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ADVERSARIA SINICA

BY

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Mr. LAUFER AND THE RHINOCEROS

The origin of this controversy was a suggestion to me by my son, Dr. Lionel Giles, when the 2nd edition of my Chinese-English Dictionary was passing through the press, that the words 犀 *hsi* and 兕 *ssü*, rendered by "rhinoceros" in the 1st edition, would be more correctly attributed, in accordance with Chinese figurings and literary tradition, to some bovine animal. This view appealed to me at once, but it has since met with severe handling by Mr. Laufer in the work mentioned below. A short critique of this book, by my son, appeared in the London and China Telegraph, Feb. 1, 1915, the merits of which were hotly disputed by Mr. Laufer in a later issue (March 8) of the same paper. In the following pages my son has dealt with the subject more at length, and at the end of his analysis, which I endorse (with slight reservations), I have myself added a few further remarks.

By Lionel Giles, D. Litt. (Oxon)

[The italicized passages should be regarded as notes.]

Chinese Clay Figures. I. Prolegomena on the History of Defensive Armor. By Berthold Laufer; Chicago, 1914.

The present volume, comprising nearly 250 pages and 72 plates, treats of the development of Chinese armour (the prefix "defensive" is surely superfluous) with special reference to the archaic, Han and T'ang periods. Coming from an archaeologist of Mr. Laufer's standing, such a work will necessarily command the attention of the sinological world. It bears unmistakable evidence of minute and patient research, the value of which will not be much impaired

even if some of Mr. Laufer's theories ultimately prove untenable. The most important of these theories, forming indeed the foundation on which the rest of the work is built up, is elaborated at great length in chapter I, and calls for special notice on account of the far-reaching conclusions which it involves. The earliest description of Chinese armour occurs in the *Chou Li*, ch. XLI, § 31. The passage is of the first importance, though unfortunately it leaves us in considerable uncertainty both as to the material employed and the exact method of manufacture. It begins thus: 函人爲甲、犀甲七屬、兕甲六屬、合甲五屬。 Biot has a note here, in which he rather inclines to the belief that both 犀 and 兕 mean "buffalo," though in his translation he gives that meaning to 犀 only, and makes 兕 "rhinoceros."

Mr. Laufer, on the other hand, rejects the rendering "buffalo" entirely; according to him, *hsi* is the two-horned, *ssü* the single-horned rhinoceros. Furthermore, he asserts that the ancient Chinese, from the very beginning of their history, were acquainted with these two species of rhinoceros (p. 158), and that the words *hsi* and *ssü* retained this, their original meaning, until the extermination of the rhinoceros on Chinese soil, which event he seems to place in the 13th century A.D. or even later (p. 165). The word *ssü* was then transferred to the wild buffalo, while *hsi* was still retained as a general name for the rhinoceros (p. 162, note).

Mr. Laufer has not the gift of lucid and orderly exposition, and some of his statements are self-contradictory, so that, in order to weigh the evidence presented to us, it will be necessary to run through this chapter on the rhinoceros and discuss each point as it arises. Mistranslations will also be noted.

P. 74. Chu Hsi's opinion, that the *ssü* of the Classics was a 野牛 wild ox, deserves at any rate some consideration, and cannot be contemptuously brushed aside as "undoubtedly wrong."

- P. 75. With regard to the arguments put forward in *Adversaria*, vol. I, p. 394, it may frankly be admitted that Nos. 1 and 2 will not hold water. No. 3 has reference to the pictures of the *hsi* and the *ssü* in the *T'u Shu Chi Ch'êng*, which Mr. L. flatly declares "can never have been intended for any bovines," though he does not go so far as to say that they resemble, even remotely, any known species of rhinoceros. As a matter of fact, they were submitted to the late Professor Newton of Cambridge, and explicitly described as bovine by that eminent authority.
- P. 78. "Its body is as powerful as that of the elephant, but its feet are somewhat shorter." The Chinese is 身長如象足稍短. For "powerful," of course, read "long," and "legs" might be substituted for "feet."
- P. 83. It is implied that the *T'u Shu* illustration of the *ssü* shows three toes. This is not so; its hoof is clearly bipartite, while that of the *hsi* is not divided at all.
- P. 89. Mr. Laufer complains that the rendering "bovine animal" "leaves us entirely in the dark as to the difference between the two words *se* and *si*," which "are expressed by different symbols in writing." He does not appear to see that the argument tells with much greater force against his own theory, and that two so closely related sub-species as the single-horned and two-horned rhinoceros are not likely to have been denoted by two totally distinct characters.
- Take a passage like this in the 國語: 巴浦之犀犛兕象. Why should the writer insert the yak between two varieties of rhinoceros?*
- P. 91. We now come to an important authority, the 說文, which was completed in 121 A.D. There can be no doubt that by this time the Chinese had become acquainted with

the rhinoceros through Indo-China, for the entry under 犀 points unmistakably to this animal.

That I was fully aware of this fact, which Mr. Laufer wastes a lot of breath in proving, may be gathered from the cross-reference under Rhinoceros in my Index to the T'u Shu Chi Ch'êng.

The description of it, however, as 南徼外牛 "an ox occurring beyond the southern frontier" seems fatal to Mr. Laufer's contention (which is essential to his theory) that rhinoceroses abounded in Central China, and even in Western Shansi, as late as the T'ang dynasty.

It is true that he makes a feeble attempt to meet the difficulty by assuming that 南徼外 indicates the country south of the Yangtse! This is quite inadmissible, but even so "the large number of se" in Shansi remains unexplained.

Let us now turn to the *Shuo Wên's* definition of 兕 (the older name of the two, as Mr. Laufer admits): 如野牛而青 "Like a wild ox and dark-coloured." We have here, be it noted, absolutely no mention of the most characteristic feature of the rhinoceros—its horn.

Cf. what Kuo P'o says of the 犛 yak: 牛黑色出西南徼外 (quoted in commentary to 史記, ch. 117, f. 7 r^o). In his commentary on 爾雅, ch. 11, f. 17 v^o, he says of the yak, as he does of the ssü, that "it weighs 1000 catties."

Nor does any commentator on the *Shuo Wên* speak of the ssü as having a single horn. (Hsing Ping wrote a 疏 commentary on the *Érh Ya*, not on the *Shuo Wên*, as Mr. L. states.) The omission is inexplicable, unless we suppose that ssü continued to denote a species of wild buffalo long familiar to the Chinese, while *hsi* was borrowed as a name for the new and little-known beast whose habitat was in Indo-China.

P. 94. "The horn on the nose . . . is small and not long." 小而
不擗 means "is small and is never shed;" *e.g.*, like deer's
antlers. 擗 here = 墮. The latter reading actually occurs
in similar contexts. See *P'ei Wên Yün Fu*, ch. 92, f. 17 v^o,
under 三角, and *T'u Shu*, XIX, 68, 游宦紀聞.
"The country Hu-siu." 胡休多國. The name of the
country is apparently Hu-hsiu-to.

P. 95. Mr. Laufer says that the 角端 is a rhinoceros, and refers
us to the *Shih Chi* (loc. cit.). But the *hsi* and the *ssü* are
both separately mentioned in the same chapter. We may
well ask why, if all these are only different names for the
rhinoceros.

Again, in a list of 32 旗制 recognized subjects for banners
[*T'u Shu*, XXX, 269], the 19th is called 犀角旗, the
21st 兕旗, the 22nd 三角獸旗, and the 23rd 角端
旗. Are all four rhinoceroses?

"As we shall see, armor was not made in ancient China
from the hides of bovine animals." This is another corollary
to the rhinoceros proposition, which, needless to say, is never
proved, but lands its author in all manner of absurdities.
See *infra*, p. 181.

P. 97, note. "Even the most skeptic critic of Chinese animal sketches
will be compelled to grant a certain foundation of fact to
the hog-like rhinoceros of the *Êrh Ya* (Fig. 6)." Mr. Laufer
would have been better advised to say nothing about the
two pictures in the *Êrh Ya*. Both are purely bovine in
character, except that the *hsi* has three toes to its hoof.
It is well known that these illustrations date only from the
Sung dynasty, and too much importance need not be attach-
ed to them. At the same time, one is certainly entitled
to ask how it is that no single picture of the *hsi*, the *ssü* or

anything else can be found which is in the least like a rhinoceros—an animal, be it remembered, which (according to Mr. Laufer) still abounded in central China during the T'ang dynasty (p. 164).

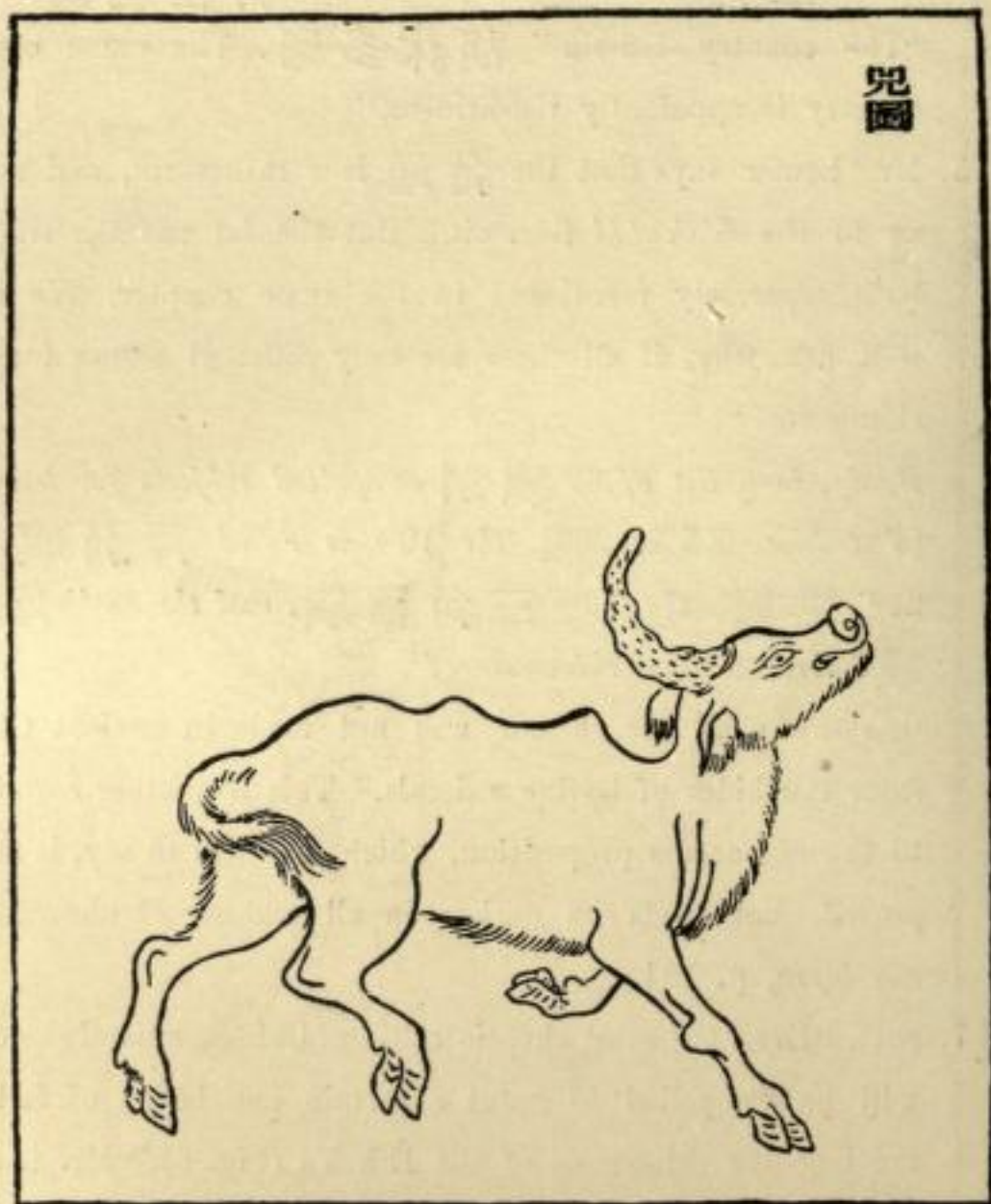
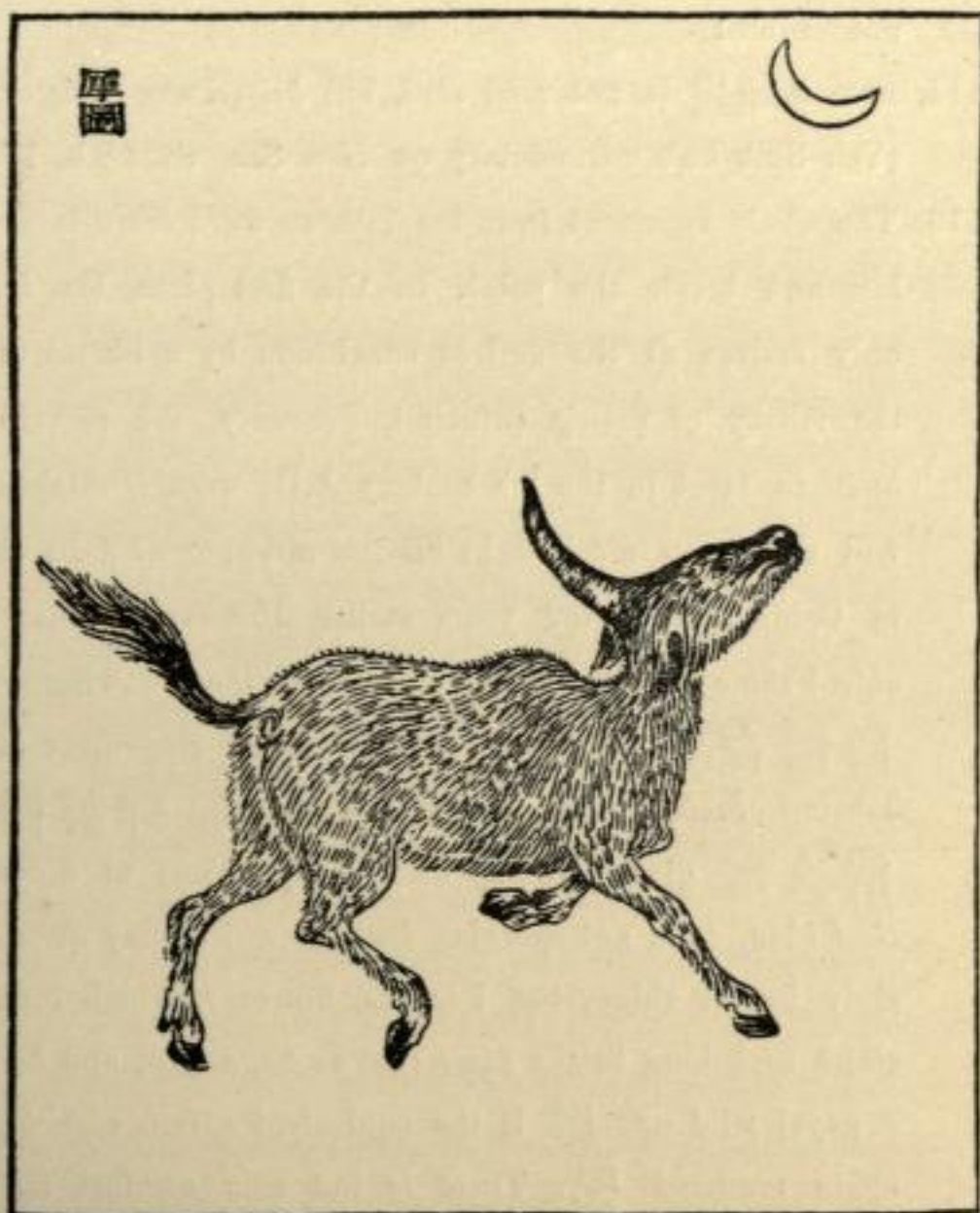


Fig. 9. The Ssü.

P. 101. "The animal *si* (Fig. 6) is undeniably represented in the *Erh ya t'u* with the body of a hog." Mr. Laufer appears to think that he has only to assert a thing loudly and long enough in order to make it true. I can only appeal to the judgment of any unprejudiced observer.

[P. 101. "It is incorrect, however, to say that the animal *se* (= *ssü*), as outlined in the *T'ü shu tsi ch'êng*, is the picture of an ox. In its general features it resembles a kind of deer, as does likewise the animal *si* (= *hsi*)."] [The two illustrations are here reproduced. H.A.G.]



The *Hsi*.

P. 105. Mr. Laufer is surprised to find the *hsi* figured in the Japanese edition of the *San ts'ai t'u hui* with the head of a bull, and ascribes this to "the old tradition of the draughtsmen." Does not that bring him perilously near to the acceptance of a bovine original?

P. 108. In Fig. 12 we have an illustration of the *hsi* taken from the 古玉圖譜, which, though thoroughly bovine in every particular, Mr. Laufer with quite pathetic assurance calls "the figure of a rhinoceros." It has obviously cloven feet, but this is explained by saying that the third toe is not visible!

P. 114, note 5. 馬騮 is not read *chui*, but *hsi* (K'ang Hsi) or *hui* (Yen Shih-ku's commentary on *Han Shu*, ch. 28 b, 17 r°).

P. 116. The whole argument from the Tibetan word *bseru* is worthless and beside the point. In the first place, Mr. Laufer only arrives at the desired conclusion by a liberal use of the fallacy of *petitio principii*. Secondly, the meaning of *bseru* in Tibet in the 9th century A.D., even if established, will not throw much light on the meaning of *hsi* and *ssü* in China a thousand years earlier. However, I have consulted some polyglot vocabularies, with the following result: 四體合璧文鑑 gives 兕 as the equivalent of the Tibetan 'broñ, which means a wild yak. 御製四體清文鑑 gives 角端 as the equivalent of *bseru ma skad chan*, "the not-speaking *bseru*," which may quite possibly be the rhinoceros. For *bas*, however, which I understand to belong to the same root as *ba*, a cow, and *ba-men*, a gayal wild ox, 犀 is the equivalent given, and 'broñ is again rendered 兕. There is but cold comfort for Mr. Laufer here. As for the *bseru* shown in a Tibetan wood-engraving (fig. 14), it is hornless, and otherwise not unlike the *ssü* in the *T'u Shu*.

In note 1, Mr. Laufer ridicules the idea that a term which originally meant a bovine animal could later on have been applied to the rhinoceros. But, according to his own theory,

a term which originally meant a rhinoceros was afterwards applied to a bovine animal. Surely it is much easier to suppose that a newly discovered creature like the rhinoceros was called a buffalo in the Former Han period, than that a word which down to the 12th or 13th century A.D. had always denoted the one-horned rhinoceros should suddenly be transferred to the yak, an animal which was perfectly familiar to the Chinese long before that date, and which moreover had more than one name of its own.

P. 118, note 2. 銀冶犀鹿 is translated "silver-cast figures of a rhinoceros and a stag." But *hsi-lu*, I think, is a compound word similar to *hsi-niu*, and denotes a single animal partly cervine, partly bovine in character.

Pp. 124—129 contain a digression on the subject of the ostrich, which under the name 駝鳥 is depicted in the *T'u Shu* as a grotesque two-legged camel with wings. The argument put forward is that if a Chinese draughtsman could go so far astray in representing the ostrich, we must not be surprised at his failure to reproduce the correct features of the rhinoceros. The answer, of course, is that the two cases are not parallel. The ostrich has admittedly never been seen on Chinese soil, and had to be reconstructed entirely from hearsay. The rhinoceros, on the other hand, if Mr. Laufer's theory is correct, was "plentiful in many parts of China."

P. 129. Mr. Laufer has made a terrible hash of his translation from the *Po ku t'u lu*. My own version will in each case be given immediately after the Chinese text. He begins: "The two lateral ears of the vessel are connected by a handle, on which are chased two characters in the shape of a rhinoceros." . . . 蓋與器銘共二字作兕形.

On the cover and on the body of the vessel two characters in all are engraved (*i. e.* one on each) representing the form of a *ssü*.

- P. 131. "On the two ends of the handle of this vessel is pictured a rhinoceros with head and body complete, the latter having the shape of a glutton."

A glance at the accompanying illustration shows that this translation must be wrong. The 耳 ears mentioned above are evidently referred to. Each represents *the head of an ox.*

是器提梁之兩端亦象兕首、而通體作饕餮狀. At each end of the handle there is also represented the head of a *ssü*, while the body of the vessel is covered with *t'ao-t'ieh* figures.

"In this manner all vessels were decorated during the Shang dynasty, and it is by such symbolic forms that they are distinguished from those of the Chou." 商尚質、於是銘諸器者或以其形、此所以與周器異耳。The Shang dynasty esteemed solidity (as opposed to the merely ornamental), and so it was perhaps that the engravers of the period used that form (*i. e.* the *ssü*). This is what distinguishes its vessels from those of the Chou dynasty.— From among the illustrations of the *Po ku t'u lu* (a work, by the way, which Mr. Laufer himself has done more than any other scholar to discredit), two sketches of the *ssü* are reproduced on p. 130, in which our author professes to see the single-horned rhinoceros "clearly outlined with a naïve and refreshing realism." By far the most noticeable feature of this drawing is a *bristling mane*, not alluded to by Mr. Laufer. It need hardly be pointed out that a mane is not characteristic of the rhinoceros.

A similar mane appears on the *hsi* as depicted in the *Pên Ts'ao*, ch. 51, f. 3 v^o, as well as on the 犛牛 (wild yak) on the same page.

As to the single horn, I have little doubt that what here looks like the upper part of the snout really represents the other horn curling towards the one above it. Some corroboration of this is afforded by an ancient form of 兕 given in the 六書分類, which shows the two horns more plainly, while agreeing in the other respects with the picture in the *Po ku t'u lu*. It will be worth while to consider this character 兕 more closely.

The *Shuo Wên* tells us that it is a 象形 pictorial form, and this is confirmed by early examples on bronzes, which unmistakably suggest a quadruped with two large horns springing from the same base on the top of the head.

See *Liu shu fên lei*, ch. 1, f. 33 v^o. Of the 13 ancient forms given, only two seem to indicate a single horn. These two are utterly different from the rest, and Mr. L. C. Hopkins agrees with me that they cannot be original forms of 兕. Several old forms of 象 "elephant" show a precisely similar projection on top of the head. The ancient examples of the character to be found in the 執文備覽 suggest two rounded horns like those of the water-buffalo. The 薛氏鐘鼎款識, ch. 1, f. 13, reproduces a bronze cauldron of the Shang dynasty with the inscription 兕父癸鼎. The animal, as it appears in the British Museum copy, has no horn and cannot easily be identified with any known species.

The modern character, of course, still shows these two horns. They are distinctly bovine in appearance. It is inconceivable that any rhinoceros, let alone the single-horned species, should have been thus depicted.

An analysis of the character 犀 leads to results even more startling. In the first place, let us note that Li Shih-chên calls it a pictogram—not a phonetic compound. It may therefore be inferred that each of its parts has some value in determining the sense. These two parts are 尾 “tail” and 牛 “ox.”

Even supposing that Li Shih-chên was mistaken in this point, it is extremely improbable that the choice of 尾 to serve as a phonetic in conjunction with 牛 was purely fortuitous.

An ox with a remarkable tail, then, seems to be clearly indicated. Now, an animal corresponding to this description—the yak—has been known in China from the earliest times. On the other hand, if there is one part of the rhinoceros which is wholly inconspicuous and therefore less likely than any other to be singled out for notice, it is its tail.

Pp. 133—153 are taken up with extracts from the *Pên Ts'ao* and other works. They simply swarm with mistranslations, which in one or two cases seriously affect the argument.

P. 135. “The symbol for the word *si* still has in the 篆文 seal character the form of a pictogram, and is the name for the female rhinoceros. The *se* is styled also ‘sand-rhinoceros’.”

犀字篆文象形、其特名兕、亦曰沙犀。

The character for *hsi* in seal script is a pictorial form. The female is called *ssü*, also *sha-hsi*.

P. 136. “It has two horns; the horn on the forehead is the one used in fighting.” 犀有二角、以額上者爲勝。 The *hsi* has two horns; the one on the forehead is considered to be superior in quality.

“Whereby its wonderful properties are tested” should be “with wonderful results.”

P. 138. “Scarcely have they approached the horn to within an

inch." 未至數寸。 Before they have reached the horn by several inches.

"Enveloped by a thick fog or exposed to the night dew" should be "on nights when there is a thick mist or heavy dew."

"The rhinoceros (*si*) is a wild animal living in the deep mountain forests. During dark nights," etc. This is only one sentence: "On pitch-dark nights, when the *hsi* is in the depths of the mountain forests."

"A white foam will bubble up, and no other test is necessary." The apodosis 則了無復勢也 means "the poison is neutralized, and has no further power."

P. 139. "In the following year, it moves to another place to shed its horn." 後年輒更解角著其處。 Then in subsequent years it will come back to shed its horn in the same place.—It is curious that Mr. Laufer should have missed the whole point of this practice.

"The patterns on its horn are smooth, spotted, white, and clearly differentiated." 文理膩細、斑白分明。 The patterns on its horn are glossy and fine to the eye, the white and the mottled portions being well contrasted. The same mistake occurs on p. 150.

P. 140, note 7. With regard to the supposed formidable nature of the tongue of the rhinoceros, mentioned by Marco Polo, it ought to be noted that the very same fable was current in connection with the wild yak. (See Yule and Cordier's edition of Marco Polo, vol. I, p. 277, note 3.) Other genuine characteristics of this animal—its fierceness, huge size and black colour—may also have contributed to its confusion with the rhinoceros.

P. 141, note. "The Po-se designate ivory as *po-ngan*, and rhinoceros-

horn as *hei-ngan*,—words difficult to distinguish.” 波斯呼象牙爲白暗、犀角爲黑暗、言難識也。The Persians call ivory *po-an* (white-secret) and rhinoceros-horn *hei-an* (black-secret), meaning that they are mysterious substances.—In a note on p. 145, Mr. Laufer says that a similar passage “makes no sense,” which ought to have warned him of his error.

P. 142. “Its hoofs and feet are like those of the elephant. It has a double armor.” 蹄脚似象、蹄有二甲。Its feet are like those of the elephant, with two toes to each foot.—Cf. p. 93, where mention is made of 三甲 three toes. 鼻上皆裙口束。Mr. Laufer, evidently not understanding these words, has omitted them. They appear to mean: “The horn on the nose is always bunched together like a skirt tied at the waist.”

P. 143. “These are pointed, and their designs are large and numerous. Those with small designs are styled *tao ch'a t'ung*.” 尖花大而振花小者、謂之倒插通。Those in which the tip-markings are large and the markings at the base are small, are called *tao ch'a t'ung*.—For 振, which is unintelligible, I adopt the variant 根 given in the 埤雅. “If there is not sufficient space for the lines to pass through, and the white and black designs are equally distributed:” 若通無處白黑花分差奇. If at no place do any lines pass straight through, and the white and black markings are distributed in a curious, uneven way. “Then the price is considerably increased, and the horn will become the treasure of numberless generations.” 則計價巨萬、舉世之寶也。Then the value is enormously enhanced, and the horn will be an heirloom for ever.—The stop should come after 萬, not after 巨.

“Girdle-plaques and implements.” 胯具 is a single expression—“girdle-plaques.” The *Pên Ts'ao* text has 帶胯.

- P. 144. “In the evening.” 經夕 must mean “all night.”
- P. 145. Wu Shi-kao, a physician from Ch'êng shi mén. 成式門下醫人吳士皐。The physician, Wu Shih-káo, a disciple of the school of Ch'êng Shih.
- P. 147. “There is also the *chên ch'u*, which is presumably a rhinoceros.” 有鳩處、必有犀也。Wherever the *chên* bird is found, there are sure to be *hsi*.—Cf. *P'ei Wên Yün Fu*, ch. 26 a, f. 83 r⁰: 有鳩之地、必有犀牛。[See *post*, by H. A. G.]
- “And so they go ahead continually. If they would go to work openly,” etc. 再三不離其處、若直取之。This may happen several times running without causing the rhinoceros to abandon the spot; whereas if they were simply to take away the horns (without substituting artificial ones)
- “The rhinoceros beholds the forms of things passing across the sky, and these are reproduced in the horn of the embryo.” 見天上物過、形於角上。The natural objects which it sees up in the sky become embodied in its horn.—形 is here a verb.
- “When the horn, placed in a water-basin during a moonlight night, reflects the brilliancy of the moon, it is manifest that it is a genuine horn ‘communicating with the sky.’” 但于月下以水盆映之、則知。This [i. e. the fact that celestial objects are reproduced in the horn] can be verified by simply placing it in a bowl of water exposed to the rays of the moon.
- P. 148. “None equals the patterns in the horn of the Tibetan breed, which are high, and come out clearly at both ends.” 皆不及西番者、紋高兩脚顯也。None of

these horns equals that of the Tibetan breed, in which the lines rise up high and the two "feet" are clearly marked.— I do not know exactly what the 兩脚 are, but they certainly refer to markings in the horn, and cannot mean "both ends."

"If the black color is taken as standard, and the forms of the design are imitative of real objects, the horn is a treasure." 蓋以烏色爲正、以形像肖物爲貴。 Black is taken as the standard colour, and those horns are most valued in which the shapes resemble natural objects. "If both ends are moist and smooth." 有兩脚潤澤者。 . . . and if the "two feet" are glossy in appearance.— No tactile quality can be in question here. The protasis of this sentence begins with 文頭 etc. Mr. Laufer has here taken only the latter part, including the rest in his previous sentence.

- P. 149. "And occurs there everywhere." This is not in the Chinese. 諸處 merely sums up the places enumerated. "There is, further, a hairy rhinoceros, resembling the mountain-rhinoceros and living in hilly forests." 又有毛犀似之、山犀居山林。 There is also a hairy *hsi* which resembles them (the other three species). The *shan hsi* lives in mountain forests. "The water-rhinoceros makes its permanent abode in water." 水犀出入水中。 The *shui hsi* is amphibious.

- P. 150. "The *se si* is the female of the rhinoceros which is termed also 'sand-rhinoceros'." 兕犀即犀之特者、亦曰沙犀。 The *ssü-hsi* is the female of the *hsi*; it is also called *sha-hsi*.

The rhinoceros sent as tribute from Annam was, according to Mr. Laufer's view, a *ssü*. Why should it be called a

one-horned *hsi*? The answer is obvious if the ordinary *hsi* was a wild yak.

"The term 'hairy rhinoceros' is at present applied to the yak." 今並正之。毛犀即旄牛也。 These mistakes may now be corrected *en bloc*. The hairy *hsi* is the yak. *This statement is important evidence against Mr. Laufer's theory, though by means of an astounding mistranslation he makes it appear just the reverse. It is clear, however, that Li Shih-chên himself has not altogether avoided the confusion between wild yak and rhinoceros. His 水犀, with its "pearl-like armour," and horns on nose and forehead, can only be the rhinoceros, while the 山犀, which has no armour, is almost certainly a buffalo. The 旄 (or 牦) 牛, of which an account is given in the same chapter of the Pên Ts'ao, is a smaller variety of 犛 wild yak. Of the latter animal it is stated that "its body and horns are like those of the hsi." Further on, we learn that its horn could be used to counterfeit rhinoceros-horn so closely that no one could tell the difference. It was used for "the manufacture of bows of exceeding stiffness."*

"If the decorations are spotted, as it were, with pepper and beans, the horns are middle grade." 花如椒豆斑者次之。 Next in quality come the horns in which the decoration consists of spots like peppercorns.

P. 151, note 1. Mr. Laufer rightly corrects previous writers who have made 温嶠 Wên Ch'iao 燃犀 "light a rhinoceros-horn" in order to behold the monsters of the deep. He does not, however, explain how the mistake arose. The text of the *Chin Shu* runs: 燬犀角而照之 "he took a luminous rhinoceros-horn and directed its rays on to it [the river]." 燬 does not mean "to light," but "blaze" or "bright," and the Chinese themselves, misunder-

standing the passage, have got into the habit of quoting it with the incorrect gloss 燃.

Mr. Laufer translates 影犀 "shadow-horn." But 影 here means "reflection," not "shadow." So on p. 141, note. Note 2. Mr. Laufer's theory compels him to reject the well-established tradition of a white *hsi*, mentioned in the *Shan hai ching*, the 東觀漢記 *Tung kuan han chi* and the 唐律典 *T'ang lü tien*. No white rhinoceros exists, whereas the white yak is a well known variety.

Pp. 156—158. The argument based on the fossil remains of *Rhinoceros antiquitatis* found in China will only impress those who do not realise the vastness of geological periods. It is ridiculous to think that the existence of certain extinct species of rhinoceros in China during the Pliocene and early Pleistocene periods—hundreds of thousands of years ago—can have any bearing on the question at issue. The Straits of Dover did not then exist, and the woolly rhinoceros roamed over England, but Mr. Laufer does not infer from that, I presume, that its descendants still inhabited this country in historical times.

P. 161. The famous passage in the *Tao Tê Ching*: 兕無所投其角, points to some animal which, unlike the rhinoceros, uses its horns as weapons of offence.

Note 5 is a singularly lame attempt to prove that the rhinoceros must have given its name to the buffalo, as being the more familiar animal, and not *vice versa*. We are not told by what name the buffalo was called before the 12th century, though we can frame a good guess from the fact (admitted by Mr. L.), that the *T'ang Shu* and *Sung Shih* both speak of the water-buffalo as 水兕.

Once more I am indebted to Mr. Laufer for calling atten-

tion to a text which tells heavily in my favour. The 詞林海錯 says: 唐書犀鎧, 今之水牛通謂之犀 "As regards the *hsi*-armour of the T'ang History, the water-buffalo of the present day used to be generally known by the name of *hsi*." Comment is superfluous.

In his own ingenious way, Mr. Laufer twists this into the following: "What is designated rhinoceros-hide armor [observe the usual *petitio principii*] in the T'ang History is at present made from buffalo-hide, but continues under the general name 'rhinoceros' (*si*)."

Correct also note 3 on p. 190.

And from this he coolly infers that the Chinese "were perfectly aware of the fact that the ancient cuirasses were wrought from rhinoceros-hide, and that buffalo-hide was a later substitute!"

- P. 165. Mr. Laufer quotes from the Sung History, 五行志: "In the year 987.... a rhinoceros penetrated from the southern part of K'ien into Wan-chou [near the eastern border of Ssü-ch'uan] where people seized and slew it, keeping its skin and horn." To be thus recorded in the dynastic history, the above must have been considered an extraordinary event. Yet, in face of this, we are asked to believe that under the T'ang dynasty—comparatively few years before—the rhinoceros abounded in Hunan and Hupeh!
- P. 167. The question of the so-called 兕觥, which Mr. Laufer calls "rhinoceros-horn cups," is by no means to be disposed of off-hand (see *post*, by H.A.G.). As he remarks, none of these ancient drinking-horns has survived, but at a later time they were imitated in bronze, and it is chiefly on these bronze reproductions that we have to rely. One of them, from the *Chin Shih So*, is shown in fig. 24, with

the uncompromising legend 周兕觥. Mr. Laufer's honesty in reprinting this sketch is certainly to be commended, for it is undeniably an *ox-horn* cup, carved (as if to make assurance doubly sure) into a cervine head with *ox-horns* at the base. Not a whit disconcerted, however, he declares that "the *se kung* of antiquity are certainly cups carved from rhinoceros-horn, not cups of buffalo-horn." Nay, he goes further, and tells us that "the horn of a bovine animal cannot be carved . . . a cup carved from a horn can mean nothing but one carved from rhinoceros-horn." He has evidently forgotten his own translation from the *Ch'un ts'ao t'ang chi* (p. 162, note), where the author says that "the cups and dishes carved from rhinoceros-horn (犀角) in his time are not from the genuine rhinoceros (水犀) but from the horn of a wild ox (野牛)." This is a significant passage in more directions than one. Further, the *Drikkehorn og Sølvtøj*, by Olrik (Copenhagen, 1909), is full of illustrations of ox-horns beautifully carved.

P. 168. Mr. Laufer translates a note by Fan Ch'êng-ta: "The people on the sea-coast make cups from ox-horn by splitting the horn in two," etc., and calls particular attention to the fact that they did not *carve* their cups from ox-horn, but merely split the latter. The word in the Chinese text is 截 which means not "to split," but "to cut," and certainly warrants no such deduction. The horns in figs. 23 and 24 have evidently been cut through the middle, not split longitudinally. It is clear that drinking-cups can be thus fashioned to any smaller size required, which disposes of the argument that no drinker could empty one at a draught.

P. 169, note. "The *Chou li* describes the rhinoceros-horn as yellow."

This contains a double blunder. 犀膠黃 means "the glue made from *hsi* hide is yellow." The commentator 王昭禹 Wang Chao-yü expressly tells us that in the case of the *hsi* the hide only is used for making glue. With regard to the 角人 horn-collectors (*Chou Li*, XVI, 34), the rhinoceros, as we have already seen (p. 94), does not shed its horn. It is in the highest degree unlikely, then, that the horns collected were those of the rhinoceros.

P. 172. "It is utterly inconceivable, however, that the ancient Chinese should have taken the trouble to hunt wild bovine animals, in order to secure their skins for cuirasses, since they were in possession of plenty of domestic cattle from which leather was obtainable." Apart from the probability that wild buffalo hide was thicker and stronger than that of ordinary cattle, a little reflection would have suggested to Mr. Laufer that tame oxen were too valuable for agricultural purposes to be killed for the sake of their leather. As he himself observes on the very next page, "the ox was a sacred, and in a measure inviolable animal, looked upon as the helpmate in gaining man's daily bread."

Pp. 175—181. Having established to his own satisfaction that 兕 and 犀 have from time immemorial been used only to designate the single-horned and two-horned rhinoceros respectively, Mr. Laufer returns to the all-important passage in the *Chou Li* from which we started. He offers a new and ingenious interpretation of the word 屬 (to be read *chu*⁴, not *shu*³) which Biot, following the Chinese commentators, translates "pièces cousues." In Mr. Laufer's opinion, it can only mean "layers" or thicknesses of hide, but he altogether ignores the many objections to such a rendering.

In the first place, it does not fit in well with the account that follows of the actual construction of a cuirass. For instance: 以其長爲之圍。 This is translated: "The long strips, into which the hide has been cut up, are laid around horizontally." But I can find nothing about "strips." 其 refers to the hide pieces, of which, as Biot says, "on prend la longueur totale pour faire le contour de la cuirasse." 眡其鑽空、欲其窻也。眡其裏、欲其易也。眡其朕、欲其直也。 "The stitches, when examined, must be fine and close; the inner side of the hide must be smooth; the seams are required to be straight." Or again: 衣之、欲其無齟也 "When it is worn, there should be no gap at the seams." [Biot: "que les coutures ne grimacent pas." Mr. Laufer's "it must not wrinkle" (translated from Biot) has not hit the meaning. See K'ang Hsi.] This refers to pieces of leather laid side by side and sewn together, not to layers. But there are more cogent reasons still why this ancient hide armour cannot have been made in as many as seven layers, especially if rhinoceros hide was the material used. This, when dried, is of "iron-like hardness" (p. 82). Yet we know from a passage in Sun Tzū (VII, 7) that it was customary for soldiers to roll up their corselets when on the march (卷甲而趨). This would be a difficult feat to accomplish with a single thickness of rhinoceros hide, to say nothing of seven. Mr. Laufer hardly meets this difficulty by assuming that the hide "was cut up in horizontal sections into large and thin sheets," which were tightly pressed together.

This appears to be an afterthought, which unfortunately is totally at variance with the "long strips" mentioned above. The labour and costliness of such a process (not even hinted

at in the *Chou Li*) render it extremely improbable. Whatever hide was employed, full advantage was doubtless taken of its natural thickness. Another interesting fact which emerges from Sun Tzū and other early writers is that the use of such armour was universal amongst the rank and file. That is to say, the military equipment of each State must have included tens or even hundreds of thousands of these leather corselets. Can it seriously be maintained that rhinoceroses were slaughtered in sufficient numbers to supply such an enormous demand?

- P. 181. Mr. Laufer asserts that no buffalo-hide (or that of any bovine animal) was used for armour until the T'ang period. But 程大昌 Ch'êng Ta-ch'ang, in an essay contained in the 武備志 *Wu pei chih*, ch. 105, f. 21, specifies ox-hide as one of the materials used for armour in the Chou period, and goes on to mention a cuirass made of water-buffalo hide which belonged to 勾踐 Kou Chien (*circa* 500 B.C.). Then, after relating the story of 馬隆 Ma Lung and the loadstone (Laufer, p. 183), he continues: 王隱晉書亦載其事、乃曰、隆兵悉著牛皮鎧得過、則是實用牛皮爲之、而名以爲犀焉耳。 "Wang Yin's *Chin Shu* also contains this incident, and he adds: 'Lung's troops were able to pass because they were all clad in ox-hide armour.' This armour, then, was really made out of ox-hide, and only went under the name of *hsi*." By the term *hsi* in this passage Ch'êng may or may not have meant a rhinoceros. If so, it illustrates the confusion between that and the bovine genus which Mr. Laufer so categorically denies. Further, if ox-hide was used for armour in the 3rd century, it may very well have been used long before.

It appears then that Mr. Laufer's theory of the rhinoceros in China is radically unsound. The imposing fabric so laboriously constructed in these pages has its foundations in the sand and is not strong enough to stand against the searching winds of criticism. I have naturally been at more pains to reveal the weaknesses and inconsistencies of my opponent's position than to work out a detailed theory of my own. Mr. Laufer is fully entitled to make the most of this fact, and to contrast the definiteness of his own opinion with the comparative vagueness of "wild bovine animal" as a rendering for *hsi* and *ssü*. Nevertheless, his case is not really strengthened thereby. It is more than likely that in early times the Chinese conception of a *ssü* was itself fairly vague, and included more than one species of wild ox. Speaking with all reserve, as one who does not profess to be a zoologist, I should say that the *dong* or wild yak has strong claims to be regarded, at any rate, as one of the bovine species thus indicated. Being a gregarious animal, its former distribution in large numbers over the face of China presents far fewer difficulties than is the case with the rhinoceros. The single horn is certainly a later addition, due to confusion with the latter animal, and possibly to unicorn fables imported from India and Persia.

By H. A. G.

For my part, I have already stated that Mr. Laufer is a valuable asset as an archaeologist, but I have elsewhere (*Adversaria Sinica*, vol. I, pp. 305, 386) shown that he is not qualified to translate Chinese. Besides the mistakes already pointed out by my son, there

are, as he states, a great many left untouched. Let me give a striking example. On p. 144, Mr. Laufer translates thus: "When the animal is immersed in the water, men avail themselves of this opportunity to capture it, as it is impossible for it to pull its feet out of the mud." Could anything, on the face of it, be more ridiculous? According to this, a rhinoceros could always be caught when bathing; and that would be very frequently, as Mr. Laufer himself says (p. 136, note 4) that "the rhinoceros is fond of spending the hot hours of the day immersed in water." Besides, it may be added, even when not attacked, the animal would always have the same difficulty in pulling its feet out of the mud. The text, which is really of the simplest, runs thus: 當其溺時人趁不復移足, and it is almost an insult to tell a student of Chinese of any standing that it means, "When it is urinating, men take advantage of its inability to move its feet." [Compare this with another statement about the rhinoceros, viz. 小便竟日不盡.] Again, on p. 147 we have, "There is also the *chên ch'u*, which is presumably a rhinoceros." The text is 有鳩處必有犀. The second character refers to a "poisonous bird" of a fabulous reputation, from which the word comes to be used adjectivally in the sense of "poisonous." We can hardly think that the writer was here alluding to the bird, whereas the adjective offers no difficulty: "In poisonous places, the *hsi* is always found."

It is useless to pile up such misrenderings; quite enough has been said to show that Mr. Laufer is absolutely unqualified to handle a Chinese text. The question therefore arises as to the value of theories raised upon a superstructure of gross mistranslation.

I will now translate a passage from the 埤雅, quoted in the *T'u shu*, XIX, 68, which has so far been omitted altogether from the controversy. "The 釋獸 *Shih shou* says, The 兕 *ssü* is like an ox; its skin is hard and thick, and armour can be made from

it. The *Tso chuan* says, In the water destroy dragons, and on land exterminate the *hsi* and the *ssü*;—for it (armour) is got from these. The 吉日 Lucky Day ode says, Let fly at that small boar, kill that big *ssü*;—meaning that ability to hit (with a cross-bow) a small animal will imply the power of vanquishing big ones. Lao Tzū says, The *ssü* will then have no place in which to stick its horn. The *ssü* is very good at butting; therefore the drinking penalties of our ancient rulers were enforced in goblets made from the horn of the *ssü*. Wine belongs to the *yang* (or male) principle, and is good for bringing out a man's courage; taken in excess, it leads to "butting," and therefore our ancient rulers made this horn a warning emblem against drunkenness. The Canon of Poetry says, Crumpled is the goblet made from the *ssü* horn, With its good wine and mild;—referring to the above."

I gather from the above that the *ssü*, at or about a date of more than a thousand years before Christ, could be killed with a cross-bow, and had the 觥 (= 斛 = 曲) crumpled horn of a buffalo. The tradition has always been of a large horn goblet, said to hold as much as seven 升 pints, and sometimes, by exaggeration, said to require three men to lift it. This goblet, now 觥, was originally 觥, a name given to it, according to 徐鉉 Hsü Hsüan, because of its 曲起之貌 crumpled appearance.

If Mr. Laufer claims to find the horn for such a goblet on the head of a rhinoceros, I am obliged to part company with him in the quest for truth.

通 天

The above phrase requires a short note to itself. It seems to have been first used in connexion with a 臺 raised building, set up by the Emperor Wu of the Han dynasty, as a place of worship,

in the year B.C. 109. The Emperor's chief object is stated to have been 招來神仙 "to attract divine beings," for which purpose three hundred boys and girls, eight years of age, were sent up 以候天神 to await the arrival of the angels; and such a building would rightly be understood as "communicating with heaven," the habitat of such beings. Under the Later Han dynasty, which ended A.D. 206, the term appears in the combination 通天冠, a name for an Imperial cap, the form of which was said to have been handed down from the beginning of the 11th century B.C. (*T'u shu*, xxvii, 327).

This cap is described in the 輿服志 of the Later Han history as "nine inches in height, standing straight up, with the top 少斜 slightly inclined to one side." The *P'ei wên*, which gives the last entry, follows it up by a line from a poet, named 王



通天冠

損 Wang Sun, whose date I have failed to discover:

犀有異角其名通天

The *hsi* has a strange horn, which is called *t'ung t'ien*

Ko Hung (*died* A.D. 330), mentions a 眞通天犀角 translated by Mr. Laufer (p. 138) "a genuine rhinoceros-horn of the kind 'communicating with the sky,' three inches long." T'ao Hung-ching (A.D. 452—536), also mentions a 通天犀, translated by Mr. Laufer as "a kind of rhinoceros styled 'communicating with the sky.'" Finally, the words occur as part of the year-title of the Empress Wu, A.D. 696, of course in their original sense.

From the above it appears that our term was first applied in literature to a sacrificial building; then to a cap said to be of a much earlier date, which we can accept in so far as the Hans are known to have taken over the style of regalia in use among the 秦 Ch'ins; and later to the horn of a rhinoceros. This looks as if the rhinoceros-horn was called "communicating with the sky" merely because it was like the shape of a well-known cap, "slightly inclined to one side," and not, as Mr. Laufer supposes, because "the rhinoceros is associated with material heaven; that is, the sky," for which no rational explanation is forthcoming beyond the absurd stories faked by the Chinese to explain a term which they did not understand. Even if 通天, associated with a species of rhinoceros, had occurred in literature before its association with a cap, the Chinese would in that case probably have named this headgear "the rhinoceros cap," and not "the communicating-with-the-sky cap." Further, on the cap may be seen lines running from the base to the top, which probably suggested the original name; and when a rhinoceros-horn was noted for similar peculiarities, it would be a simple step to associate the curiously marked and slightly inclined horn with the Imperial cap quite recently, if not then, still in use.