africa; yet so ill was he represented

and described, that he was very imperfectly known till the errors and caprices of those who had published figures of him were detected by inspection of the animals which arrived in London in the years 1739 and 1741. The figure given by Albert Durer was the first, and the least conformable to Nature; yet it was copied by most naturalists, some of whom loaded it with preposterous drapery and foreign ornaments. That of Bontius is more simple and correct; but the inferior part of the legs is improperly represented. That of Chardin, on the contrary, gives a pretty good idea of the feet, and the folds of the skin; but, in other respects, it has no resemblance to the animal. That of Camerarius is no better; neither is that drawn from the rhinoceros exhibited at London in the year 1685, and which was published by Carwitham in the year 1739. In fine, the figures on the ancient pavement of Præneste, and on Domitian's medals, are extremely imperfect; but they have the merit of not being deformed by the imaginary ornaments represented in the figure drawn by Albert Durer. Dr. Parsons has taken the trouble of drawing this animal himself\* in three different views, before,

\* One of our learned philosophers, M. de Mours, has made some remarks on this subject, which must not be omitted. "The figure," says he, "of the rhinoceros which Dr. Parsons has added to his memoir, and which he drew from the life, is so different from that engraved at Paris in the year 1749, from a rhinoceros exhibited at the fair of St. Germain, that it is difficult to recognise them to be the same animal. That of Dr. Parsons is shorter, and the folds of the skin are fewer in number, less marked, and some of

behind, and in profile. He has likewise drawn the male organs of generation, the single and

them placed in a different position. The head, particularly, has hardly any resemblance to that of the St. Germain rhinoceros. We cannot, however, entertain a doubt with regard to the accuracy of Dr. Parsons. The reasons of such remarkable differences must be sought for in the age and sex of the two animals. That of Dr. Parsons was drawn from a male rhinoceros, which exceeded not the age of two years. That which I have here added, was drawn from a picture of the celebrated M. Oudry, a most distinguished animal painter. He painted from the life, and of the natural size, the St. Germain rhinoceros, which was a female, and at least eight years old; I say at least eight years; for we see by an inscription written on the bottom of a wooden print, entitled, *A true portrait of a living rhinoceros exhibited at the fair of St. Germain in Paris*, that this animal, when taken, in 1741, in the province of Assem, belonging to the Mogul, was three years old: and, eight lines lower, it is said, that the animal was only one month old when some Indians entangled it with ropes, after having slain the mother by their spears and darts. Hence it must have been at least eight years of age, and might be ten or twelve. This difference of age is probably the reason of the remarkable differences between Dr. Parsons's figure and that of M. Oudry, whose picture, executed by the order of the king, was exhibited in the painter's hall. I shall only remark, that M. Oudry has made the horn of his rhinoceros too long; for I examined the animal with great attention, and I find that this part is better represented in the wooden print. The horn of the present figure was drawn after this print, and the rest is copied from M. Oudry's picture. The animal which it represents was weighed, about a year before, at Stouquart, in the duchy of Wirtemberg, and its weight was at that time five hundred pounds. It eat, according to the relation of Captain Dowenot Wan-dermeer, who conducted it to Europe, sixty pounds of hay, and twenty pounds of bread, every day. It was very tame, and surprisingly agile, considering the enormity of its mass, and its

double horns, as well as the tail, from other rhinoceroses, whose parts are preserved in the cabinets of natural history.

The rhinoceros which came to London in the year 1739, was sent from Bengal. Though not above two years of age, the expense of his food and journey amounted to near one thousand pounds sterling. He was fed with rice, sugar, and hay. He had daily seven pounds of rice, mixed with three pounds of sugar, and divided into three portions. He had likewise hay and green herbs, which last he preferred to hay. His drink was water, of which he took large quantities at a time. He was of a peaceable disposition, and allowed all parts of his body to be touched. When hungry or struck by any person, he became mischievous, and, in both cases, nothing appeased him but food. When enraged, he sprung forward, and nimbly raised himself to a great height, pushing, at the same time, his head furiously against the walls, which he performed with amazing quickness, notwithstanding his heavy aspect and unweildy mass. I often observed, says Dr. Parsons, these movements produced by rage or impatience, especially in the mornings before his rice and sugar were brought to him. The vivacity and promptitude of his movements, Dr. Parsons adds, led me to think, that he is altogether unconquerable, and that he unweildy aspect." These remarks, like all those of M. de Mours, are judicious and sensible. See the figure in his French translation of the Philosophical Transactions, ann. 1743.

could easily overtake any man who should offend him.

This rhinoceros, at the age of two years, was not taller than a young cow that has never produced. But his body was very long and very thick. His head was disproportionally large. From the ears to the horn there is a concavity, the two extremities of which, namely the upper end of the muzzle, and the part near the ears, are considerably raised. The horn, which was not yet above an inch high, was black, smooth at the top, but full of wrinkles directed backward at the base. The nostrils are situated very low, being not above an inch distant from the opening of the mouth. The under lip is pretty similar to that of the ox; but the upper lip has a greater resemblance to that of the horse, with this advantageous difference, that the rhinoceros can lengthen this lip, move it from side to side, roll it about a staff, and seize with it any object he wishes to carry to his mouth. The tongue of this young rhinoceros was soft, like that of a calf\*. His eyes had no vivacity: in figure, they resembled those of the hog, and were situated lower, or nearer the nostrils, than in any other

\* Most voyagers and all naturalists, both ancient and modern, tell us, that the tongue of the rhinoceros is very rough, and its papillæ so sharp, that with the tongue alone, he tore the flesh from a man's body even to the bones. This fact, which is every where related, appears to be very suspicious and ill imagined; because the rhinoceros does not eat flesh, and animals, in general, which have rough tongues, are seldom carnivorous.

quadruped. His ears are large, thin at the extremities, and contracted at their origin by a kind of annular rugosity. The neck is very short, and surrounded with two large folds of skin. The shoulders are very thick, and, at their juncture, there is another fold of skin, which descends upon the fore-legs. The body of this young rhinoceros was very thick, and pretty much resembled that of a cow about to bring forth. Between the body and crupper there is another fold, which descends upon the hind-legs. Lastly, another fold transversely surrounds the inferior part of the crupper, at some distance from the tail. The belly was large, and hung near the ground, particularly its middle part. The legs are round, thick, strong, and their joint bended backwards. This joint, which, when the animal lies, is covered with a remarkable fold of the skin, appears when he stands. The tail is thin, and proportionally short; that of the rhinoceros so often mentioned, exceeded not sixteen or seventeen inches in length. It turns a little thicker at the extremity, which is garnished with some short, thick, hard hairs. The form of the penis is very extraordinary. It is contained in a prepuce or sheath, like that of the horse; and the first thing that appears in the time of erection, is a second prepuce, of a flesh-colour, from which there issues a hollow tube, in the form of a funnel cut and bordered somewhat like a flower de luce\*, and constitutes the glans and extremity of the

\* Phil. Trans. No. 470, pl. 111; Edwards's Gleanings.

penis. This anomalous glans is of a paler flesh-colour than the second prepuce. In the most vigorous erection, the penis extends not above eight inches out of the body; and it is easily procured by rubbing the animal with a handful of straw when he lies at his ease. The direction of this organ is not straight, but bended backward. Hence he throws out his urine behind; and, from this circumstance, it may be inferred, that the male covers not the female, but that they unite with their cruppers to each other. The female organs are situated like those of the cow, and she exactly resembles the male in figure and grossness of body. The skin is so thick and impenetrable, that, when a man lays hold of any of the folds, he would imagine he is touching a wooden plank of half an inch thick. When tanned, Dr. Grew remarks, it is excessively hard, and thicker than the hide of any other terrestrial animal. It is every where covered more or less with incrustations in the form of galls or tuberosities, which are pretty small on the top of the neck and back, but become larger on the sides. The largest are on the shoulders and crupper, and are still pretty large on the thighs and legs, upon which they are spread all round, and even on the feet. But, between the folds, the skin is penetrable, delicate, and as soft to the touch as silk, while the external part of the fold is equally hard with the rest. This tender skin between the folds is of a light flesh-colour; and the skin of the belly is nearly of the same colour and consistence. These galls or tuberosi-

ties should not be compared, as some authors have done, to scales. They are simple indurations of the skin only, without any regularity in their figure, or symmetry in their respective positions. The flexibility of the skin in the folds enables the rhinoceros to move with facility his head, neck, and members. The whole body, except at the joints, is inflexible, and resembles a coat of mail. Dr. Parsons remarks, that this animal listened with a deep and long continued attention to any kind of noise, and that, though he was sleeping, eating, or obeying any other pressing demands of nature, he raised his head and listened till the noise ceased.

In fine, after giving this accurate description of the rhinoceros, Dr. Parsons examines whether the rhinoceros, with a double horn, exists; and, having compared the testimonies of the ancients and moderns, and the remains of this variety in the collections of natural objects, he, with much probability, concludes, that the rhinoceroses of Asia have commonly but one horn, and that those of Africa have generally two.

It is unquestionably true, that some rhinoceroses have but one horn, and that others have two\*. But it is not equally certain that this

\* Kolben asserts positively, and as if he had been an eye-witness, that the first horn of the rhinoceros is upon the nose, and the second upon the front, in a right line with the first; that the latter, which is brown, never exceeds two feet in length; and that the second is yellow, and seldom longer than six inches. — *Descript. du Cap de Bonne Esperance*, tom. iii. p. 17. But we have already mentioned double

variety is constant, and depends on the climate of Africa or India; or that this difference is alone sufficient to constitute two distinct species. It appears that the rhinoceroses with one horn have this excrescence always longer than those with two. There are single horns of three and a half, and perhaps of above four feet in length, by six or seven inches diameter at the base. Some double horns are two feet long\*. These horns are commonly of a brown or olive colour; though there are instances of their being gray, and even white. They have only a slight concavity in form of a cup under the base, by which they are fixed to the skin of the nose. The rest of the horn is solid, and harder than common horn. It is with this weapon that the rhinoceros is said to attack and sometimes mortally wound the largest elephants, whose tall legs give the rhinoceros an opportunity of striking, with his snout and horn, their bellies, where the skin is most tender and penetrable. But, if he misses his first blow, the elephant throws him on the ground and kills him.

horns, the second differing very little from the first, which was two feet long, and both were of the same colour. Besides, it appears to be certain, that they are never at such a distance from each other as this author has placed them; for the bases of the two horns, preserved in the cabinet of sir Hans Sloane, were not three inches asunder.

\* *Ursus cornu gemino.* — *Martial, Spect.* ep. 22. — *Phil. Trans. Abrid.* vol. ix. p. 100; vol. xi. p. 910. — *Phil. Trans.* vol. lvi. p. 32, tab. 2. — *Flacourt, Hist. Madag.* p. 395. — *Lobo Abyss.* p. 250. *Rhinoceros bicornis.* — *Linn. Syst. Nat.* p. 104.

The horn of the rhinoceros is more esteemed by the Indians than the ivory of the elephant, not on account of its real utility, though they make several toys of it with the chisel and turner's lathe, but on account of certain medicinal qualities they ascribe to it\*. The white horns, being rarest, are in great request. Among the presents sent by the king of Siam to Lewis XIV.

\* Sunt in regno Bengalen rhinocerotes Lusitanis *Abades* dicti, cujus animalis corium, dentes, caro, sanguis, unguis, et cæteræ ejus partes, toto genere resistunt venenis; qua de causa in maximo pretio est apud Indos. — In those parts of Bengal which border on the Ganges, the rhinoceroses, or unicorns, there called *Abades*, are very common, and numbers of their horns are brought to Goa. They are about two palms in circumference at the base, gradually taper to a point, and serve the animal as a defensive weapon. They are of an obscure colour, and the cups made of them are highly esteemed, especially if they have the power of counteracting poisonous liquors. — *Voyage du P. Philippe*, p. 371. Every part of the rhinoceros's body is medicinal. His horn is a powerful antidote against all kinds of poison; and the Siamese make a great article of traffic with it among the neighbouring nations. Some of them are sold for more than a hundred crowns. Those which are of a bright gray colour, and spotted with white, are most valued by the Chinese. — *Hist. Nat. de Siam, par Nic. Gervaise*, p. 34. The horns, teeth, toes, flesh, skin, blood, and even their urine and excrements, are in great request among the Indians, as powerful remedies for different diseases. — *Voyage de la Compagnie des Indes de Hollande*, tom. i. p. 417. His horn is placed between the two nostrils; it is very thick at the base, and terminates in a sharp point: it is of a greenish brown colour, and not black, as some authors maintain. When very gray or approaching to white, it brings a high price. But it is always dear, on account of the value put on it by the Indians. — *Ibid.* tom. vii. p. 277.

in the year 1686 \*, were six horns of the rhinoceros. In the Royal Cabinet we have twelve, of different sizes; and one of them, though cut, is three feet eight inches and a half long.

The rhinoceros, without being ferocious, carnivorous, or extremely wild, is, however, perfectly untractable †. He is nearly among large, what the hog is among small animals, rash and brutal, without intelligence, sentiment, or docility. He seems even to be subject to paroxysms of fury, which nothing can appease; for the one which Emanuel king of Portugal sent to the pope in the year 1513, destroyed the vessel in which they were transporting him ‡; and the rhinoceros, which we lately saw in Paris, was drowned in the same manner in its voyage to Italy. Like the hog, these animals are fond of wallowing in the mire. They love moist and marshy grounds, and never quit the banks of rivers. They are found

\* Among the presents sent by the king of Siam to France, in the year 1686, were six rhinoceros's horns, which were greatly valued over all the East. The Chevalier Vernati has written from Batavia to Britain, that the horns, teeth, toes, and blood of the rhinoceros, are antidotes, and that they are as much used in the Indian pharmacopœia as the theriaca in that of Europe. — *Voyag. de la Comp. des Ind. de Hol.* p. 484.

† Chardin says (tom. iii. p. 45) that the Abyssinians tame the rhinoceros, and train him to labour, like the elephants. This fact seems to be extremely suspicious: no other author mentions it; and it is well known, that, in Bengal, Siam, and other southern parts of India, where the rhinoceros is, perhaps, still more common than in Æthiopia, and where the natives are accustomed to tame the elephants, he is regarded as an irclaimable animal, of which no domestic use can be made.

‡ Philosophical Transactions, No. 470.

in Asia and Africa, in Bengal \*, Siam †, Laos ‡, Mogul §, Sumatra ||, at Java in Abyssinia ¶, in Æthiopia \*\*, in the country of the Anzicos ††, and as far as the Cape of Good Hope ††. But, in general, the species is not numerous, and much less diffused than that of the elephant. The female produces but one at a time, and at considerable intervals. During the first month, the young rhinoceros exceeds not the size of a large dog §§. When recently brought forth, it has no horn |||, though the rudiments of it appear

\* Voyage du P. Philippe, p. 371; Voyage de la Compagnie des Indes de Hollande, tom. i. p. 417.

† Histoire Naturelle de Siam, par Gervaise, p. 33.

‡ Journal de l'Abbé de Choisy, p. 339.

§ Voyage de Tavernier, tom. iii. p. 97; Voyage d'Edward Terri, p. 15.

|| Histoire Generale des Voyages, par M. l'Abbé Prevôt, tom. ix. p. 339.

¶ Voyage de la Compagnie des Indes de Hollande, tom. vii. p. 277.

\*\* Voyage de Chardin, tom. iii. p. 45; Relation de Thevenot, p. 10.

†† Histoire Generale des Voyages, par M. l'Abbé Prevôt, tom. v. p. 91.

‡‡ Voyage de Franc. le Guat. tom. ii. p. 145; Description du Cap de Bonne Esperance, par Kolbe, tom. iii. p. 15 et suiv:

§§ We have seen a young rhinoceros which was not larger than a dog. It followed its master every where, and drank the milk of the buffalo. But it lived only three weeks. The teeth were beginning to appear.—*Voyage de la Compagnie des Indes de Hollande*, tom. vii. p. 483.

||| In two young rhinoceroses, nothing but a prominence was observed on the place where the horns were to arise,

in the fœtus. At the age of two years, the horn exceeds not an inch in length \*, and, at the age of six, it is from nine to ten inches long †: now, as some of these horns are known to be near four feet in length, it appears that they continue to grow during the half, or perhaps during the whole of the animal's life, which must be considerably long, since the rhinoceros described by Dr. Parsons had only acquired about one half of its height at the age of two years; from which we may conclude, that this animal, like man, should live seventy or eighty years.

Without the capacity of becoming useful, like the elephant, the rhinoceros is equally hurtful by his voracity, and particularly by the great waste he makes in the cultivated fields. He is of no use till he is slain. His flesh is reckoned excellent by the Indians and Negroes ‡; and Kolbe says he often eat it with pleasure. His skin makes the hardest and best leather in the world §; and not only his horn, but all the other

though the animals were then as large as an ox. But their legs are very short, especially those before, which are shorter than the hind-legs. — *Voyage de Pietro della Valle*, tom. iv. p. 245.

\* Phil. Trans. No. 470.

† Id. *ibid.*

‡ The Indians eat the flesh of the rhinoceros, and reckon it excellent. They even derive advantage from his blood, which they collect with care as a remedy for diseases in the breast. — *Hist. Nat. de Siam, par Gervaise*, p. 35.

§ His skin is of a fine gray colour, approaching to black, like that of the elephant; but it is rougher and thicker than

parts of his body, and even his blood\*, urine, and excrements, are esteemed to be antidotes against poison, or remedies for particular diseases. These antidotes or remedies, extracted from different parts of the rhinoceros, are of equal use in the Indian pharmacopœia as the theriaca in that of Europe †. Most of the virtues ascribed to both are probably imaginary: but how many objects are in the highest repute, which have no value but in the opinions of men?

The rhinoceros feeds on the grossest herbs, as thistles and thorny shrubs, which he prefers to the soft pasture of the best meadows ‡. He is fond of the sugar-cane, and likewise eats all kinds of grain. Having no appetite for flesh, he neither disturbs the small nor fears the large animals, but lives in peace with all, not excepting the tiger, who often accompanies the rhinoceros, without daring to attack him. This peaceful disposition renders the combats between the elephant and the rhinoceros very suspicious: such combats must at least be rare, since there is no

that of any other animal. . . . The skin is covered every where, except on the neck and head, with small knots or tubercles, &c. — *Voyage de Chardin*, tom. iii. p. 45.

\* *Voyage de Mandelslo*, tom. ii. p. 350.

† *Voyage de la Comp. des Indes de Hollande*, tom. vii. p. 484.

‡ This animal feeds upon plants, and prefers brushwood, broom, and thistles. But of all plants he is fondest of a shrub which resembles the juniper, and is called the *rhinoceros shrub*. Great quantities of it grow on heathy lands and on the mountains. — *Descript. du Cap de Bonne Esperance*, par Kolbe, tom. iii. p. 17.

motive to war on either side. Besides, no antipathy has ever been remarked between these animals. They have been known, even in a state of captivity, to live peaceably together, without discovering any marks of resentment or antipathy\*. Pliny, I believe, is the first author who mentions these combats between the elephant and rhinoceros. It appears that these animals were compelled to fight at the Roman spectacles†; and from hence, probably, the idea was formed, that, when in their natural state of liberty, they fight in the same manner. But every action without a motive is unnatural; it is an effect without a cause, which cannot happen but by accident.

The rhinoceroses assemble not, nor march in troops like the elephants. They are more solitary and savage; and it is, perhaps, more difficult to hunt, and to overcome them. They never attack men‡, unless they are provoked,

\* The Dutch history entitled *l'Ambassade de la Chine*, gives a false description of this animal, especially when it exhibits the rhinoceros as the chief enemy of the elephant; for the rhinoceros I am mentioning was kept in the same stable with two elephants, and I have several times seen them near each other without discovering the smallest antipathy. An Æthiopian ambassador had brought this animal as a present. — *Voyage de Chardin*, tom. iii. p. 45.

† The Romans took pleasure in making the rhinoceros and elephant fight at their public shows. — *Singular, de la France Antarctique, par André Thevet*, p. 41.

‡ The rhinoceros never attacks any person, nor becomes furious, unless he is provoked, and then his ferocity is tremendous; he grunts like a hog, and overturns trees and

when they become furious and formidable. Their skin is so hard as to resist sabres, lances, javelins, and even musket balls\*. The only penetrable parts of the body are the belly, the eyes, and about the ears†. Hence the

every thing that comes in his way.—*Voyage de la Compagnie des Indes de Hollande*, tom vii. p. 278.

\* His skin is thick, hard, and rough. . . . It is even impenetrable by the sabres of the Japanese, and coats of arms, bucklers, &c., are made of it.—*Id. Ibid.* p. 483. The rhinoceros seldom attacks man, unless when provoked, or the person wears a red habit. In both these cases, he becomes furious, and overturns every thing that opposes him. When these animals attack a man, they seize him by the middle of the body, and toss him up with such force, that he is killed by the fall. . . . However enraged he may be, it is easy to avoid his approach: he is indeed very swift; but he turns with great difficulty. Besides, according to my information, he sees only what is before him. Hence, when he comes within a few paces, we have only to step to a side; for he then loses sight of us, and it is very difficult for him to return in quest of us. I have experienced this fact, having more than once seen him advance toward me with all his fury.—*Descript. du Cap de Bonne Esperance, par Kolbe*, tom. iii. p. 17.

† It is difficult to kill him; and men never attack him without danger of being torn to pieces. Those who are accustomed to hunt the rhinoceros find means, however, to defend themselves from his fury; for he is fond of marshy grounds; they observe when he repairs thither, and, concealing themselves among the bushes opposite to the direction of the wind, they watch till he lies down either to sleep or to wallow, that they may have an opportunity of shooting him near the ears, where alone he can receive a mortal wound. They place themselves against the wind; because the scent of the rhinoceros is so acute, that he never approaches any object he perceives till the smell of it reaches his nostrils.—*Hist. Nat. de Siam, par Gervaise*, p. 35.

hunters, instead of attacking him face to face, follow him at a distance by the tracks of his feet, and watch till he lies down to sleep. We have, in the Royal Cabinet, a fœtus of a rhinoceros, which was extracted from the body of the mother, and sent to us from the island of Java. By the memoir which accompanied this fœtus, we are informed that twenty-eight hunters having assembled to attack the mother, they followed her at a distance for some days, detaching one or two of their number, from time to time, in order to reconnoitre her situation; that, by this means, they surprised her when asleep, and silently approached so near, that the whole twenty-eight muskets were discharged at once into the lower part of her belly.

From the description given by Dr. Parsons, it appears that this animal has an acute and very attentive ear. We are likewise assured that his sense of smelling is excellent. But it is said, that his eyes are not good, and that he sees such objects only as are before him \*. The extreme

\* See the preceding note. — The eyes of the rhinoceros are very small, and he sees only forward. When he walks, or pursues his prey, he proceeds always in a direct line, forcing, overturning, and piercing through every obstruction that falls in his way. Neither bushes, nor trees, nor thickets of brambles, nor large stones, can turn him from his course. With the horn on his nose, he tears up trees, raises stones high in the air, and throws them behind him to a considerable distance, and with a great noise: in a word, he overthrows every object which he can lay hold of. When he is enraged, and meets with no obstruction, lowering his head, he ploughs the

minuteness of his eyes, their low, oblique, and deep situation, the dullness, and the small degree of motion they seem to possess, tend to confirm this fact. His voice, when he is in a state of tranquillity, is blunt, and resembles the grunting of a hog; but, when enraged, it becomes sharp, and is heard at a great distance. Though he lives on vegetables only, he does not ruminate. Hence it is probable, that, like the elephant, he has but one stomach, and capacious bowels, which supply the place of many stomachs. His consumption of food, though considerable, is not near so great as that of the elephant; and it appears, from the density and uninterrupted thickness of his skin, that he also loses much less by perspiration.

I have seen a second rhinoceros, which was lately brought to the royal menagery. In the month of September, 1770, if the people who conducted it can be credited, the animal was only three months old. But, I am persuaded, that it was at least two or three years of age; for its body, including the head, was already eight feet two inches long, five feet six inches high, and eight feet two inches in circumference. A year afterward, its body was lengthened seven inches; so that on the 28th day of

ground, and throws large quantities of earth over his head. He grunts like a hog: his cry, when in a state of tranquillity, does not reach far; but, when in pursuit of his prey, it may be heard at a great distance.—*Descript. du Cap de Bonne Esperance, par Kolbe.*

August, 1771, it was eight feet nine inches, including the length of the head, five feet nine inches high, and eight feet nine inches in circumference. On the 12th day of August, 1772, the length of the body, comprehending the head, was nine feet four inches, the height of the crupper six feet four inches, and that of the withers only five feet eleven inches. Its skin had the colour and appearance of an old elm tree, spotted in some places with black and gray, and in others doubled into deep furrows, which formed a kind of scales. It had only one horn, the colour of which was brown, and its substance solid and hard. The eyes are small and prominent, the ears large, and pretty similar to those of an ass. The back, which was hollow, or depressed, seemed to be covered with a natural saddle. The legs were short and very thick. The feet were rounded behind, and divided before into three hoofs. The tail resembled that of an ox, and was garnished with black hairs at the extremity. The penis lay along the testicles, and erected itself for the discharge of urine, which the animal threw out to a great distance. The point of it was also very remarkable, forming a cavity like the mouth of a trumpet. The sheath from which it issues is fleshy, and of a vermilion colour, like the penis itself. This fleshy substance, which formed the first tube, came out of a second sheath composed of skin, as in other quadrupeds. The tongue is so hard and rough, that it tears off the skin of any per-

son whom it licks; hence this animal eats large thorns, without feeling any pain. The rhinoceros requires one hundred and sixty pounds of food every day. His flesh is much relished by the Indians and Africans, and especially by the Hottentots. If trained when young, he might be rendered domestic, and, in this state, he would multiply more easily than the elephant.

“ I could never discover the reason,” Mr. Parsons remarks, “ why in Asia the rhinoceros is allowed to remain in a wild state, while in Abyssinia he is rendered domestic, and is employed in carrying burdens \*.”

“ M. de Buffon,” says Mr. Bruce, “ conjectured that there were, in the interior parts of Africa, rhinoceroses with two horns. This conjecture is fully verified; for all the rhinoceroses I saw in Abyssinia had two horns. The first, that is, the one nearest the nose, is of the common form; the second is sharp at the point, and always shorter than the first. Both spring at the same time; but the first grows more quickly, and exceeds the other in size, not only during the time of growth, but during the whole life of the animal †.”

On the other hand, M. Allamand, a very able naturalist, wrote to Mr. Daubenton a letter, dated at Leyden, October 31, 1766, in the following terms:

\* *Defense des Recherches sur les Americains*, p. 95.

† Note communicated by Mr. Bruce to M. de Buffon.



TWO-HORNED RHINOCEROS.

“ I recollect a remark of Mr. Parsons, in a passage quoted by M. de Buffon: he suspected that the rhinoceroses of Asia have but one horn, and that those of the Cape of Good Hope have two. I suspect the very opposite: the heads of the rhinoceroses which I received from Bengal and other parts of India, had always double horns, and all those which came from the Cape of Good Hope had but one horn.”

This last passage proves what we have formerly remarked, that the rhinoceroses with double horns form a variety in the species, a particular race, which is found equally in Asia and Africa \*

\* All doubt, however, upon this subject is now banished, as we have abundant proof of the existence of two distinct species of rhinoceroses; the single horned being confined to Asia, and the double horned to Africa. The skin of this last mentioned animal, unlike the other, is without any folds, but much granulated or warty. Its two horns are placed one behind the other; they are not connected to the bone of the nose, but grow in the muscular integuments which immediately cover it: this accounts for a singularity mentioned by Barrow in his Travels in Southern Africa; that, when the animal is browsing and undisturbed, the horns remain loose upon the nose; but the moment he is alarmed, they become perfectly stiff, and ready to act in the most offensive manner. The length of the fore-horn of one in the Philosophical Transactions, is twenty inches; of the second horn, nineteen; but they vary in size: the eyes, which are situated near the root of the larger horn, are extremely minute for so large an animal, but Nature has obviated the inconvenience which would otherwise result from their smallness, by placing them in projecting sockets, in which they turn in every

direction. There are a few stiff bristles scattered about the body, particularly about the ears, and on the end of the tail, which is singularly formed, being convex above and below, and flat on the sides. There are three hoofs on each foot, which project a little forward.

In its manners, this animal resembles the single horned species.

Naturalists are highly indebted to professor Pallas for the singular account which he has given of the entire body of a two-horned rhinoceros, dug up in a particular part of eastern Siberia. It was found buried within twenty yards of a river, in the ancient frozen soil, and was covered with its skin, flesh, and muscles.

Pallas tells us, that when he arrived at Ireuth, in the month of March, 1772, he was presented, among other curiosities, with the head of an animal of considerable magnitude, entirely covered with its natural skin, and exhibiting the remains of tendons and ligaments. From the figure of the head, and the marks of the horns, he was immediately convinced that it belonged to the rhinoceros; and this opinion was afterwards more particularly confirmed by the inspection of two feet of the same animal, in which he distinctly saw the characteristic division of the toes of the rhinoceros: these feet were covered with the skin, and the greatest part of the fleshy fibres, so as to resemble a mummy.

The following is the account of this discovery, published by M. Argunoff, in the Russian language, in 1771, and transmitted to professor Pallas, in the month of February, 1772:

The body of an animal, half buried in the sand, was found in the month of December, 1771, in the bank of the river Willioni, under a sharp hill, at fifteen yards from the water. Its length was fifteen spans, and its height ten, as nearly as could be estimated. The commandant of the place asserts, that this animal is absolutely unknown to the inhabitants, and that nothing of the kind had ever been seen before in their country. The governor-general, having previously published an edict, by virtue of which all the curiosities discovered in his department should be transmitted to him, the head and the two feet of this animal were sent to Ireuth, in

good preservation. The remainder of the body, although still covered with its skin, was so rotten, that, after being left, it dissolved and disappeared; except a third foot, which was sent to the prefecture of Jacut.

The professor gives a detailed account of the appearance of the parts which he received; but it is not quite certain that this animal belonged to the African species, since the horns were not found with the head. Pallas, however, tells us, that the vestiges were evident, both of the nasal and frontal horn.

*IV.*