THE UNICORN IN THE OLD TESTAMENT

ALLEN H. GODBEY

[In horse-and-buggy times newspapers and other journals were wont to stir up summer's torpid calm by sea-serpent tales. In these days of swiftly managed reports Warm Springs and Washington stir sedately academic and just commonly sluggish suprarenal glands into vindictively emotional action by other means. For this disease of modern childhood perhaps the fabled unicorn may justly be used as a counterirritant. Dr. Godbey, who here does the unicorn up brown for us, is one of the old-time Doctors of the University of Chicago. For most of the years of a long life he has been forced by circumstances to live and work with horse-and-buggy means; at times, indeed, he has had to resort to the well-known apostolic trotters. Nevertheless, his footprints and signposts are modern and deserve notice even in this age of wrenching radios and wrecked cars. His work in R. F. Harper's *Code of Hammurabi* is of lasting value. His astonishing collection of data in his *Lost Tribes: A Myth* should be more widely known and used. Written from notes laboriously collected with only occasional access to a modern library's full equipment, this essay on the unicorn may be warmly and safely recommended not only to Old Testament scholars but also to laborers at home in other preserves, who stray in holiday mood into foreign fields and are stung by "the *horns* of the unicorn" according to Deut. 33:17.—EDITOR.]

A few years ago an American biologist, experimenting upon a day-old Ayrshire bull calf, removed the horn buds to the center of the forehead and succeeded in making them coalesce. So after three years he had a stout bullock with a single horn projecting forward. Then he took a few pages in an organ of a scientific body to announce that he had solved the mystery of the fabulous unicorn and, summoning to his aid Odell Shepard's *Lore of the Unicorn*, claimed that the author had traced all of it "to legends possibly older than the Avesta and the religious documents of Persia—lost as the myth fades with man himself into the past." Had he specified one such document, we would all feel more assured. The collectanea referred to include some instances of artificial deforming of horns, a practice known among many peoples ancient and modern. None of these attempts to produce "unicorns"! The very idea seems unknown to them. Where, then, were those "myths and legends"?

There is a sweeping exordium. "The horn of the unicorn, once sought after by princes and kings for its magical powers as an antidote against the poisoned cup and so valued at many times its weight in gold, has had an origin in actuality and mythology which remains, even to the present time, a mystery." This seems in conflict with the foregoing solution. And, as for the antidotal activities set forth as the unicorn's chief claim to consideration, "Fresnel says of the horn that it springs from between the eyes. For two-thirds its length it is of an ashen-grey color, like the rest of the animal, but the upper third is a vivid scarlet. With his horn he purifies the streams of poison, so that all animals may drink in security." But this again leaves us puzzled. With fabulous prices paid for this marvelous antidote, why were none of the alleged horn-deformers devoting themselves to the lucrative production of this universally sought commodity? Is it possible that none of the many horn-twisters had ever heard of the magical powers of their products? Then there is the universally demanded red tip—which the cited horn-twisters were not producing. Why this oversight when it could have been so easily remedied with a lipstick? Can it be that our biologist is even more skilful in "Frankensteining" fragments of lore from many lands than he is in manipulating the horns of a bull calf?

A popularizing scientific medium decided that it was too good a thing to let drop. In its restatement of it, the medium declares:

> Everywhere in ancient literature, both biblical and classic, the unicorn is credited with great strength, great nobility, and great independence. He is always the leader of the beasts. His single horn, tipped with red or black, is the symbol and source of his power. He rules the others with it: he dips it into pools of undrinkable water and takes away the poison. Yet he is gentle! so that he will obey even a young girl. [The domesticated water buffalo.] Later legend stressed this point, until it was claimed that only a virgin could tame a unicorn.

But this writer perplexes us by announcing that there are only three passages in the Old Testament where the unicorn is mentioned: Num. 23:22; 24:8, and Job 39:9 f. Strange that no commentator has found in these passages the sweeping generalization just quoted. And the biologist's fiction that the Talmud tells of Adam sacrificing a unicorn to God as the most valuable animal in his herd is appended.

The mischief done by such biblical exposition in the name of "sci-

ence" can never be recalled. But, since students of biblical literature have reached some convictions of their own about what is "scientific" in the treatment of folk tales, they are entitled to say that a host of those who appropriate the term "science" for their own restricted studies of the physical universe do not know what is "scientific" in dealing with the human equation in history, literature, legend, folklore—records of every kind. A preliminary question relative to the collectanea in the *Lore of the Unicorn* is, "Did the compiler know the meaning of native terms translated 'horn,' and did he know anything of peculiar institutions among the peoples referred to, in which their term 'horn' occurs?"

It happens that the actual significance of horns in liturgy or folk magic attracted the attention of this writer twenty-five years ago. The collected items would make a respectable monograph. An initial fact is that apparent horns may not be such. Thus the Pawnees of our western American plains were called "horned men" because of their peculiar fashion of hairdressing. They shaved their heads clean save for a tuft on the crown. This they daubed with bison fat and red ocher until it was stiff enough to stand erect like a horn or curved gently backward. They all had "red horns." Then people who find peculiar magical powers in all horns will fasten a protective horn filled with powerful "medicine" upon prized animals that do not naturally possess horns. Such "horned" animals may be misreported by careless observers. But our immediate concern is with the biblical Orient.

Taking at once the question of idiom, the word for "horn" in Arabic is also the word for a plait or side lock of hair. Doughty notices this Beduin idiom: "She is beautiful; she has horns that reach down to her middle"—"It is a fair young man: he has goodly horns" (*Arabia Deserta*, I, 469)—"Father of horns" (I, 495), which means a "possessor of long locks of hair." But the same locks may be turned into ostensible horns; Beduin dandies often dress their hair into hornlike plaits projecting over either ear, a fashion shown also upon Nabatean tombs and surely existing in still older times. Even in the required shaving at Mecca the pilgrim preserves the two little "horns" beneath the temples, says T. F. Keane in *Six Months in Meccah* (p. 11). And Beduin women may choose to dress their hair into a single horn projecting out over the forehead (Doughty, I, 169, 383, 418, 551; II, 38, 69, 239).

The further distinction is noted by other travelers that the unmarried Arab women are not allowed this honor, wearing short curls; while the "horned" matrons may emphasize their pre-eminence by giving their horns a red tip. Of course such horns require some sort of stiffening, and rivalry will beget various artificial extensions. So the modern Druse matron wears a tall "horn" known as a *tantûr*. It will range from six inches to two feet in height and is always veiled. When the matron lies down, a rest for the back of the head is used, and a niche in the wall supports the end of it (Porter, *Five Years in Damascus*, II, 82, 184; Van-Lennep, *Bible Lands*, pp. 528 f.). This carries us at once into the Old Testament. Hannah, delivered from her humiliation of childlessness, sings, "My horn is exalted by Yahu" (I Sam. 2:1). Such "exaltation" in time of prosperity, and cutting in time of mourning, is alluded to in Ps. 75:5; 89:18, 25; 112:9; 148:14; Jer. 48:25; and Lam. 2:3.

Then we have Ashtaroth-Karnaim (Gen. 14:5), which means "goddesses of two horns" or of "two mountain peaks," since the word for "horn" is also applied to a mountain peak. Really, both are implied in this regional name. And the many portrayals of these Syrian goddesses recovered by modern explorers show us their horns. The hair is parted on the crown, combed straight down to the shoulder on each side of the head, and turned up in a "snail-shell" coil. Arab myths about these "horned" goddesses are to be taken with tons of salt.

These horns are particularly interesting when affected by people who deform the horns of their cattle. Such are the Nuehr of the Upper Nile. Mrs. E. S. Stevens (*My Sudan Year* [New York: Doran, 1913], p. 215) observes that they sometimes plaster their own hair with clay and cowdung into a horn on top of the head that points or curves forward. Where "unicorned" women like Doughty's Beduin and "unicorned" herdsmen like these Nuehr are thus persons of distinction, notable animals among them may in *speech* be metaphorically "unicorned." The "father of horns" idiom that Doughty heard applied to long-curled Beduin youth is reported by Schweinfurth (I, 185) as applied to an Arab trader on the Upper Nile because of his courage and enterprise. And the same phrase, *abu gurūn*, is also applied to the oryx, or gemsbok.

But such "foretop" horns as those of the Nuehr are immemorial in

all ancient North Africa. The Libyans pictured in Old Egyptian art have a little forward-pointing brow-horn or foretop spur. Möller[1] observes that it is still retained by nearly all the Hamitic tribes of East Africa. The modern traveler finds these varying "horns" throughout Berber North Africa, as in Minoan art, and discovers that they are distinctions of rank or clan or tribe. In Baring-Gould (*Legends of the Patriarchs and Prophets* [New York, 1886], p. 74) we are told by the rabbins that the mark set upon Cain (Gen. 4:15) was a horn planted on his forehead, which at least assures us that such distinctions were familiar in the time of the Babylonian rabbins.

And this brings us to the immemorial use of actual horns as badges of rank or office, a distinction in headdresses in the art of ancient Babylonia as in the life of modern central Africa. The headdress of ancient Sumerian priests shows a pair of ox horns set over the ears, as Sir Samuel Baker saw in Unyoro. Later ones show pairs of horns fastened at the back of the headdress and curving around, the upturned tips coming over the brow, rank being indicated by the number of pairs. From one to nine in those I have seen, but Rev. 13:1 knows a ten-horned headdress. Variously horned official headgear appears in the art of Cyprus; the Hadad statue from Zinjirli has horns; so have a Baal from Tarsus and priestly or divine figures in a relief at Carchemish; the Shardana of the Egyptian reliefs wear two-horned helmets; Yahu is portrayed in Hab. 3:4 as having horns (lightning?) springing from his side; and the ceremonial-magic use of horns was resorted to by the priests or prophets of Yahu (I Kings 22:11). But nowhere in all these thousands of years is there any "unicorn" symbolization of power nor any "unicorned" animal pre-eminent!

Now Odell Shepard's compilations show that he did not know any of these things; and the biologist quoting him and Ktesias and Pliny does not quote the actual language of the ancient authors. The question is directly before us again, "Did these modern adventurers in ancient literature understand the curious idioms and zoölogical terminology of several different dead pasts?"

To begin with, Dr. Otto Keller fifty years ago published *Thiere des classischen Alterthums in kultur-historischer Beziehung* (Innsbruck, 1887). It remains a standard work upon the subject. Nowhere in Greek or Latin literature does he find mention of any genus or species

[1] "Die Ägypter und ihre Libyschen Nachbarn," *ZDMG*, 1924, pp. 30 ff.

called "unicorn." Nor do earlier voluminous compilations of Greek and Roman antiquities. Keller knows the Hebrew also and that there is no "unicorn" in it. "Das fabelhafte Einhorn" exists only in Luther and other translators. The great eight-volume French dictionary of classical antiquities by Daremberg and Saglio has no such name as "unicorn"; nor does it have the Greek equivalent *monokerôs;* nor does it include in the myriads of passages cited any lore about mysterious "one-horned animals." Again, no such noun as "unicorn" is found in Latin classical literature. The word cannot be found in any dictionary of Classical Latin or in Forcellini's *Thesaurus.* Similarly Stephens' great many-volumed *Thesaurus of Classical Greek* does not know such a word, nor does it have *monokerôs* as a noun for any species of animal. There was no such lore in ancient Mediterranean Europe.

From the Valley of the Nile we get the same negative result. In all the many volumes of *Records of Ancient Egypt* there is no "unicorn," no name for a one-horned animal, no Pharaoh who is paying or offering enormous prices for any horn with magical curative power, no medical or magical fraternity that is advertising or using any such panacea. Yet the extant medical magic is bulky and tedious enough. And the same negative result confronts us in the hundreds of volumes of published cuneiform texts. Mesopotamia had no unicorn and no unicorn lore. If we take the fifty great volumes of the "Sacred Books of the East," we scan them in vain for any unicorn lore. There is no one-horned animal in all the sacred and magical books of India, or of Persia, or of China; nor yet in the lore of Mohammedanism. Any inquiring reader may consult the great index volume. Odell Shepard does not appear to know any of these facts.

Years of minute and meticulous research of hundreds of eminent scholars have gone into the presentation of such negative results. In particular in the last hundred years many investigators both scientifically and classically equipped have made the unicorn lore a subject of special research. Germany alone has produced eight scholarly studies from 1824 to 1933; none of them seems to be known to Odell Shepard. Some of the authors visited the lands of the supposed unicorn and studied minutely the fauna in connection with garbled passages from which medieval misinterpreters constructed their unicorn. All reached the same negative result. This particular fact is presented in Pauly-Wissowa's *Real-Encyclopaedie,* Volume XVI, No. 2 (1935),

under "Nashorn" (eight and one-half columns). But through all the years of this compilation there has been no article upon "unicorn," and there never will be, because the term is not in ancient classical lore. Yet Shepard's *ipse dixit* is offered us as authority for the assertion that the lore of the unicorn reached into the immemorial past of the Orient!

Next we must see what ancient writers actually say about some horned animals. Pliny in his *Natural History* viii. 29 (Bostock and Riley's translation in "Bohn's Classical Library" [London, 1855]) tells us that the "rhinoceros" was first exhibited at Rome in the games of Pompey the Great (62 B.C.?). He says the "rhinoceros" had a single horn on its nose, which it sharpened upon rocks when preparing to fight the elephant, attacking the abdomen. The "rhinoceros" was the same length as the elephant, but its skin was the color of boxwood (albinism). Remembering that Pliny wrote this about one hundred and twenty-five years after Pompey's games and that he never saw a rhinoceros himself, we shall see presently where he borrowed his description.

Bostock (*loc. cit.*) observes that Cuvier recognized this one-horned rhinoceros as the species from India. But history and commerce oppose this. Rome in Pompey's time was not yet sailing to India, or controlling those who did. But in the time of Augustus, with Rome dominant in Egypt, Roman merchants promptly embarked upon the age-old highway to India. We are told that a hundred and twenty great ships sailed from Egypt every year then, bound for India and China (J. N. Farquhar, "The Apostle Thomas in North India," *Bulletin of the John Rylands Library*, January, 1926, p. 13). Suetonius (*Augustus* 43) says that Augustus exhibited a rhinoceros. That might have come from India; we are not told. But within half a century after the death of Augustus, some Egyptian Greek who had made the voyage to India saw that a small handbook for traders bound for the Orient was needed. He has left us the *Periplous of the Erythrean Sea.* This Greek trader tells us that rhinoceros horns were one of the chief exports from four ports on the East African coast: (1) from the ports represented by the modern Massowa, on the Red Sea, which is still the favored port of entry for Abyssinia; eight days journey from Axum, in the *Periplous* (this port also traded directly with India); (2) from northern Somaliland, the port represented by the modern Bandar

Hais; (3) from Ras Hantara(?) about 180 miles farther east; and (4) from Rhapta, far down the east coast, at or below Zanzibar, probably Bagamoyo or Dar-es-Salaam. In each case the staple exports are ivory, rhinoceros horn, and tortoise shell, the ivory and rhinoceros horn coming from the interior and the tortoise shell being a seacoast product (Schoff, *Periplous of the Erythrean Sea*, pp. 23, 24, 25, 29, 60, 73, 276).

Pliny (vi. 173) knew of this traffic in rhinoceros horns, but he does not mention any marvelous curative powers attributed to them. Nor does any other Roman chronicler. Certainly, such lore had not reached Rome. But why did this traffic recommended to Roman traders by the *Periplous* not make the rhinoceros better known to the Roman world? Because such traffic was outward bound, not going to Rome. This raw material is what any Roman trader would find it profitable to pick up to sell at some market beyond the Erythrean Sea. The destination comes before us in the narrative of a Chinese envoy one hundred years after Pliny's time, in the time of Marcus Aurelius. He had reached Antioch to negotiate for more direct trade relations. The profiteering Parthian intermediaries were strangling trade. So during the reign of Huanti (A.D. 166) the King of Ta-tsin, Antun (Marcus Aurelius Antoninus), sent a commercial embassy that from the frontier of Anam offered the Chinese "ivory, rhinoceros horns, and tortoise shell." Since then there has been direct trade with the Roman merchants (Schoff, p. 276). So China was the destination, the source of the demand for rhinoceros horn!

It should be observed that these tradesmen who came to the frontiers of Anam were hardly officials of Antoninus. But we have more evidence than that of the *Periplous* for this rhinoceros-horn traffic. Hirth in *China and the Roman Orient* quotes several Chinese authorities. In *Hou-han-Shu*, chapter 88, written in part after A.D. 400, information is given relative to trade with Parthia and Babylonia, A.D. 25–226, when the Parthian empire went down before the Sassanian. Babylonia is described as hot and low, and rice grows in its fields. By sailing south from it by sea, Syria may be reached. "It produces lions, rhinoceros, zebu, and large birds whose eggs are like urns." (Schoff, *The Parthian Stations of Isidore of Charax*, p. 41). The compiler thought that the rhinoceros products and ostrich eggs in the Babylon market were produced there. But he shows Babylonia as an ancient

exporter of such imports. It may be added that Duhalde (*The General History of China* [4 vols.; English trans.; London, 1736]) makes the same mistake about the provenance of the rhinoceros: "There is in China a great number of beasts of all sorts, such as wild boars, tigers, buffaloes, bears, camels, rhinoceros, etc., but there are no lions" (II, 267). Rhinoceros products he saw made him assume that the rhinoceros was indigenous.

Then the *Sung-shu*, written about A.D. 500, tells of trade relations with Syria and India, A.D. 420–78. The two Han dynasties reached these countries by sea. "All the precious things of land and water come from there, as well as the gems made of rhinoceros-horns and chrysoprase, serpent-pearls and asbestos-cloth, there being innumerable varieties of these curiosities" (Schoff, *Parthian Stations*, p. 43). This is of interest as showing that enterprising artists of Syria and India are manufacturing rhinoceros horns into the desired cups and charms, instead of paying heavy freight charges on raw material.

Now, continuing with Pliny and the ship captain of the *Periplous*, we have two critical points of primary importance. First, they are using a new Greek term *rhinokerôs* for an animal whose horn and hide have been objects of barter perhaps from Paleolithic times. For the earliest occurrence of the term *rhinokerôs* is in Agatharchides. (*Mar. Rub.* 71) about 130 B.C. But the many Jewish translators of the Septuagint did not know the animal by that name. They did know the animal, for Kallixenus Historicus (*Athen.* v. 201*c*) records that an "Ethiopian rhinoceros" was part of a festal display of Ptolemy Philadelphus (283–247 B.C.). He started the translation of the Hebrew Old Testament into Greek, and the translation of the Pentateuch is said to have been completed in his reign, the other books under later Ptolemies. But these earlier Jewish translators did not know the term *rhinokerôs* ("nose-horn"); they used *monokerôs* instead. It is conclusive evidence that the new term *rhinokerôs* was not in the *Koinê* of Alexandria until about a hundred years after the time of Ptolemy Philadelphus. It was probably "brand new" when Agatharchides used it. The evidence of the Roman author Lucilius, a contemporary of Agatharchides, is corroborative. He had accompanied Scipio Aemilianus upon an embassy in the African world, primarily the Carthaginian or Tunisian and Tripolitan areas. In his writings he says of a man who is ugly to look at and ugly and impulsive in disposition,

Hic est rinoceros! So certain characteristics of the animal were well known, and the Greek name *rhinokerôs* was in use among Greeks and Romans in North Africa, from Alexandria to Carthage, as early as 130 B.C.

But no Greek or Latin author has left us any old native name for the rhinoceros in all the region from Carthage to the Gulf of Aden. Yet Greek colonies like Cyrene (631 B.C.) had been established on the North African coast five hundred years earlier, and their commercial adventurers had pushed up the Nile into Nubia during that century. As for Hindu traders in Africa, the Puranas, about 800 B.C., show a knowledge of the overland route from Zanzibar through Unyamwezi to the Victoria Nyanza (Schoff, *Periplous*, p. 230). That is more than historic Egypt seems to have known. Its southernmost Meroë was more than twelve hundred miles from that region.

As for the antiquity of the rhinoceros in all North Africa, before Sahara times it was everywhere. As climatic conditions grew more unfavorable for it, did North African humanity ever lose knowledge of it or contact with it? Professor A. S. Romer, of the University of Chicago, has summarized our recently acquired knowledge of the prehistoric mammalia of North Africa in the *Logan Museum Bulletin* (I, No. 2 [1928], 124 ff.). The oryx and Merck's rhinoceros and *Rhinoceros simus*, related to the white rhinoceros, were in southern Europe before the glacial period, in Pliocene times. With advancing cold they came south over the Italy-Sicily land bridge into Africa. But the oryx does not appear in the Pleistocene of Algeria; he has gone farther south. In the far west a white oryx is now in the northern Sahara as far as the frontiers of Morocco, apparently moving northward with increasing desiccation. Angus Buchanan (*Asia*, September, 1926) reports oryx and addax traveling northward from South Sahara frontier, when there is sufficient vegetation. The oryx has not been found in the Lower Pleistocene. The Mousterian shows the persistence of buffaloes, large and small wild oxen, hartebeests, white rhinoceros, and Merck's rhinoceros. The buffalo contrasts sharply with the European bison or wisent. In the Upper Paleolithic Merck's rhinoceros is disappearing; the oryx is gone. But in the Neolithic some important animals reappear: the oryx, hippopotamus, at least one rhinoceros, probably two elephants, giraffe, waterbuck, buffalo, wart hog, zebra,

and other moist-country mammalia (pp. 131–33). The great wild ox persisted into historic times, it was known in Roman days.

The discoveries of thousands of petroglyphs between Mourzouk and Ghât by Dr. Leo Frobenius in 1932 substantiate this (*Illustrated London News*, November 19 and 26, 1932). The second part of his article is a two-page reproduction of a two-horned rhinoceros, an aurochs, *Bubalis antiquus*, two species of elephants—one with short, sharply upturned tusks—a giraffe head, and some monkeys. Dr. Frobenius thinks the pictographs range from 12000 down to 3000 B.C.; from late Paleolithic to early historic times. Then Dr. Hans A. Winkler of Tübingen in 1932 and 1934 made two explorations along the ancient road from Quft (Koptos) to its Red Sea port, finding petroglyphs ranging from the prehistoric period to the present. The prehistoric petroglyphs were notably abundant around springs, showing a sedentary people who had domesticated some long-horned cattle and hunted ostriches, ibis, wild ass, giraffe, elephant, hippopotamus, and other associated fauna. The region was not a desert then (*Forschungen und Fortschritte*, July 1, 1936). So in the predynastic period one might have hunted the rhinoceros within sight of the spot where Thebes was to arise. But two thousand years later Thothmes III thinks a bound rhinoceros from Nubia quite a "show" for his capital (*Illustrated London News*, July 4, 1936; the Egyptian name for the rhinoceros is not mentioned). He gave it space in his reliefs at Armant, a suburb of Thebes.

It is clear that there is no historic reason for cessation of the traffic in rhinoceros products from Paleolithic times to Roman. But new peoples may settle upon the trade routes, and new terms be used in trade. Pliny's "one-horned" rhinoceros he simply copied along with the other old description of the Indian animal which he borrowed. Pompey's animal was certainly the African two-horned beast. But in the generation after Pliny, a hundred and fifty years after Pompey's games, Martial saw a one-horned rhinoceros in the games at Rome (*Spect. Ep.* ix). As Rome had been in direct communication by sea with India for more than a century by that time, a rhinoceros from India was certainly among the possibilities. But in *Spect. Ep.* xxi Martial also tells us that Domitian exhibited a two-horned rhinoceros, and medals of Domitian exist that substantiate the fact. We know that the two-horned black rhinoceros still exists in Nubia, Abyssinia,

and South Africa (Sir Samuel White Baker, *The Nile Tributaries of Abyssinia* [London and New York: Macmillan, 1886], p. 246). We then face the fact that any curious lore about the magical virtues of rhinoceros horn should have come to Rome along with the importers of the beasts and should have been shouted to the wondering crowds by the official "barkers" of the Roman circus. It is doubtful if Barnum could have given them points. But no such antidotal lore is known on the ancient Mediterranean coasts. It did not originate in North Africa.

Now with Pliny copying an old inaccurate description of an animal that he never saw, supposing that it fairly described another animal that he never saw, we ask how that animal was zoölogically classified by his authorities. The Greek author Pausanias, a hundred years after Pliny's time, discussing some popular confusions about horns, explains that Ethiopian bulls grow horns upon their noses; and in the same connection he denies that the projections from the mouth of an elephant are teeth: they are horns (*Description of Greece* v. 12. 1, 2). In ix. 21. 2 he eliminates all doubt by saying, "I saw also the *Ethiopian bulls*, called rhinoceroses, owing to the fact that each has a horn at the end of the nose, above which is another smaller one: but there is no trace of horns on their heads." In another passage he has "*rhinokerôs*, which they say is an Egyptian ox." And he says that he saw the "Ethiopian bulls" or two-horned rhinoceroses at *Rome* and heard their names from the Roman "barkers." But the Romans had been using such bull terminology in their zoölogical classifications for centuries. It is well known that a small species of elephant survived in the extreme south of Italy, in the forests of Lucania, until historic times. The Roman authors called it *Bos Lucas*, "the Lucanian ox" (see Daremberg and Saglio, *s.v.* "Elephas"). They are using the term *bos* and *taurus* merely as generic terms for any seemingly "horned" animals. From Caesar (vi. 26) we learn that reindeer also are classed as "oxen." Pausanias does not go so far as Caesar when he tells of seeing the huge "Paeonian bulls, shaggy all over—especially about the chest and jaw." But a meticulously precise modern naturalist insists on classifying these Paeonian bulls as "bisons" or "wisents." Quite as accurate as this Roman and Greek scientific terminology was that of the Polynesians whose first known quadruped was a big dog called "Sailor" by his human shipmates. So, when the said Polynesians came

to England and saw a new quadruped, the horse, it was promptly classified as *clow sailor*, "Big Sailor."

How do Odell Shepard and his biologist disciple treat such zoölogical terminology? A Greek physician from Caria, Ktesias (or Ctesias) by name, spent seventeen years in Persia (415–398 B.C.?) as the court physician of Artaxerxes Mnemon. Duties, such as those of the royal taster, kept him near the king. He compiled largely, but he heard of distant things as described by Persians in Persian idioms. It is clear that sometimes he was confused, heard or read descriptions of two different objects and supposed them to be the same. As much, and more, was said of him by some of his Greek and Roman readers. All his extensive compilation as a whole has been lost, but considerable fragments have been preserved by quotations in other authors. These quotations show that the text of Ktesias has been tampered with or confused with writings of other authors. The story that the horn of the fabulous unicorn would reveal all poisons or prove an effective antidote or heal all diseases was not one known or credited at the Persian court. For the king's "taster," who must taste viands prepared for the king to prove that they were not poisoned, was a notable functionary of the Persian court. There seems no room for an omnicurative horn at such a court, no room for a physician who would believe in such a thing.

Our contemporary American biologist, for his own "unicorn," credits Ktesias with the following statement about the horns of a certain animal described by Ktesias: "The base of this horn, for some hand's breadths above the brow, is pure white; the upper part is sharp, and of a vivid crimson; and the remainder, or middle portion, is black." But did Ktesias ever write that? I have not a complete collection of the fragments that have been credited to Ktesias. The only one containing anything like this is given by a Latin author six hundred and fifty years after Ktesias was at the Persian court. And the outstanding fact is that not one of the Persian or Jewish or Hindu (?) informants of Ktesias would have ever given him such a description of the horn of the strange animal he was telling about. But why should Shepard and his biologist pupil suppress the name of that animal? Why try to deceive the modern "man in the street" with blarney about some kind of a domestic herd animal? Why deliberately pervert the whole description in order to make the reader believe that the

biologist is going to produce a duplicate of that animal out of his little bag of sleight-of-hand tricks? For the animal is over and over called by Ktesias (in the quotations) "the Indian ass"!

Now that idiom at once tells that the animal is *not an ass at all*, since such wild asses as Bahram hunted on the plains of Persia were not native to India. It is some animal that is peculiar to India; so the Persian narrators would have Ktesias understand. The only points comparable with the common ass must have been the big outstanding ears and the gray color. For the "Indian ass" was well understood by all of Ktesias' Greek and Roman readers to be simply the rhinoceros! It is apparent that the modern biologist who ventures an excursion among the peculiar idioms of an ancient people whose scientific zoölogical terminology he does not understand may make the Olympian Jove shake the empyrean with his laughter.

The first "asinine" expositor of Ktesias was Aristotle in the next generation, who concludes that the animal is hoofed, because it is called "an ass." In a neglected passage to which Dr. Sprengling calls my attention, Aristotle says, "Most horned animals are cloven footed: but there is a hoofed one, which they call Indian ass. . . . . Again, horned animals in general have two horns: but there are one-horned beasts (*monokerata*) like the oryx and the Indian so-called ass." Which expression shows that he is a little suspicious about that "so-called ass"! His announcement that it is "hoofed" is a specimen of Aristotelian logic. Aristotle had been getting the Greek compounds *monokerôs* and *monokerata* from some narrator, for he continues, "The *monokerata* have the horn in the middle of the head." With Aristotle's deduction of a "solid hoof" from the Persian idiom "Indian ass" compare another sentence from Ktesias: "There are wild asses (*onoi agrioi*) in India equal (*isoi*) to horses (in size), and even larger," which "asinine" expositors have changed into: "The unicorn has the body of a horse"! Ktesias or his informers made this critical explanation about the size of the "wild ass of India" because the ordinary wild ass and the onager or "*hêmionos* of Syria" (Aristotle *HA* vi. 22, 24) used as a chariot animal by the ancient Sumerians in 3000 B.C. (Dr. Max Hilzheimer, *Antiquity*, June, 1935; it is probable that the *hêmionos* in some *Iliad* passages is really this "Syrian" animal) were much smaller animals than the horse. Dr. Hilzheimer observes that it is not over ten hands high at the withers and yellowish or reddish-brown in color. In contrast, the

current *Encyclopaedia Britannica* states that the weight of the Indian rhinoceros is "just over a ton," several times as large as the little "Syrian" or Persian wild ass, Mongol *dziggetai*, Turkish *kulan*, etc.

That designating the rhinoceros as "the wild ass of India" or "amongst the Indians," or as "an ass with horns" was not an invention of Ktesias is proven by Herodotus. He was born 484 B.C. in the second year of the reign of Xerxes in Persia. He grew up in the time when Persia was politically and commercially dominant in Asia Minor, and he was traveling and observing before Ktesias was born. The compilations of Ktesias were not published until about a hundred years after Herodotus was born. Terms or peculiarities in the descriptions of Herodotus antedate Ktesias.

In iv. 191 f. he sketches conditions west of the Gulf of Gabes, now southern Tunisia-Algeria, etc.: "West of the Triton," the Libyan country is a hill and forest country, fertile when well tilled; hilly and "full of wild beasts: huge snakes and the elephants, and bears and asps, and the asses having horns." This grouping of forest fauna is correct, as far as it goes. "But in the nomad's country there are none of these: yet there are others: gazelles (antelopes) of various kinds, and asses; not the horned asses, but those that are called undrinking" —referring to a popular notion that the common wild ass never drinks. Fourteen lines more about other animals of the Sahara frontier need not be detailed. The Greek colony of Cyrene has been in existence two hundred years; but the Greek terms *monokerôs* and *rhinokerôs* do not yet exist for Herodotus. He seems to designate the rhinoceros and the wild ass in terminology that he brought with him from Asia Minor. It is interesting that seven hundred years later, when another branch of the Iranians had become dominant in northwest India, the Roman naturalist Aelian should repeat Ktesias' designation of "the wild ass of India" and also call it "the Scythian ass," which suggests that contemporary Indo-Iranians known to him were still calling the rhinoceros a "horned ass" (cf. Aelian, *Hist. An.* iv. 52 and x. 40).

Returning now to Pliny, four hundred and fifty years after the days of Ktesias, and accessible to all English readers in standard translations for nearly a hundred years, we find that he knows Ktesias and that he knows perfectly well what the "Indian ass" is. In viii. 29, already cited, he tells us plainly of a "rhinoceros" Pompey exhibited

at Rome long before. But he also knows of a designation not used by Ktesias. Timotheus of Gaza (*ca.* 43) writes of the African rhinoceroses "that are called *Boes* (oxen) among the Indians." He knew some native peoples that classified the rhinoceros as an "ox," just as early Romans classified elephants as oxen. So we find Pliny saying in viii. 30 (Bostock and Riley ed.): "There are in India oxen also, with solid hoofs and a single horn . . . . as well as a very fierce animal called the *monoceros* which has the head of the stag, the feet of the elephant, and the tail of the boar, while the rest of the body is like (!) that of the horse: it makes a low squeaking noise and has a single black horn, which projects from the middle of its forehead [Ktesias and Aristotle had said, "In the middle of the head" = face?], two cubits in length." This ostensible quotation from Ktesias is slightly garbled in transmission; the Greek intermediaries have substituted their new term *monokerôs* for the perplexing Persian idiom of "Indian ass." That proves that they would make other changes, abridging or enlarging or "modernizing" him, as in next paragraph. But in xi. 45 (ibid., III, 46) Pliny quotes: "The Indian ass is armed with a single horn." And in another connection, xi. 106 (*ibid.*, pp. 89 f.), he says: "The Indian ass is only a one-horned animal, and the oryx is both one-horned and cloven-footed. The Indian ass is the only solid-hoofed animal that has pastern-bones." But this is a verbatim translation from one of the neglected passages of Aristotle to which Dr. Sprengling calls attention. It did not mislead Pliny or the scholarly English translators nearly ninety years ago. At the bottom of the page their footnote tells the reader that this "Indian ass" is "the rhinoceros." Odell Shepard and other expounders of ancient lore of the animal world cannot be excused for ignoring all this.

Observe the foregoing statement that the horn of the Indian rhinoceros is black. Pliny did not make any change. The passage occurs practically verbatim in Artemidorus, a Greek writer more than a hundred years before Pliny's death. Both then quoted some version of Ktesias that was far older than Pliny's day. But it does not match at all the red, black, and white horn that has fired the enthusiasm of our American biologist. Critical classical scholars and modern naturalists have recognized for more than a hundred years that the descriptions of two different animals have become mixed; the animal with variegated horns was identified long ago. The confusion is due to some

tampering with or confusion of the text of Ktesias. For the naturalist Aelian nearly a hundred years after Pliny in his *Historia animalium* iv. 52 says: "The wild ass of India has a horn on its brow an ell long, that is white in its lower third, black in the middle and red in the upper third." When this confusion of the text of Ktesias occurred is not clear. Aristotle includes the *hippelaphos* or "horse antelope" in his discussion; but there is no description of it, and modern naturalists are puzzled. But the antelope with variegated horns was long ago recognized as the *chiru*, still found in Tibet, the *Pantholops Hodgsoni* Abel (see Ritter, *Erdkunde*, IV [1834], 98 ff.). Perhaps this *chiru* was the "horse-antelope" of Ktesias and Aristotle.

Yet there is an element of fact about the rhinoceros horn which made confusion with another animal easier for copyists who were careless and unequipped for scientific discrimination between the animals of which they read. For that element of fact we must go to the Periplous traders' most accessible source of supply, northern Abyssinia and the area up to Massowah. Mansfield Parkyns, who spent three years in Tigre, details the making of highly prized sword hilts out of rhinoceros horn. The Abyssinians and neighboring Hamitic tribes have no other use for it. Their method of making is very wasteful because of the particular ornamentation desired. The horn of the rhinoceros is usually spoken of as black. Parkyns observes that the body or core of the horn in that region is black but the outside, for nearly an inch depth, is a semitransparent white. For a sword hilt a piece of the proper length is sawed off. Then this is sawed in three lengthwise, so that the central piece is about an inch and a half thick. It will be four or five inches broad at the wider end, about three at the narrower. The sawed faces show a black band in the center with a white stripe at each side. Then sectors of a circle are cut from each white stripe, so that the final grip is the black band with white curved projections at the four corners. "But the coating of some horns, instead of being white, is occasionally found to be of bright blood red: and this is often marked in stripes. This they say is occasioned by the animals having received a blow there. However it be, such horns are in Abyssinia considered valueless, while a Turk would give any price for them" (Parkyns, *Life in Abyssinia* [New York, 1854], II, 20). In like manner Turks, who have picked up the fable that rhinoceros horn is an antidote for poison, consider the horns with some red in the grain pre-eminent.

Ere leaving the Ktesias-Aristotle-to-Pliny group, consider the repeated assertion that the oryx is a one-horned animal. That statement could never have been made by anyone who had seen the animal. Nor could it have been made by one who had talked with anybody who had seen an oryx. A profile sketch of the oryx seen by a stranger who did not know the animal from any personal narrative is the only possible origin for the fancy that it was one horned. But such sketches exist by hundreds, never misunderstood by natives of the region, but sometimes fantastically misreported by globe-trotting strangers. In December, 1932, George Horsfield and Nelson Glueck made a hurried reconnaisance to Kilwa in Arabia in the far southeast of the political territory known as Transjordania. They found on the face of a hard sandstone hill scores of incised outline drawings of the game of long ago. All but two are from Paleolithic times. One is an oryx. Two parallel curved lines from the top of the head represent the two horns. But, as they are very close together and seem to touch at the tip, an ignorant stranger could easily imagine that the two lines defined the two sides of one horn. Here would be a bona fide "unicorn," dating from Paleolithic times. So when fantastic "Megasthenes mentions horses with one horn and the head of a deer" in the Caucasus Mountains (Strabo xv. 1–56), we have reason to suspect that he is reporting some pictographs of which he had been told.

Now this possible factor in "unicorn" fable has long been casually suggested. Keller's scholarly compilation of fifty years ago has already been cited. In his *Antike Tierwelt*, I, 418 f. he points to the fact that hundreds of profile views of gazelles, goats, wild cattle, and antelopes on ancient vases, reliefs, and gems show the animals as apparently one horned. But no natives thought of them as such. They knew that this was the artistic convention for perfect symmetry. Modern discoveries in the Indus Valley are furnishing more of such material five thousand years old. There are several animals that in profile view might easily be taken to be one horned. Bengt Berg, the most recent critical German investigator, visited India. The *Antilope cervicapra* especially interested him. He took profile photographs of it showing but one horn (*Meine Jagd nach dem Einhorn* [1933], pp. 41 f.). The same possibility has been noticed in the case of some African antelopes. But none of this native art has tales of curative powers of said horns.

That the apparent one-horned condition in ancient art is only a

convention for perfect symmetry is emphatically supported by the reliefs of ancient Egypt, with which Egyptologists have had a minute acquaintance for more than a hundred years, without recognizing any "unicorn," or any basis for the medieval fabulous unicorn. Such symmetrical profile portrayal in Egyptian art dates from very early times. The portrayal of a hunting scene in the tomb of Ptah-hotep (*ca.* 2625 B.C.?) is a decisive illustration. It is used by Professor Herbert Green Spearing in his *Childhood of Art* ([2d ed.; 2 vols; London, 1930], Vol. I, Fig. 118). The animals of the scene are portrayed on three levels. In the uppermost are two different Cervidae or antelopes with backward-curving horns, drawn in profile, seeming to have but one horn each. The horn of one is approximately a semicircle, the tip reaching the animal's back. In contrast, in the lower level an oryx is being pulled down by a large dog. But the artist has not employed the convention employed in the upper register. He allows the two long horns to seem one for two-thirds their length, but slightly diverging the last third. Thus such antelopes might show one horn or two horns, in the same scene, or in different scenes.

Absolutely crushing is the lion-bull portrayal on the stairways of the newly discovered great Apadana at Persepolis (see two-page restoration in *Illustrated London News*, January 27, 1934). All around the great court the triangle on the side of each ascending stairway is occupied by a lion seizing the hindquarters of a bull (Leo and Taurus of the zodiac and calendar?). In each portrayal the rearing bull has turned his head back over his shoulders, facing the lion; and this full-profile view shows in every case a single forward-curved menacing horn. No petitioner could enter that great court, no visitor walk around it without seeing that "coat-of-arms" on every side. The sculptures on the Apadana were cut by Xerxes (488–465 B.C.) about eighty years before physician Ktesias left that court after seventeen years' residence! They were there seventy years later, when Alexander burned Persepolis. Yet, of all the unnumbered millions who saw them, none has left us a report of "unicorns" that decorated the Persian court!

Again, these old artistic conventions signally fail of any connection with our medieval European unicorn lore. There could be no such lore in the homeland of any such art product, since the natives knew the animals. A traveler would gather none from them. Again, travel-

ers like Ktesias, Megasthenes, or Strabo ought to tell of the pictures of marvelous animals as supporting their narratives. But no extant ancient traveler does so. Third, in case of such ancient local marvel, there should be geographical and chronological reproductions from Indo-Irania, 3500 B.C., to medieval Europe. But there is no such artistic chain. Fourth, if one single animal had such distinction, there should be not merely a chain but a definite artistic type shown along the line of communication through five millenniums, as recognizable as the lion or the eagle. But there is no such "unicorn." Fifth, if a one-horned animal were peculiarly favored of the gods, or endowed with especial divine strength, that idea should find pre-eminent expression in religious art. But there is no trace of this in any religious art thus far discovered. Sixth, if any such lore existed in ancient Mesopotamia-Persia-India, why is it no longer there? The time and the reason of its extinction should be indicated.

The unicorn of medieval European art is the result of various artists trying to portray some animals vaguely described in ancient classics. As descriptions vary, each artist is left to his own imagination in his attempted reconstruction. The sum is a menagerie of forms unlike anything "in the heavens above, or in the earth beneath, or in the waters under the earth." Such forms have been solemnly invented by present-day scientific journals!

Take next the geographer Strabo, whose activities carried him into North Africa a hundred years before the death of Pliny. He was with Aelius Gallus in Egypt. It is natural that accounts of distant African regions should come to him flavored with the Roman idiom rather than the Persian. We should not expect him to report the presence of the "Indian ass" in western Africa. In xvii. 35 (see Strabo in Loeb Classical Library) he says: "Above Maurusia [beyond Algeria-Morocco] on the outside Sea (Atlantic) lies the country of the western Aethiopians, as they are called, a country for the most part poorly settled. Here too according to Iphicrates, are found cameleopards, elephants, and the *rhizeis* as they are called, which are like bulls in form, but like elephants in their manner of living and their size and their courage and fighting." Compare this with the account Herodotus gave, of western North Africa, four centuries before! Strabo now has "Ethiopians" there and fierce animals that browse like elephants but are like bulls in form. It suggests that the Roman designation of the

rhinoceros as "Ethiopian bulls" is in his ears. The term *rhizeis* is suspected to be some Western name for the rhinoceros, which Iphicrates reported. As for the species, it was certainly the sharp-nosed two-horned black rhinoceros, still surviving, as we have seen, in Nubia, Abyssinia, and Somaliland, shown in pictographs in the Sahara south of Algeria.

In xvi. 4 and 18 Strabo takes us through Somaliland to the Horn of Africa, then down the uncharted coast:

> The country abounds in elephants . . . . it also produces fierce leopards and the rhinoceros. The latter, the rhinoceros, is but little short of the elephant in size, not, as Artemidorus says, in length to the tail (although he says that he saw the animal at Alexandria) but falls short, I might almost say, only about (. . . . ?) in height, judging at least from the one that I saw: nor does their color resemble that of boxwood, but rather that of the elephant: and it is the size of a bull(!); and its shape is most nearly like that of the wild boar, particularly in its foreparts, except its nose, which has a snub-horn harder than any bone: and it uses its horn as a weapon, just as the boar uses its tusks. . . . .

Comparing this with Pliny's story of a "rhinoceros" exhibited at Rome in the games of Pompey, it is again clear that Pliny had no description of a rhinoceros from any eyewitness and, accordingly, borrowed this older story of one that Artemidorus says he saw at Alexandria. He would have done better had he borrowed from Strabo. There is a recurrence of two or three phrases that occur in the earlier citations from Ktesias. Three important points may be re-emphasized here. (1) An intelligent eyewitness like Strabo will promptly correct the errors in some old document that he knows. (2) Strabo and Artemidorus in this region were in the sphere of that Alexandrian trade that made a Greek mariner later write the *Periplous*. Alexandria does not speak of "Ethiopian bulls" or of the "ass of India"; and its own earlier term *monokerôs* is no longer current. The local name that Artemidorus and Strabo find current in the late second and first centuries before Christ was "rhinoceros." (3) Strabo had no contemporary Alexandrian information about western North Africa. In the preceding paragraph his statement about the region beyond Maurusia on the Atlantic coast was written in the second book subsequent to this personal observation of a rhinoceros. But he heard no one use the term "rhinoceros" in connection with that far-off land, six thousand miles from the Somali Horn of Africa. When he copied an old statement of

Iphicrates, he may have suspected that the *rhizeis* was the rhinoceros, but he did not change the text.

A most important fact is that none of these classic authors knows anything about any magical virtues attributed to the rhinoceros horn. Aristotle, the immediate successor of Ktesias, discusses the "Indian ass," as we have seen, without notice of such antidotal powers. He compiled a special brochure entitled *On Marvelous Things Heard*. It includes 178 stories, marvelous enough, but none about the all-healing powers of the horn of the "Indian ass." It would seem that there was no such tale in his copy of Ktesias. Nor did Pliny include such a tale in his own *Natural History* four centuries after Aristotle, though he quotes verbatim from the versions of Ktesias and Aristotle that he knew, and certainly includes some "unnatural" history. Nor did he gather from Alexandria any such lore, though he quotes verbatim what Artemidorus said about a rhinoceros exhibited at Alexandria a hundred and fifty(?) years before. Yet Egypt had always known the rhinoceros, as already shown. Neither in ancient times nor later did rhinoceros horn gain a place in the reputable Egyptian pharmacopoeia. Sir Samuel White Baker (1860–80) found it worth two dollars a pound for sword hilts in Abyssinia, but it had no other use (*op. cit.*, p. 249). Nor did Mansfield Parkyns, who spent three years (1843–46) in the adjacent province of Abyssinia, hear of any such fancy, though he gave special attention to the universal Abyssinian fear of being poisoned. Already quoted in connection with the variously colored horns attributed to the unicorn, Parkyns devotes special chapters to "Natural History" to "Religion," to "Superstitions," and to "Physical Constitution and Diseases," in any of which the question of remedies for poison might come up. In the last-mentioned, two pages are devoted to the fear of poisoning (II, 230 f.). Rhinoceros horn is in great demand for sword hilts and nothing else. Myers later, among the very same Hamran hunters, reported that the tribes of that region believe that the possessors of a cup of rhinoceros horn cannot be poisoned and that shavings from rhinoceros horn will cure poisoning. Hence a cup of rhinoceros horn will cure poisonings (*Life among the Hamran Arabs*, p. 115). Yet he did not see any such cups. He seems to have heard the echoes of some Cairo traders, whom he did not meet.

Similarly, on the India side we find the ancient Indus civilization exchanging wares with Mesopotamia, three thousand years before

Ktesias reached Persia, with both elephant and rhinoceros portrayed on their official seals; yet in all that time the magic virtues of rhinoceros horn do not find their way into the immense body of cuneiform magic and medicine known to us, or yet into the lore of the Vedas. Even more significant is the fact that no "unicorn" and no rhinoceros lore or curative horn lore was ever included in Jewish folklore or folk medicine or magic or Jewish school medicine. The subject cannot be found in modern Jewish encyclopedias. Yet the Jews were widely dispersed through the Persian Empire from the beginning. The Book of Esther (8:9) portrays them as scattered through its 127 provinces. Ezra had many opportunities for medical lore, being chief of the Jewish hierarchy at Babylon with the approval and support of the Persian government. Nehemiah was official cupbearer at the same court where Ktesias was physician (Neh. 2:1). The unceasing intercommunication of Jewish communities is to be remembered. Their acceptance of the Persian New Year's as their feast of Purim is historic; much Persian lore got into folk medicine and magic. And in talmudic times eminent Jewish schools of medicine grew up in Babylonia and Persia. But the omnicurative horn of the unicorn was not known to them.

The actual source of the incessant demand for curative rhinoceros horn was distinctly stated by the Greek author of the *Periplous;* any trader would find it worth buying, if he could get it to China. The situation has not changed. In the *Illustrated London News*, December 23, 1933, the Dutch explorer Mynheer Hasewinkel reports his demonstration that the *Rhinoceros sondaicus* of India actually exists in Sumatra also. Previously this had not been believed, though its existence in Java has long been known. But Hasewinkel killed seven during his stay, much to the relief of natives who had to thread lonely jungle paths. The first killed was a very large male—10 feet 4 inches long from the nose to the root of the tail, and the height was 4 feet 6 inches. Compare this with Strabo's account, from which the height has been lost through damage to the text. The horn was $14\frac{1}{2}$ inches long, on its curved front. And the market for rhinoceros?

To chemists of the Celestial Empire, with hide and hair to give—with more or less result—youth and vitality to old sinners and patriarchs who still refuse to renounce the pleasures of life. The Chinese gladly pay quite a lot of money for the hide of the one-horned rhinoceros (up to 1,500 florins): and in particular the *chula* or horn will fetch fancy prices, even up to 4,000 guilders

(nearly £500). The two-horned *Rhinoceros sumatrensis*, on the contrary, is far less valuable, will fetch, in fact, only about one-tenth of the above-mentioned prices. Hide, horns, blood, and other parts of the body, pulverized or as an extract, provide the most essential ingredients for very potent and renowned medicines. According to the Chinese and the natives those medicines should be able to give back lost strength, youth, vitality, and cure various diseases. The horn is sometimes moulded into goblets. Water or some other liquid, when left in such a vessel for some days, becomes a panacea against all ailments and diseases, even tuberculosis and the plague! The belief attached to the magical curative and invigorating powers of these drugs is a survival of animism. The rhino is to these simple-minded people the symbol of exuberant male vigor, and accordingly that much-coveted strength must adhere to every part of his body.

To Hasewinkel's statement should be added the fact that the elephant and tortoise also bulk largely in the Chinese quest for life. The tortoise is a symbol of longevity and good fortune and is used incessantly in divination. Hence the market for tortoise shells along with rhinoceros horn. And the elephant has a place in the official Chinese pharmacopoeia. Duhalde's fourth volume (*The General History of China* [London, 1736]) begins with fifty-six pages of Chinese medical prescriptions. On pages 30–31 nine are from different parts of the elephant. An antidote for poison was made from its bones.

A logical result of this great demand and advancing prices is that the "ass of India" was long ago extinct in the areas of ancient Persian domination. The rhinoceros survives today only in the jungles of Nepal and the forests of Assam, and in both regions it has been for some years under government protection. Yet with Chinese prices it would seem to be only a question of time until poachers get the last of them. Is it not strange, when the Chinese commercial envoy visited Antioch in the days of Marcus Aurelius Antoninus to urge traders not to send their wares overland through the hands of Parthians and Turkomans, that the merchants who sent their ivory, tortoise shell, and rhinoceros horns by the sea route offered them at the frontiers of Assam? Was the supply in Assam getting short? Was the plan devised to make the African product appear as genuine Assam goods? Or were the Chinese planning for the very shortest land transportation?

With China as the source of demand, and its protest against sending goods overland through the hands of speculating Parthians and

Turks, we may recognize what was happening. Those speculators scattered here and there stories of the virtues of rhinoceros horn and of the fortunes that might be made in it. There was never any general popular knowledge of such lore anywhere outside of China. Charles John Andersson, the Swedish explorer, unconsciously illustrates how Turkish domination might scatter a little of it here and there (*Lake Ngami* [New York, 1857], pp. 380 and 381). He observes: "In Turkey the rhinoceros horn is much esteemed; more especially such as have a reddish tint about the grain. These, when made into cups, the Turks believe to have the virtue of detecting poison." Then he quotes two travelers who had found this fancy transplanted among some whites in South Africa. Thunberg says:

> The horns of the rhinoceros were kept by some people both in town and country, not only as rareties, but also as useful in diseases, and for the purpose of detecting poison. As to the former of these intentions, the fine shavings of the horns taken internally were supposed to cure convulsions and spasms in children. With respect to the latter, it was generally believed that goblets made of these horns in a turner's lathe would discover a poisonous draft that was put in them by making the liquor ferment till it ran quite out of the goblet. Such horns as were taken from a rhinoceros calf were said to be the best and the most to be depended upon.

Again, Kolben tells us:

> The horn of the rhinoceros will not endure the touch of poison. I have often been a witness to this. Many people of fashion at the Cape have cups turned out of the rhinoceros-horn. Some have them set in silver and some in gold. If wine is poured into one of these cups, it immediately rises up as if it were boiling; and if there be poison in it, the cup immediately splits. If poison be put by itself in one of these cups, the cup in an instant flies to pieces. Tho' this matter is known to thousands of persons, yet some writers have affirmed that the rhinoceros-horn has no such virtue. The chips made in turning one of these cups are ever carefully saved and returned to the owner of the cup, being esteemed of great benefit in convulsions, faintings and many other illnesses.

Is there any reference in classical literature to any other animal known as a "one-horned" animal? None. The Greek adjective *monokerôs* occurs once in the sense of "crippled" or "disabled." Dr. Sprengling calls attention to a lexicographical note of Hesychius on a lost passage of Archilochus, which reads: "*Mounokera:* no longer having full strength: so Archilochus." The very form is doubtful; some scholars read *mounokeron*, and another suspects *mounokeraton*. The

form *mounokeros* is listed by Liddell and Scott without definition. But no *monokerôs* genus is known to Archilochus.

In contrast with being "one horned" through some injury is a case of congenital deformity narrated by Plutarch in his *Pericles* (*Lives*, Vol. III, chap. vi, in the Loeb Classical Library):

> A story is told that once upon a time the head of a one-horned (*Monokeron*) ram was brought to Pericles from his own country-place, and that Lampon the seer, when he saw how the horn grew strong and solid from the middle of the forehead, declared that whereas there were two powerful parties in the city, that of Thucydides and that of Pericles, the mastery would eventually devolve upon one man—the man to whom this sign had been given. Anaxagoras however had the skull cut in two, and showed that the brain had not filled out its position, but had drawn together to a point, like an egg, at that particular spot in the entire cavity where the root of the horn began. At that time, the story says, it was Anaxagoras who received the plaudits of the bystanders; but a little while after it was Lampon, for Thucydides was overthrown, and Pericles was entrusted with the entire control of all the interests of the people.

It will be recognized that in this story there is no "unicorn"; no noun applied to any animal. There is an adjective "one-horned" applied to a ram with an enlarging malformation of the skull; Anaxagoras misconstrues the result as a great shrinking of the brain. Pericles said nothing, being shrewd enough to see that some ill-disposed seer might explain the omen to mean that the owner of that ram *had no brains*. A caution to modern owners of one-horned beasts!

Turning now to the Old Testament, the King James Version presents us with the word "unicorn" in nine passages: Num. 23:22; 24:8; Deut. 33:17; Job 39:9, 10; Ps. 22:21; 29:6; 92:10; Isa. 34:7. The Spanish translation of Cipriano de Valera (1602) has the same in every case. Did this version influence the King James? The Portuguese version of Father Almeida of Batavia does the same. But these two, with one French version, careful of exact Hebrew grammar in Deut. 33:17, give us, "His horns are the *horns* of an unicorn!" contradicting the current popular tradition that a unicorn was a one-horned animal. The King James translators ruthlessly sacrificed the Hebrew singular in the interest of their cherished "unicorn," since King James had just put him on the arms of England, and wrote the plural, "unicorns." The French version of David Martin used the word *licorne* in every passage, but the Paris edition of 1805 substi-

tuted *chevreuil* ("wild goat" or "ibex") in Numbers, Deuteronomy, and Isaiah and *chèvre sauvage* ("wild goat") in Job. And the Douay Version gives "rhinoceros." This is part of the evidence that scholars long ago recognized that the fabulous unicorn should be eliminated from the translations.

The decisive factor came with the deciphering of the cuneiform inscriptions. For the word in the Hebrew text is *rʾem*, *reʾēm*, *riʾm*, or *rîm*, transferred into Aramaic as *reimā*, in Arabic *riʾm*, which the Arabs now apply to the oryx, or gemsbok, as the Boers of South Africa call it. But the cuneiform texts, reaching back four thousand years ealier than any Hebrew text that we have, give the word *rîmu* repeatedly, reliefs portray the animal being hunted, and occasionally an Assyrian warrior-king compares himself to the mighty beast. It is a gigantic wild ox. The cuneiform ideogram confines him to the mountains, the ideogram for an ox being an ox face, while the *rîmu* has three hills put on the face to show that he is a mountain ox. As we shall see that the animal was also known in southern lowland or marshland country after Assyrian times, the ideogram indicates that it was extinct in the Assyrian lowlands.

But with the word and the animal before us, long before there was a Hebrew language, or an Israel in Palestine, we see what happened. Akkadian commerce, with Akkadian as a commercial and diplomatic *lingua franca* for a thousand years or more before the Israelite period, carried the word into Palestine, where it was accepted by the later Israelites. The Arabs much later picked up the word and applied it to the oryx, which is not yet extinct in Arabia. It should be clear that in so doing, the earlier Arabs would have picked up some legends or traditions of the mighty beast, as would the still later rabbis of Babylonia. The result would be a fusion and confusion of attributes of different animals. But, with the *rîmu* clarified by the Assyrian portrayals, the Revised Version and the American Standard Version discarded the unicorn, giving us "wild ox" instead.

Now ancient Mesopotamian art shows three huge wild Bovidae well known there. The *Bos bubalis*, "buffalo," or humped ox is shown in the art of Tell Arpachiyah, north of Nineveh, in its al-ʿUbaid and antecedent Tell Halaf strata. So it was familiar before Tell Halaf times. The frequent *boukranion* on pottery suggests a cult, a mental attitude from which we might expect terms like "divine bull," or

"bull of Jacob," etc. Similar representations occur in the al-ʿUbaid period at Nineveh and in the subsequent Jemdet Nasr stratum. At Warka (Uruk-Erech) also the "sacred buffaloes" appear in al-ʿUbaid times. After this they disappear until Akkadian times; they were not cult symbols to the Sumerians. But in Akkadian times the spreading-horned buffalo is presented with consummate mastery. A magnificent seal of "Ishrailu son of Rishzuni" is shown in Figure 133 of Barton's *Archaeology and the Bible* (1933). The horns are identical in appearance with those of a buffalo shown on a seal of Shargali-sharri of the Agade Dynasty about 2800–2600 B.C. This comes from southern Babylonia. The legends of Gilgamesh and his bull-wrestling originate at Uruk-Warka. Taken with the Warka buffalo art, the Gilgamesh epos must be of pre-Sumerian origin.

Then the bison or wisent is shown. A seal once belonging to a servant of Sargon's daughter portrays one. I have not seen it. But the short, almost erect, horns of the wisent are as unlike the buffalo horns as possible. Legrain reports a much earlier portrayal of the wisent from Ur. It is a clay figurine, striped with black lines connecting it with the painted-pottery period.

Then there is the huge long-horned wild ox or *Bos primigenius*, the urus of Caesar, urochs or aurochs of the Germans. It is shown in archaic periods at Warka, grouped as a wild beast with other wild beasts, about 3500 B.C. It is shown hunted on early reliefs from Tell Halaf, and domesticated in a milking scene from al-ʿUbaid.

Dr. Max Hilzheimer, pre-eminent for his studies in this field (*Die Wildrinder in alten Mesopotamien*, *MAOG*, Vol. II, No. 2 [1936]; *OLZ*, 1934, Sp. 682–84), wrote me eleven years ago that he recognized these three wild Bovidae. The bison or wisent and the buffalo he thought were extinct there before 2000 B.C.; the urochs persisted until the sixth or seventh century before Christ. Rabbinical evidence suggests its survival in some reed swamps still later. The result of this extinction of bison and buffalo is that the word *rîmu* would specifically mean the wild ox; but art and tradition would preserve some knowledge of the earlier and mightier beasts. The name *rîmu* then must originally have been generic, just as the modern Arab will apply his term for "ox" indiscriminately to oxen or antelopes. In North Africa the antelope called "hartebeest" by the Boers of South Africa is the *baḳar el-waḥsh* or "wild ox" of the Arabs. But the ancient cuneiform

ideogram with vertical horns, originating in 3000 B.C., could have been suggested only by the wisent.

Continuing with the wisent, it was certainly known also in ancient Palestine. In *Records of the Past* for May, 1903, Mrs. Ghosn-el Howie presents a photograph of an ox sculptured on a boulder on Mount Lebanon above Kab-Elias. Mrs. Howie apparently knows neither the wisent nor the urochs and seems a little perplexed. But the huge shaggy shoulders and characteristic horns suggest the wisent rather than the urochs. On the other hand, the urochs persisted in the marshlands of Lower Egypt in the second millennium before Christ. We are furnished pictures and reliefs of Pharaohs hunting these wild oxen. The time of their final extinction there is not certain. The Minoan bull acrobats have become famous within the past few years. Petrie has found them at the ancient seaport of Gaza. But these wild oxen are not wisent, and the supply must have come from a neighboring district. The stereotyped designation of every Pharaoh as a "powerful bull" seems parallel to the comparisons drawn by Assyrian kings. The wild ox must have been the prototype. A passage in the Talmud *Pesakhim.* x, runs: "Do not stand in front of an ox coming out of the swamps; for then he is so wild that it seems as if Satan were moving between his horns." The date of this proverb (?) is not known; it certainly suggest the survival of the urochs in the reed thickets of Babylonia.

The Old Testament associates this wild ox with the mountains and apparently with Bashan. Psalm 29 is the description of a thunderstorm coming from the northwest over Lebanon. The voice of Yahu makes the mountains "stampede like a swift ox; Lebanon and Sirion like wild oxen" (plural; literally, "like sons of wild oxen"). In Isa. 34:7, there is portrayed a fearful slaughter of the princes of the mountains of Edom. "Their wild oxen shall come down with them, the bullocks with the bulls," which suggests that the rulers of Edom had assumed the title "powerful bull" like those of Egypt. Deut. 33:17 is less direct, but as Joseph is here put for the whole of Mount Ephraim, with its "chief things" and "precious things," there is reason to believe that the wild ox then survived there. Num. 23:22 and 24:8 suggest no mountains but do suggest vigorously that Jacob is as strong as the "powerful bull" Pharaoh himself. Ps. 22:21 acknowledges that the complaint in verse 13 has been heard:

Many bulls have surrounded me!
Strong bulls of Bashan have beset me round!

This certainly suggests the survival of the wild ox in Bashan at that time and requires consideration of one other passage. Amos 4:1–4 denounces the ruthless great ladies of Samaria as "cows of Bashan in that mountain!" certainly the fierce wild cows. In forty-two passages where Bashan occurs there is no other that connects wild oxen with it.

It should be observed that Syria-Palestine had a word of its own for the fierce bison—the word *abbir*, plural *abbirim*, "mighty ones," "angels" of our Authorized Version, or "bull" in "bull of Jacob" (Gen. 49:24; Isa. 49:26; 60:16; Ps. 132:2, 5), or "bull of Israel" (Isa. 1:24). The term survives from pre-Israelite Palestine. In a fragment of the liturgic epic of 1500 B.C. or earlier recovered at Ugarit called "Baʿlu and His Brethren," according to Ginsberg (*JPOS*, 1936, pp. 143 f.), the expelled handmaid of Athirtu driven into the wilderness is addressed: "Travail! Bear the Devourers! Kneel and give birth to the Renders! Gods shall their names be called! Upon them their horns shall be like bulls! And humps like *ibrm* (*abbirim*). And upon them shall be the face of Baʿla!" (Baal; *pn bʿl* are the characters; "face of Baal" is probably "favor of Baal"). Compare this with the bison sculpture in the Lebanons and with the wild buffalo's habit of stamping and rending to pieces anything that it assails. And these "godlike" *abbirim* have humps. The bison seems unmistakable. But *abbir* is a synonym of the *rēm* in Ps. 22:13, 22; specifically associated with the mountains in Isa. 34:7 (cf. Ps. 50:13 and 76:5). It is used of Egypt in Jer. 46:15 and in Ps. 68:31, where we have "wild beast of reeds, *abbirim* and bullocks, of pagans," reminding us of Pharaohs hunting wild oxen of the swamps. The *abbirim* of the wilderness were fond of manna in Ps. 78:25. If not actually gods, they are agents of Yahu in Job 24:22 and 34:20. Isa. 46:12 applies the term to the fierce Chaldean troops ("winged bulls"?), while it parallels "horses" in Jer. 8:16; 47:3; 50:11; and Judg. 5:22.

A last-minute note from Dr. Henry Englander, of Hebrew Union College, calls attention to the fact that the targumist was hopelessly puzzled. He could not recognize any animal in *rēʾm* and concluded it was an error for *rām* or *rōm*, "high." So in Num. 23:22 he translated, "He hath strength and height." Abraham ibn Ezra did like-

wise. Rashi thought the word read "strength" was from the root *ʿôph*, "to fly," and said that he was "flying high."

Since the fabulous medieval unicorn cannot by any possible twist be gotten out of any term in the Hebrew text, and there is no basis for it in all the animal tradition and Paleozoic record of the Palestinian or Mesopotamian past, how did it get into the modern translations? If we should say that the Septuagint put it there, that would not be strictly correct. We have seen that some centuries of familiarity with the rhinoceros made the Alexandrian Greeks invent for it the noun *monokerôs* and afterward the noun *rhinokerôs;* and that the date at which each became current is approximated by the fact that the earlier name got into the Septuagint and the later did not. So these new nouns have nothing of fable or myth implicit in them. And the translators of the Septuagint began their work in the town that gave these new names currency. They began a little more than a century after the writings of Ktesias appeared, ere translators and expositors had twisted his phrases into undreamed-of imaginative meanings. So no unicorn fables got into the early Christian Fathers, ante-Nicene or post-Nicene.

Justin Martyr (A.D. 110–65) is the first extant expositor of one of the *monokerôs* passages. A scholarly Gentile, born near Samaria, and much traveled, the climax of his career came four hundred years after the translation of the Septuagint began. He was cosmopolite enough to know that the language of the Septuagint might be judiciously modernized. A contemporary Palestinian, considered to be a pupil of Rabbi Akiba, undertook to do it and gave us the version of Aquila. In Job 39:9, instead of *monokerôs*, he put *rhinokerôs*, which began to supersede the first term some three centuries before. But in Ps. 22(21):21, 29(28):6; 92:10 (91:11) he does not change the Septuagint *monokerôs* (see Field's edition of the Syro-Hexaplaris, whence it would seem that he recognized the two words as synonyms). This could not fail to be familiar to Jerome. Did some uncertainty about the zoölogical fact impel Justin to a violent symbolical exegesis? For in his imaginary dialogue with Trypho the Jew he quotes Deut. 33:17, his last verse reading:

> His beauty is (like) the firstborn of the bullock
> His horns are the horns of a *monokerôs* [*ANF* i. 245*a*].

Now, for a Jewish poet, parallelism with a bullock suggests some other sort of ox, or "powerful beast." Jerome avoids the issue by asserting that the expression is figurative: the horns of the animal are the five horns of the cross! This exposition is copied by Tertullian.

Next, Macarius Chrysocephalus has preserved a large fragment of Clement of Alexandria upon the parable of the prodigal son. Contrasting the attitude of God toward the unrepentant, he writes: "But those who do not come to Him He pursues and disinherits, and is found to be a most Powerful Bull. Here, by reason of His size and prowess it is said of Him, 'His glory is that of a *monokerôs*' " (Num. 23:22). As an age-old title of the Pharaohs is here applied to God, we see how strongly Clement felt the necessity of adapting his teaching to the immemorial Egyptian background and tradition of his readers. The title "Powerful Bull" persisted into Ptolemaic and Roman times. Clement himself bears a Roman name and was probably born at Athens. The title "Powerful Bull" is always expressed in Egyptian hieroglyphics by a profile outline of a two-horned bull; his readers know that *monokerôs* means "rhinoceros." For the point in question, "avenging power," either animal will do; so Clement does not resort to Justin's feeble twist but presses home his exposition, saying that those who are fed like the prodigal son "are stronger than their enemies, and are all but armed with the horns of a bull: as it is said, 'In Thee shall we butt our enemies!' " (*ANF* ii. 582*b*).

It should be said that the Codex Ambrosianus of the Septuagint has a cursive correction of this very passage, changing *monokerôtos to rhinokerotos*. And it does the same in the following passage (Num. 24:8). But it does not make this change in Deut. 33:17, again showing that Greek scholars through seven or eight centuries recognized *monokerôs* and *rhinokerôs* as the same animal (see A. E. Brooke and Norman McLean, *The Old Testament in Greek*).

Next is Clement's contemporary, Tertullian of Carthage (wrote A.D. 193–216). In his *Answer to the Jews*, chapter x, he quotes Deut. 33:17, following Justin Martyr:

> His glory (is that of a bull)
> His horns, the horns of an unicorn!
> On them shall he toss nations alike
> Till off the extremity of the earth [*ANF* iii. 165*b*].

The English reader should know that Tertullian wrote in Latin and accordingly translates *monokerôs*. But he knows perfectly well that his whole Carthaginian constituency understands that *monokerôs* is the rhinoceros. So he continues, "Of course no one-horned rhinoceros was there pointed to, nor any two-horned minotaur. But Christ was therein signified 'bull' by reason of each of his two characters: to some fierce, as Judge, to others gentle, as Saviour: whose 'horns' were to be the extremities of the cross!" This far-fetched exposition he backs up by reminding his very skeptical auditors that the ends of a ship's yards were called "horns" while the mainmast was a "unicorn." He repeats this "horns-unicorns-cross" exposition in connection with Ps. 22:21 (*ANF* iii. 166*b*). And the foregoing exposition of Deut. 33:17 he repeats verbatim (*Against Marcion* iii. 18) with the single difference that this time he uses the word "unicorn" where he had used the word "rhinoceros." This is a fact of the first importance, showing that to the Roman world of the time the word "unicorn" simply meant "the rhinoceros"—no more. There was no fabulous "unicorn" in the North Africa of A.D. 220.

Cyprian of Carthage of the next generation (A.D. 200–258) was said to "never pass a day without reading some portion of Tertullian's works, and used frequently to say 'Give me my master,' meaning Tertullian's works" (*ANF* iii. 5). As he knows what "unicorn" and *monokerôs* mean in North Africa, he does not undertake further exposition. In his *Treatises* ii. 20, he quotes Ps. 16:22, translating the Septuagint into Latin. So verse 21, "Save me from the mouth of the lion, and my lowliness from the horns of the unicorns," follows Tertullian and means the same. But he does not follow Justin and Tertullian in their fantastic exposition of the horns of the unicorn as meaning the cross (*ANF* v. 524*b*). In *Treatises* ii. 10 he quotes Num. 24:7–9 exactly from the Septuagint, translating *monokerôs* into "unicorn," knowing that both terms meant the rhinoceros in North Africa at that time (*ANF* v. 519*b*).

Hippolytus, a Greek scholar-bishop of the Portus Romanorum at the mouth of the Tiber, opposite Ostia, was a contemporary of both Tertullian and Cyprian (martyred A.D. 235–39?). His attempted *Refutation of All Heresies* discusses many far-off things. His opportunities for accurate knowledge of some of them was very limited. Discussing

the heresies of evil life at his own door was much more dangerous. Taking up the *naaseni* or "serpent worshipers" that identified Attis with Adonis and Osiris and Sophia and Samothracian Adam and Corybas, he tells us that they claimed that every Greek *naos* (temple) got its name from *naas* (Hebrew *nahash*), "serpent." With such philology, we can understand how "all things are subject unto him, and that he is good, and that he has all things in himself, as in the horn of the one-horned Bull" (Deut. 33:17). Such is their garbled version! That occurred in northwestern Asia Minor, among immigrants from southeastern Europe, who knew neither wild ox nor bison nor rhinoceros and confused Hebrew words with Greek. *The most mischievous of all myth-makers are incompetent translators, expositors, and zoölogists.*

That no reference is made in this first three hundred years of Christian literature to the passages Job 39:9, 10; Ps. 29:6; 92:10, and Isa. 34:7 is important. It puts clearly before us the fact that the identity of the animal was at no time or place a primary question. The expositors were interested only in passages capable of imaginative exposition in favor of certain great personalities, Jewish or Christian. That great minds like Origen, and Cyprian, and Clement of Alexandria would not indulge in such exegesis was enough to put it out of fashion.

This comes sharply before us in the Nicene and post-Nicene Fathers. Save for Ambrose, bishop of Milan (A.D. 340–97; elected bishop A.D. 374), the whole question is met with a conspiracy of silence. Ambrose, in his *Duties of the Clergy* (ii. 16; *Nicene and Post-Nicene Fathers* [2d ser.], 10:13) quotes Deut. 33:16 and 17, about Joseph: "Honoured among his brethren, his glory is as the firstling of his bullocks: his horns are *like* the horns of unicorns." Ambrose writes in Latin; translating from the Septuagint, he turns its *monokerôs* exactly into *unicornis*. He indulges in no fantastic symbolism. It has been more than a hundred and seventy-five years since Tertullian interpreted unicorn's horns to mean "the cross." And during that time Augustine had arisen in Tertullian's own region and in his tremendous literary output had quoted Psalm 22 forty-eight times, always avoiding Tertullian's "unicorn-cross" verse; repeatedly quoting immediately before or after it. It was an example to all would-be symbolists that was not easily forgotten.

Then Ambrose died while Jerome was translating. In all Jerome's extant writings not one of the nine *monokerôs* passages is considered. In translating the absolute certainty of Alexandrian Septuagint scholars that *monokerôs* was the earlier equivalent for "rhinoceros" was something Jerome could not ignore. About A.D. 150 Aquila had emphasized that view in his new translation in Palestine, and Origen had recognized the fact in his Hexapla. At the same time Tertullian in Carthage, twelve hundred miles west of Alexandria, had admitted that everybody there knew that *monokerôs* was "a one-horned rhinoceros." There appears no ground to charge Jerome with any special initiative when he put *rhinoceros* in the Pentateuch and Job 39:9 and 10 but *unicorns* in Ps. 22:21, 29:6, 92:10, and Isa. 34:7. Probably there was concession to Alexandrian Greek-Jewish preferences in the Pentateuch passages. Babylonian Judaism was not much interested in a Greek version; and under the Persian Sassanids (A.D. 226–641) there was no demand for any Greek literature. But Jerome's half-and-half division again means that the Christian scholarship of his time considered *monokerôs* and "rhinoceros" identical.

Since the fact that Christianity was influenced by or adapted itself to an immemorial Egyptian past may be unfamiliar to the popular reader, a few illustrations may be added to the rhinoceros and Clement's "powerful bull." The name "Isidore," "gift of Isis," remains with us. "Origen" is explained as "begotten of Horus." Greeks had combined the cults of Osiris and Isis into "Serapis." The Berber sky-goddess Neith is implicit in Asenath, "servant of Neith," which Christians still use as a name for girls. Romans accepted the Neith cult at Saïs as that of "Minerva"; Egyptian Greeks called her "Athene." Isis and her infant son Horus Egyptian Christianity would never surrender. Their ever rising sun-god needed the care of his mother! So with a final uproar at Ephesus, led by Cyril, the murderer of Hypatia, highly suggestive of Acts 19:34, it was decreed that Isis and Horus should remain in the church as "the Madonna and Child" (Draper, *The Conflict between Religion and Science*, pp. 48 and 71 ff.). Josephus tells us that the son of the Jewish high priest Onias founded a temple in Egypt, called by his own name, "Oneion" (*Antiquities* xiii. 3). It was probably a restoration of one noticed in Isa. 19:19 f. Josephus says it was shut up by a Roman governor, Lupus, 343 years after

Onias (*Wars* vii. 10. 4.) It seems to have been opened again, after Josephus' time. Maimonides says of this temple, "The sect called *Kbtsr* gathered around Onias, and he drew them to the worship of God" (*Commentary on the Mishnah*, Menahoth xiii. For a more extended account see Godbey, *The Lost Tribes: A Myth*, p. 593). The *Kbtsr* who perplexed Maimonides have been explained as "congregation of Horus." Thus one of the noblest and most scholarly of Jewish authorities reminds us that the great body of Jews in Egypt were proselytes. They were not of Israelite descent or tradition. Their own zoölogical milieu and local prehistory inevitably enters into interpretation. Had the translators of the Septuagint lived in the mountains of Lebanon, where pictographs of mighty beasts of old remained with legends of their doings, the rhinoceros would never have gotten into their translation.

But all through this ancient past, no one-horned animal appears in any cultus or any magic so far known to us. The ibex or wild goat appears incessantly from the oldest Mesopotamian and Iranian art into Old Testament times: as *saʿîr* 53 times as an indispensable element in sin offerings, as a scapegoat in Leviticus, chapter 16, and as an oracle animal in II Kings 23:8 (wrongly pointed by Masoretes to read "gates"). Its North African relative popularly known as the "Libyan sheep" or "Barbary sheep" is equally prominent, bearing the sun between its horns in ancient petroglyphic times, and in historic Egyptian times furnishing us images and sphinxes of the sun-god Amun. But neither in the Old Testament nor in the talmudic demon-goat lore nor in Egyptian-Berber art and lore is there any one-horned goat. (The broken-horned goat in Daniel, chap. 8, is not the *saʿîr* but the domestic goat, often used as the leader of a flock of sheep. But this writer of Maccabean times seems to know something of the art of making two horns grow in the place of one.) And in the Old Testament wild-ox and bison reminiscences there is no one-horned pre-eminence. Following the Septuagint influence across North Africa, no *monokerôs*-rhinoceros lore or art is found in the trail of Saracen and Moor, because they had none of their own, and the Septuagint they would destroy without reading. Yet the Septuagint must have originated the medieval unicorn of Spain.

The great Spanish *Enciclopédia ilustrada* is the only one known to

me that has an extensive article upon the unicorn—three pages with text figures and a fine colored plate. Of the data thus far considered, it has nothing save the fact that the literary origin is in passages credited to Ktesias. Its interest centers in the development of European lore since medieval times, notably as influenced by discovery of narwhal tusks in the development of the modern whale-fishery. In one text figure it collates eighteen sketches of the earliest portrayals of unicorns; they are from France, Spain, and Italy, dating from 1393 to 1588. Eight of them are collected at Valencia, Spain (A.D. 1393, 1395, 1397, 1401, 1419, 1429, and two more before 1500). No one of them is of Moorish origin. No one is a complete animal. Only rude heads-to-shoulders are sketched. In the oldest a head roughly suggesting a horse's is outlined in profile with no eyes. A rough nontapering unpointed horn stands out at right angles from the middle of the face, considerably below the place of a horse's eyes. Only a notion of the rhinoceros could have suggested such portrayal, aided perhaps by the old statement credited to Ktesias that the horn stood out from the middle of the face. A second sketch resembles this one save that a tiny circle at the lower edge of the horn base suggests an eye. In a third portrayal some artist allows a little more space for an eye; the forward-projecting horn persists, as far as possible from the long slender horns of the oryx or gemsbok, which slant backward from the top of the head. Of all the petroglyphs and ancient reliefs and ceramic artistry known to this date the head of the rhinoceros alone could have suggested these beginnings of the modern unicorn. They show at a glance that the artists were reproducing no picture, type, or pattern; they are groping to portray something that has been vaguely described. A Noah's ark of variations is possible. Through the tangle of modern fantastics there is no occasion to follow.

From the interesting results of introducing the rhinoceros into the Septuagint we can return to the question of the unicorn in the Talmud. The popular reader should know that the compilation of the lore of the Talmud began at Sura in Babylonia, in A.D. 220, and that nearly a thousand years were required for its slow accretion. It began 940 years after a first settlement of Israelite colonies in Assyria-Babylonia (II Kings 17:6); 817 years after the second (II Kings 24:12 ff.). The zoölogical milieu and tradition of the Talmud then cannot be that of

ancient Palestine; it must be that of the daily life in Babylonia in talmudic times. Again, the compilation began nearly five hundred years after the translation of the Septuagint, and for the first four hundred years of the Talmud's growth, the political-cultural domination in Babylonia was that of the Sassanian Persians. No Egyptian or Greek or Septuagint influences are to be expected.

Take now the American biologist's attempt to thrust a unicorn of his own devising into the Talmud: "Finally, the mysterious one-horned animal mentioned three times over in the Talmud as Adam's sacrifice to Jehovah may have been the most precious thing that Adam possessed; the leader of his herd of cattle." This reminds us of the classic biological description of the crab: "A fish, of a red color, that runs backward"! For the one sentence, which is not repeated three times, is not connected with any of the "unicorn" passages of the Old Testament. Second, it is not connected with any noun ever claimed as "unicorn." Third, Adam was not a herdsman, and at the particular time referred to there was no herd in existence for anyone to possess. Fourth, if our biologist knew English, he would know that the "firstling" of a flock or herd is not the "leader" of it, but (like duckling, gosling, etc.) the "first little one": the first calf of the season. Why a biologist should suppose that a collector of "Sir John Mandeville" stories was consequently a talmudic scholar has not been explained.

The whole matter has been checked over with the aid of the scholarly Rabbi Chaim Williamowsky and his library. The one passage in question is in the Talmud (Ḥul. 60*a*): "The ox which Adam sacrificed had one horn in its forehead": a bit of *haggadah*, or illustrative fiction. It refers to *Abodah Zara*, 8*a*, which it has misrepresented! The *Abodah Zara* passage runs: "The day that Adam was created, as soon as it was sunset and it became dark, Adam said, 'Woe is unto me! Because I have sinned, I am afraid that the world is facing destruction!' So he sat fasting and crying, and Eve cried with him, until the sun rose. Then Adam remarked 'Well! That is the course of nature, I suppose!' Then he arose and sacrificed an ox *whose horns were ahead of his hoofs!*" It is a bit of rabbinical humor. How strange everything must have seemed on the first day of creation! "But in what sense were the ox's horns ahead of his hoofs?" some "greenhorn" immediately asks. R. Judah, in the name of R. Samuel said this "one horn" referred to Ps.

69:31, which has nothing about "one horn." Rabbi Hananel, answering the conundrum in a marginal comment says, "When a calf is born, its hoofs are developed before its horns. But this created ox was perfect in the first place! its horns were created (came up out of the ground!) before its hoofs!" In the Psalm passage (69:31) R. Samuel read *mqrn* as a preposition+noun, "with a horn," instead of reading it as a participle, "horned." It was his little joke as to what is possible with an unpointed text. Some Gentiles have been "caught." But there is not a line in the Talmud or later Tosefta of any later Midrash that makes the *rēʾem* one horned.

The *rēʾem* occurs several times in the Babylonian Talmud, because it was still a well-known living animal. It does not occur in the Jerusalem Talmud, because long extinct in Palestine. In the Babylonian Talmud it is introduced in tractate *Tsebachim* (fol. 113, col. 2). One story is that the giant Og went in the water alongside the ark with the *rēʾem*, and both escaped (cf. Sabbath 107*b*). Another explanation is that "the *rēʾem* was tied by its *two horns* behind the ark" and towed to safety. The marginal Tosefta commentary explains that there are two sizes of *rēʾem*. The larger one, or *buphalis*, is a *rēʾem* not used in tillage, and its milk or tallow may not be used. But the milk and tallow of the small *rēʾem* can be used. So the well-known *Bubalis*, or water buffalo is the *rēʾem* of this flood story and is contrasted with the smaller wild ox.

Then in the Babylonian Talmud (*Bab. Bathra* 73*b*) Rabba bar-Hana says, "Once I saw an *ozila* one day old, and it was as big as Mount Tabor. Its neck was three miles long, and its head half a mile long. When it dropped dung, it dammed the river," etc. Rashi there makes the marginal explanation that, in calling it *ozila*, bar-Hana meant that it was something like a kind of "mountain ox" (in its horns?). He then explains that the *ozila* was a "*reʾēm* of the coastlands" or marshlands, showing us the very long-bodied, long-necked water buffalo again! It is further explained by the rabbis that the *reʾēm* could not be admitted into the ark for fear its weight would swamp the vessel. One variation is that the *reʾēm* was allowed to swim behind with its nose resting in the ark, a feat possible only for the long-necked swimming water buffalo again.

Dr. Casanowicz on the *ozila* reads *urzila* and compares it etymologi-

cally with the Arabic *ghazal*, "gazelle" (*Jewish Encyclopedia*, *s.v.* "Unicorn"). That would tally with Rabbi bar-Hana's calling it a kind of "mountain ox," or bison; but it would clearly make the talmudic term *urzila*, like the Arabic *rēʾem*, include various horned animals, as the legends certainly do.

In a Midrash on Ps. 22:21 we are told that David once saw a *reʾēm* asleep in the wilderness. He thought it was a mountain and climbed upon it. He did not find out his mistake until the beast awaked and began to move. Yalkut Shimoni (ii. 97*d*) adds: "It reached to the Sky!" Here we are away from the water buffalo, confronting a misinterpretation of the ideogram, and of an occasional name, of the "mountain ox" given to the huge bison. The rabbis think this name refers to the size of the extinct beast! But this Midrash emphasizes the plural, "the horns" of the *reʾemim*.

The *Otzar Hasharashim*, a very old Jewish encyclopedia of the Old Testament and Mishnah, thus explains *reʾēm:* "The name of an animal with long horns: a *Wald-Stier:* very strong." It adds that in Arabic the name means "very strong, powerful, vigorous" (Hebrew *khazaq*).

Yalkut Shimoni on Job 39:9, 10 (fol. 121, col. 2) starts from the name "mountain ox," as the foregoing Midrash on Ps. 22:21 seems to do, and makes the same misconstruction of "mountain size." It at once brings in Og and all other giants, battling against Noah's flood in company with the mountain-sized *reʾēm*, of which further detail is needless.

In Deut. 14:5 the very indefinite word "antelope" of our Authorized Version is *teʾō* in the Hebrew (cf. Isa. 51:20). Dr. Casanowicz (*loc. cit.*) notices that the Talmud explains this as an "ox of the plains," or aurochs. But Rashi, in *Hul.* 80*a*, considers it the "ox of the Lebanon" which is classed among cattle (*Kil.* viii. 6). It was a very dangerous beast, caught with slings or nooses (*Bab. Kama* 117 f.). Both statements are of value as showing that the rabbins in Babylonia still had knowledge of wild-cattle game both in the plains and in the mountains of Palestine, though they were not sure of the ancient name of either.

In all this it is plain that the Babylonian Talmudists used the terms of their time for animals of their land and time. They knew well

the domesticated and the wild water buffalo and the smaller wild ox. They had the special name "mountain ox" and some records and traditions of the huge extinct bison. That they misconstrued the name as one result of the traditions is not surprising. And their use of the term *rēʾem* is plainly generic, including all wild Bovidae. Their evidence agrees with Dr. Max Hilzheimer at every point.

In all this there is no hint of a "one-horned" animal. These rabbins in Babylonia began their expository work long before the Septuagint was translated; so its term *monokerôs* could not influence them. And they had no need of that theory, where there was daily observation of the animals in question. Collation and compilation of the talmudic material began in A.D. 220, as already stated, two centuries before Jerome's "rhinoceros" got into circulation in the Latin West. Hence no hint of the Septuagint and Vulgate guesses was possible for Babylonian Talmudists and Midrashists. And Jerusalem Talmudists, having no observation of any living *reʾēm*, could say nothing at all.

But *very* modern Jewish encyclopedists have included the Septuagint "one horned" and the Vulgate "rhinoceros" in their collected explanations of the *reʾēm*, without cautioning the reader as to the provenance and date of these terms. Mischievous misrepresentations have resulted. Baring-Gould in his chapter xiv of *Legends of the Patriarchs and Prophets* devotes the second page of "Noah" to the material here presented. But he throws the whole into inextricable confusion by turning the holy land of Babylon into the "Land of Israel" by putting the Vulgate "rhinoceros" into talmudic passages which do not recognize any of the animals described. The fact is that he did not read the talmudic passages at all.