

SCRIPTURE ILLUSTRATED,

BY MEANS OF

NATURAL SCIENCE, 43

IN BOTANY, GEOLOGY, GEOGRAPHY, NATURAL HISTORY, NATURAL
PHILOSOPHY,

UTENSILS, DOMESTIC AND MILITARY, HABILIMENTS, MANNERS, AND CUSTOMS, &c.

IN TWO PARTS....PART I.

AN EXPOSITORY INDEX,

REFERRING TO

SUBJECTS OF SCIENCE, IN THE ORDER OF THE SACRED BOOKS.

PART II.

INQUIRIES AND DISCUSSIONS,

INTENDED TO ILLUSTRATE VARIOUS INCIDENTS, &c. MENTIONED IN SCRIPTURE.

WITH AN ATTEMPT TO ASCERTAIN

THE SYSTEMATIC ARRANGEMENT OF THE BIBLICAL WRITERS.

WITH PLATES.

CONDUCTED PRINCIPALLY BY THE

EDITOR OF CALMET'S DICTIONARY OF THE HOLY BIBLE.

TO WHICH IS ADDED,

AN APPENDIX;

COMPRISING ABOUT ONE HUNDRED PAGES, NOT BEFORE PUBLISHED IN THIS WORK.

SELECTED CHIEFLY FROM TRAVELS IN THE EAST.

VOL. IV.

CHARLESTOWN;

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word, which is rather suspicious. In Isai. xxxvi. 6. it is spelled *ourim*; in verse 24. we read of *oirim* labouring the earth in conjunction with oxen; this requires strength, and strength seems to be the character attributed to Ishmael, who was to be the *oir* of the wild ass, i.e. in its state of power, liveliness, and *mettle*, perhaps *restiveness*. This will allow also of a poetical climax in the words of Jacob, Gen. xlix. 11. "Binding his *oireh*, female foal of an ass, at her best estate, to the vine, the common vine, in its best estate also; and his son of his *atun*, superior kind of ass, and most highly valued, to his *sorek*, superior kind of grape vine, and that which he most esteemed. Here the parallelism is perfect, as well as the climax is regular.

The upper figure on our Plate is the male *onager*,

or wild ass; the lower figures are views of the female. Copied from Rozier.

* * * I understand, that an ass of the superior breed was brought from Egypt, by the colonel of one of the highland regiments which accompanied general Abercrombie on his expedition to that country against the French invaders of it. The newspapers of Edinburgh mention the arrival of the regiment in the month of June, 1802, and notice this creature as being of fine proportions, and standing fourteen hands high. As this regiment passed through part of that city at 6 o'clock in the morning, the corps itself was not seen by all the town; and this ass by still fewer persons, as it was pretty much hid by the troops. Report valued this animal at 1000 guineas.

UNICORN, REEM, RHINOCEROS. JOB xxxix. 9, &c.

Translation of No. xlv. of Michaelis's "Questions proposed to the learned travellers in Arabia."

"NOTWITHSTANDING so many labours which truly learned men have undertaken, such as Bochart, Ludolph, and Schultens, to explain the import of the Hebrew word *reem* or *raam*, [רֵאֵם or רָאֵם] that import remains still almost entirely concealed from us. The last mentioned writer seems to be the only one who has taken the right road for the discovery of the truth. Without loading the Hebrew language with a new animal, already well known to us, he contents himself with reporting whatever he has been able to collect from the Arabian writers relating to the word *reem*. He confesses, however, for himself, that after having considered what he produces, the animal referred to continues equally unascertained; because, no one of the writers has given a methodical description of it, nor has mentioned those characters, whereby it may be distinguished from other horned creatures, and especially from our bulls, when they are wild. What, however, seems to be certain is, that Golius has badly translated the Arabic *reem* by *dorcas*; and that the animal denoted by this term belongs to the bull kind, with this difference, that it is absolutely impossible to tame it. We see also, that the sacred text supposes a great resemblance between him and a bull, since Job is asked, whether he would dare to intrust the *reem* with such or such labours, as were performed by bullocks. The travellers will deliver us from all these doubts, and from our ignorance, by bringing a correct figure of the reem, with a methodical and circumstantial description. I beg them not to forget the manners, the swiftness, and natural ferocity of this animal; and to compare it carefully with the passage, Job xxxix. 9, &c."

The following is Mr. Scott's note on the passage of Job, where the reem is particularly described.

"The unicorn] the wild bull. The Hebrew name

is *reem*, which appears from the allusions to it in Scripture to be a creature of great strength, with high and terrible horns, and of the beeeve kind, Numb. xxiii. 22; xxiv. 8; Deut. xxxiii. 17; Psalm xxii. 13, 22; xxix. 6; xcii. 11; Isai. xxxiv. 6, 7. It cannot, therefore, be the *unicorn*, which is a fish in the north seas. The land unicorn is a mere fiction. Neither can it be the rhinoceros, which has but one horn, and that a very short one, placed just over the nose. We learn from Dr. Parsons, in the Philosophical Transactions for the year 1743, that there is in Africa a species of rhinoceros that has always a double horn upon the nose. The Dr. produced to the members of the Royal Society a double horn of this creature, brought from the Cape of Good Hope. But neither Job nor the writer of the poem can be supposed to have heard of such an animal; nor will this circumstance of a double horn entitle it to the description of the reem. Neither is it the Arabian reem, which is a species of *roe*, and a weak, timid animal. It is most probably the wild bull, bred in the Syrian and Arabian deserts; which answers perfectly well to the characters of the Scripture reem. The Arabian poets are very copious in their descriptions of the hunting of this animal, and borrow many images from its beauty, swiftness, strength, and the loftiness of its horns. They represent it a very fierce and untameable beast, white on the back, with large shining eyes. The reader however ought to be informed, that one of the Arabian poets joins it with the roes; perhaps because they are both wild creatures. Damiir, their great naturalist, in the chapter which he entitles, Of the wild bull, describes no other than a *wild stag*. But so Cæsar, speaking of the urus of the black forest in Germany, calls it *bos cervi figura*, a *beeeve shaped like a stag*, Schultens, in loc. Hieroz. p. i.

965, 966. Clodius, in his *Lex. Select.* says, that the reem occurs nine times in the Hebrew Bible; and that its name is derived from רֵעַם, *altum esse*, on account of the tallness of its stature or the loftiness of its horns. The reems are in effect called wild bulls by the Psalmist, Psalm xxii. For those whom he styles *bulls of Bashan*, i.e. of the mountains of Bashan, ver. 13. he calls *reems*, ver. 21. as though they were synonymous terms. In short, the reem must be supposed to be of the *beeve kind*; since it is represented in our author's description as qualified by its make and strength for the business of agriculture like the tame ox."

"Or abide by thy crib?"] The original may be rendered, *or will he lie all night on thy threshing floor?* i.e. to guard it. Mr. Merrick has made it appear probable, that bulls were in the earliest ages employed, as dogs, to guard fields. Oxen are actually put to this use by the Hottentots."

Mr. Parkhurst has also taken this side of the question; and he thus expresses his opinion.

"As a noun רֵעַם, and, Psalm xcii. 11. רֵעַם, plur. רֵעָם, the name of a *horned animal*, Deut. xxxiii. 17; Psalm xcii. 11. remarkable for his *strength*, Numb. xxiii. 32. and of the *beeve kind*, with which he is mentioned, Deut. xxxiii. 17; Psalm xxix. 6; Isai. xxxiv. 7. In short, the name seems to denote the *wild bull*, so called from his *height and size*, in comparison with the tame. The above cited are all the passages wherein this noun occurs; and the LXX constantly render it *μονοκερος*, the *unicorn*, except in Isai. xxxiv. 7. where they have *ἀδύς*, the *big*, or *mighty ones*. But that it cannot possibly mean an *unicorn*, if indeed there ever existed such an animal as that is usually described to be, it is evident from Deut. xxxiii. 17. where it is said of Joseph, קָרְנָיו, *his horns*, are, קָרְנָיו, the horns of a רֵעַם, *with them he shall push the people, to, the ends of the earth*, וְעָם, and these (two horns namely, are) the *ten thousands of Ephraim, and the thousands of Manasseh*, i.e. the *two tribes* which sprang from Joseph. The Vulgate, in Psalm xxix. 6; xcii. 11; Isai. xxxiv. 7. renders it after the LXX, by *unicornis*, but in Numb. xxiii. 22; Deut. xxxiv. 17. by *rhinocerotis*, the *rhinoceros*. Several learned men, and among the rest, Scheuzer, embrace this latter interpretation. But first, though it is certain that some rhinoceroses have, see Shaw's *Travels*, p. 430. note 1; Buffon, tom. ix. p. 334. *two horns*, yet many of them have but *one*, and this being placed on the nose, and bended back toward the forehead, is not formed for *pushing*, נָגַח, but for *ripping up* the trunks or bodies of the more soft and succulent trees, and reducing them into a kind of laths, which constitute a part of the animal's food. See Bruce's *Travels*, vol. v. p. 91.

It is inconsistent therefore with the import of Deut. xxxiii. 17. to explain רֵעַם by the *rhinoceros*. 2dly, Notwithstanding the remarks of Scheuzer, Numb.

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xxiii. 22. there seems no sufficient reason to think that the *rhinoceros*, which is a native, see Buffon's *Hist. Nat.* tom. viii. p. 135; tom. ix. p. 339, 340. only of the *southern regions of Asia and Africa*, was so much as known to the Israelites in the days of Moses, or even of David.

I apprehend with the learned Bochart, and others, that רֵעַם, which occurs Job xxxix. 9, 10. and plur. רֵעָם, Psalm xxii. 22. denote the same kind of animal as רֵעַם; and indeed in the Psalms, more than thirty of Dr. Kennicott's codices read רֵעָם. The description of Job represents the רֵעַם to be a very strong, fierce, and untameable creature, and implies him to be of the *beeve kind*, see Scott's notes; and the רֵעָם in Psalm xxii. 22. are mentioned as having *horns*, and correspond to the *bulls* and *strong bulls* of Bashan, verse 3. And since the orthography of these words רֵעַם and רֵעָם shows them most properly to belong to רֵעַם or רֵעָם, they may serve to confirm the relation between that root and רֵעַם above noted."

The reader is now in possession of the strongest arguments and facts known in favour of their system when these gentlemen wrote. Since that time Dr. Anderson has described in his *Recreations in Agriculture*, a much larger creature of the *beeve kind*, than had been supposed to exist, which he calls the *arnee*. As the doctor's information is derived from the reports of a vessel which picked up a floating carcass of this immense animal in an inundation of the Ganges, the habits or nature of the creature remain unknown; his size and figure only could be determined; and it is said his height was 12 to 14 feet, and his other dimensions answerable to so great a height.

Is it possible that the forests of the East should contain a creature of this prodigious bulk, which though obscurely, and but lately, known to us, was well known in the days of Job, and formed an object of comparison, and of poetical description, among Arabian writers? Is he, or was he, extant in Persia, for instance, so that the writer of the book of Job depicts one animal whose residence was to the west of him, the *leviathan*, or *crocodile*, and another whose residence was east of him? the *arnee*.

I have thought it was but fair to mention the possibility of this reference, before I proceed to consider some hints in the foregoing extracts; and to submit the arguments on the other side of this inquiry.

I observe that the Arabian description of an antelope, or a deer, can never apply to the *reem* of Holy Writ: but if the *reem* of the *beeve kind* was *really* known to the Arabian writers, how happens it, that all their descriptions of this terrific animal terminate in a gazelle, or a stag?

Observe also, that though the sea unicorn cannot possibly be the *reem* of Job, yet it does not follow, that the land unicorn is a fable: we have in Barrow's *Travels in Southern Africa*, p. 313. a partial delineation

tion of him, and presumptive evidence of his existence, [as a gazelle, not a bull.]

Observe, that though what animals are extant in southern Africa only, may safely be considered as unknown to Job; yet proofs of their restriction to those countries must be produced, before we can admit the impossibility, or improbability, of his being informed of them, from some other part of the world.

This militates effectually against the observations of Mr. Parkhurst, that the double horned rhinoceros was known only in the southern regions of Asia and Africa, since certainly he was known to the Romans, who never penetrated to those southern regions; and we have the testimony of Mr. Bruce that he inhabits the forests of Ethiopia, in the north of Africa, from whence he might easily be known, and well known too, in Egypt, and from Egypt, in Arabia.

We are sure that the Romans had great commerce with Africa, and received from thence many cargoes of wild beasts; among them was the rhinoceros with two horns; this, I say, we suppose they received from Africa, for to suppose they received it from Asia, would infer the probability of its being still better known in Arabia, and, by consequence, to Job, than it is fair, at present, to infer.

The mention of the double horned rhinoceros being known at Rome, leads to a reflection on the hypercriticism of Bochart, who would vary a line of Martial, Spect. Epig. lib. iv. No. 82.

Namque gravem gemino cornū sic extulit ursum,
Jaetat ut impositas taurus in astra pilas.

in which the poet says, "the rhinoceros tossed up a heavy bear with his double horn;" to

Namque gravi geminum cornū sic extulit urum.

"the rhinoceros tossed up two wild bulls with his strong horn:" this *emendation* misled both Mr. Maittaire, and Dr. Mead, for a time.

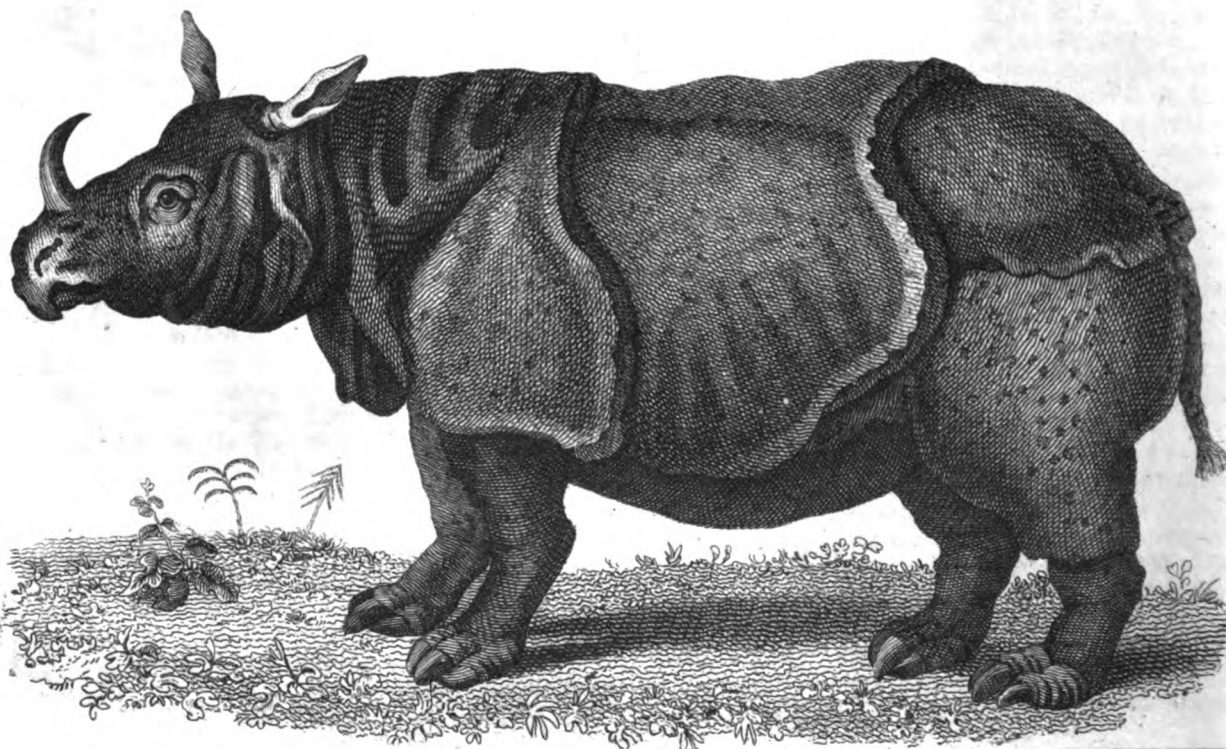
Besides this testimony of Martial, we have the Domitian medal, in which the figure of the rhinoceros has two horns on the nose, very plain: and the decisive authority of Pausanias, who says he saw it at Rome. "I saw also the *Ethiopian BULL*, which is also called *rhinoceros*, because a horn projects from the end of his nose, and a little ABOVE it, another [και άλλο υπερ αυτο ε μεγα] not large; but it has none on its head." [This description is correct; which I notice, because Mr. Taylor in his translation of Pausanias has made his author say, "a horn projects from the extremity of its nostril, and another small one UNDER it," which is contrary, as well to probability, as to nature.]

These authorities demonstrate that the double horned rhinoceros was known anciently in Rome, and if in Rome, why not in Egypt? since he is extant in Ethiopia; and if in Egypt, why not to the writer of the book of Job? since this is clearly the African species.

We are now prepared to consider what answers may be given to the objections of Mr. Parkhurst, &c. as 1st, that the rhinoceros stands connectedly distinguished from the beeve kind in sacred Scripture. Answer, he might even be reckoned by the Arabians, &c. in the days of Job, among the beeve kind, since Pausanias, who was many centuries later, calls him "*Ethiopian BULL*," [ταυρος της τε Αιθιοπίας] or "*bull of Ethiopia*," as if he was known in Ethiopia by the name of a *bull*: but this name would not alter his character, or his form; the creature though called a bull, and ranged among the beeve kind, might nevertheless be the rhinoceros.

2dly, The strongest argument of Mr. Parkhurst is, that the rhinoceros does not *push* with his horns, as the reem is said to do, but *rips up* boughs of trees, &c. into laths. In answer, it may be queried, whether the import of the Hebrew word *negur*, on which Mr. P's argument is founded, is not fairly and correctly expressed by the *extulit* of Martial; for *negur* properly signifies to drive forward, to propel, and some have rendered it by to *toss up*, to *elevate*; and *extulit* signifies to *take up*; but then we may suppose the rhinoceros did not *carry* the bear on his horns, but endeavoured to *jerk* him as high as he well could, while counteracted by the resistance and struggles of his antagonist. Now, this is precisely what a bull would have done; no bull, a wild bull especially, would, strictly speaking, *push* his enemy, which enemy is not understood to be a fellow bull, but of another kind, but he would endeavour to thrust his horn into the body of his adversary, and would endeavour to throw him over his back; so far there is a resemblance in the action of these creatures: yet there must be a difference; for Jacob says, with these two horns, acting at the same instant, as I understand it, shall he push; this, Martial informs us, was strictly true of the double horned rhinoceros, who, taking the bear on both his horns, threw him up; but whether a bull would throw with both horns at the same instant, I protest I do not certainly know; but from the divergence of his horns, I suppose he would not, at least he would not in regard to such little balls as Martial supposes his bull might throw; for the poet seems to say, "The rhinoceros having raised the bear on his horns, or got him fairly on his two horns, *extulit*, threw him up, as easily as a bull would throw up little balls placed on his head." So that I think, upon the whole, the action of the rhinoceros as described by this ancient writer, may stand as a comment on the action which Jacob attributes to his *reem*.

3dly, As to the domestic labours, &c. mentioned by way of *antiphrasis*, as not to be intrusted to the *reem*, they suit the rhinoceros quite as well as the *urus*; since the rhinoceros when of full age is perhaps as untameable and untractable as any creature living. "In Bengal, Siam, and other southern parts of India, where the rhinoceros is perhaps still more common



UNICORN, REEM, RHINOCEROS.



RHINOCEROS. Plate II.

than in Ethiopia, and where the natives are accustomed to tame elephants, he is regarded as an irreclaimable animal, of which no domestic use can be made," Buffon's note, art. Rhinoceros.

Let us now attend to modern information in relation to the rhinoceros. The first correct intelligence we had of this creature, was from Dr. Parsons, in Phil. Trans. vol. xlii. p. 523. who gave drawings, &c. of a young one, supposed to be only two years old: with this paper he gives the delineations of a double horn, then in sir Hans Sloane's collection. The Dr. resumed the subject in vol. lvi. p. 32. on occasion of a double horn, then recently received by Dr. Mead. Mr. Bruce mentions the animal as found in Abyssinia; and Dr. Sparrman mentions him in south Africa. We find him also in the East Indies; and have a description and delineation of him, in Phil. Trans. vol. lxxxiii. p. 3. by Mr. Bell, surgeon to the East India company. I omit Buffon and other naturalists, who give figures of the *single horned* rhinoceros only; but I cannot help wishing that men of learning and talents, would exercise toward each other that liberality to which they are respectively entitled: when I read the reflections of Sparrman on Buffon, or those of Bruce on Sparrman, I am ashamed of reading what those authors should have been ashamed of writing: because animals differ in different countries, therefore their *describers* are not worthy of credit!! &c. To me it appears that the north African species of folding skin rhinoceros has usually a single horn; but that in this country some are found with two horns; then I observe the rhinoceros of Bencoolen, East India, has much less of those folding skins, but has two horns; then, that the south African rhinoceros has no folding skins, yet has two horns. Now, in this gradual diminution and disappearance of the folding skin, what is there contrary to nature? It is true, this may distinguish *different species*; but if so, why should naturalists blame each other? Why not accept each other's information with gratitude? If nature has this variety, where is the crime of reporting it?

PLATE I. RHINOCEROS, REEM, UNICORN.

The upper figure shows the *urus*, or wild bull, of the forests of Poland. This animal is of great force and magnitude, and of long life. "It grows to a size that scarce any other animal but the elephant is found to equal. The female exceeds the largest of our bulls in size." It is very wild, irritable, and violent; but whether any of the beeve kind may be truly said to be untameable, may, I think, be doubted, since this kind seems to be peculiarly designed by Providence, as the companion of man, in all his states of civilization; and in all parts of the world.

The under figure shows the rhinoceros, of the ordinary, or at least, the best known species, having but one horn. The contradiction is equally great in the *lxx*, whether they designed to describe a bull, hav-

ing two horns, by the name of *monoceros*, i.e. *one horned*; or whether they designed the double horned rhinoceros: but, when we consider that a wild bull having only one horn, would be contrary to the nature of the beeve kind, and indeed would be a monster; whereas a *unicorn*, or single horned rhinoceros, would suit some passages of Scripture, and be perfectly well known to their readers; while another species of rhinoceros having two horns, would suit other passages of Scripture, where a similar animal was meant, and this also was not unknown to their readers; we cannot but approve of the choice they made in preferring the rhinoceros to the *urus*, as the proper animal meant by the Hebrew *reem*: we consider also this choice, and this opinion, of the Egyptian translators, who certainly knew the animal most likely to be meant by the sacred poet, as no despicable authority on this side of the question.

PLATE II. DOUBLE HORN OF THE RHINOCEROS.

The *DOUBLE horn* of this creature, being that part of his figure which has been most called in question, and which stands most in need of authorities, we have collected on this Plate several delineations of this particular article.

No. 1. This is a copy of the Domitian medal, in which the double horn of this creature is distinctly apparent; it is said to be apparent also on the Pre-nestine pavement, made in the time, and perhaps by the order, of Sylla the dictator.

No. 2. The head of the double horned rhinoceros, from Mr. Bruce; who tells us, that this species in Abyssinia differs little, or nothing, in any other respect from the single horned kind. Mr. Bruce's figure is a close resemblance to Buffon's; for which this observation may account.

No. 3. The head of the double horned rhinoceros from Mr. Bell's account, in the Philosophical Transactions. This figure differs essentially from Buffon's and Mr. Bruce's; in nothing more than in the almost total absence of the folding skins: but we have copied the head only.

No. 4. Is a double horned rhinoceros, in which the folding skins are by no means obliterated, though they are very much diminished from those of Mr. Bruce. This is from Harris's Voyages, vol. i. p. 465. He ranks it as an East Indian kind; though he quotes Kolben, who was among the first who mentioned the double horned species as native of south Africa. We have given this figure at full length, because, by comparing it with the second figure in the former Plate, the diminution of the folding skin is very discernible. The figure agrees sufficiently with that given by Mr. Bell; which is yet considerably smoother, and has, in fact, very slight traces, that any folding skin appertains to the genus; of which characteristic appearance it would never have raised any suspicion, had this species only been known.

No. 5. Double horn delineated by Dr. Parsons, from sir Hans Sloane's collection. "Whether they crossed each other on the animal, is uncertain. It is most likely they did not, but that by drying they were crossed by the corrugations of the skin that joins them together. However, I have drawn them as they appeared to me. The straight horn is *twenty-five* inches long; the curved one somewhat shorter, and the two diameters of the bases *thirteen* inches." From this account both horns appear to be nearly equal in strength, power, magnitude, &c. The Dr. mentions a horn in sir Hans's collection *thirty-seven* inches long, above three feet! another, *thirty-two* inches long: and Buffon mentions one *three feet eight inches* in length: what formidable weapons are these! equal in length to the horns of bulls!

No. 6. Horn delineated by Dr. Parsons, from Dr. Mead's collection. "The length of the anterior horn, measuring with a string along the convex fore part, is *twenty* inches; perpendicular height, *eighteen*: circumference at the base, *twenty one and a half*. The posterior horn is in perpendicular height *nine inches and a quarter*; circumference round the base, *eighteen* inches; length of both bases together on the nasal bones, *fourteen* inches; and the weight of both together, *fourteen* pounds *ten* ounces." Brought from Angola, in Africa.

No. 7. A double horn from Buffon, the tips not perfect, but the union at bottom very compact.

No. 8. The skull of a double horned rhinoceros; showing the connection of the horns with the *os frontis*, from Mr. Bell's figure in the Philosophical

Transactions, vol. lxxxiii. "Both horns were firmly attached to the skull, nor was there any appearance of joint, or muscles to move them."

No. 9. The figure of one of those horns which are worn in Abyssinia by the soldiery, in triumph after a victory. If there be any probability in the idea that when the horn is mentioned in Scripture, it may allude to the wearing of such a token of exultation, or, indeed, on merely common ideas, without such a reference, is it more likely the allusion should be to the *two* horns of a bull, which project one on each side of the head, or to a *single* horn erect in the middle of the forehead? If the Psalmist had said, my *horns*, plural, shalt thou *project sideways*, the phrase might have alluded to a bull; but, when he says, my *horn*, singular, shalt thou *exalt*, or cause to stand erect, we must seek some other animal as the subject of comparison: because a bull, and the whole beeev kind is out of the question, as their horns do not *stand erect*, nor are, in that sense, *exalted*.

The series of double horns here offered deserves notice, as indicating several varieties: in No. 7. they are strongly united: in No. 6. they are pretty closely united at bottom, but not quite: in No. 5. they are somewhat wider asunder: and in No. 8. the distance between them is considerable.

N.B. This inquiry has proceeded on the principle that the *reem*, or *rim*, and the *raam*, are the same animal, though the name be differently spelled: but, does one denote the *unicornis*, the other the *bicornis*? or are they different animals?

OF THE JACKALL, THE FOX OF SCRIPTURE.

WE have elsewhere given our reasons for supposing that the true fox was extremely rare in Judea, and is scarcely, if at all, mentioned in Scripture. The jackall is the creature meant by the Hebrew word *shuol*; and having an opportunity, we translate from Rozier, a few extracts from the natural history of the jackall, by M. Guldenstædt, Nov. Comment. Acad. Petrop. vol. xx. 1775.

"The country of the jackall is Asia Minor, and the regions around it. . . . The instinct of this creature leads it to mountainous or hilly parts, rather than to open countries." Yet its boldness is so great, that it not only prowls into inhabited places, but approaches travellers, whether during the daytime, or when they repose at night under their tents; it even accompanies them sometimes, in their journey, for a considerable length of time.

The jackall is less dangerous than the wolf; he is carnivorous, kills smaller animals, devours carcasses, even those of mankind; swallows greedily whatever

is made of leather; loves grapes, yet can live long on food, of which farinaceous vegetables and bread is the principal part.

The ears of the jackall are *brwnn* not *black*: which distinguishes it from the fox. The jackall hardly exceeds the fox in size; in his general appearance he holds a middle station between the wolf and the fox. Gmelin mentions some three feet in length: but rarely do jackalls attain such dimensions. ●

I do not think the colour of this animal is so beautiful as authors have described it: and certainly, I see not in it the brilliancy of gold. The upper part of the animal is a dirty yellow, deeper on the back, lighter on the sides: whitish yellow on the belly. The feet are of one colour, a reddish brown. The tail is of the same colour as the back, black at the tip. Each hair of the back is marked with four bands, white at the base, then black, then foxy and black at the point. The hairs of the tail are white at the base, the rest is black. The length of a jackall is about