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avec grand merci  
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THE BIRD CHARIOT IN CHINA AND  
EUROPE

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## THE BIRD-CHARIOT IN CHINA AND EUROPE.

BY BERTHOLD LAUFER.



IN an interesting paper entitled "A Curious Aino Toy,"<sup>1</sup> EDWARD S. MORSE discusses a wooden toy, in the form of a bird on wheels, supposed to be of Ainu origin. Although the idea of wheels, foreign to this tribe, is evidently borrowed from the Japanese, yet Morse had never come across such a toy in Japan. He further figures a similar wooden specimen pertaining to the Yakut in Siberia, and another excavated by Flinders Petrie in the cemetery of Hawara in Egypt, dating back not later than the first century of our era. Morse sets forth the opinion that "this toy might naturally have originated among a civilized people like the Egyptians, who portray wheeled chariots in their early rock sculpture," and concludes that "certainly, unless it can be shown that any kind of an object provided with wheels originated among a savage people, it does not seem an absurd conjecture to suggest the common origin of this toy even among peoples so widely removed in space and time as those above mentioned."

1. These wheeled birds have a much wider dissemination in Eastern Asia than is indicated by Morse, and they form in particular a distinct type among the Chinese antiquities of bronze and nephrite. A number of these have been described and illustrated in the archæological literature of the Chinese. Before reviewing the latter, I will first refer briefly to some actual specimens which have become known to me. Plate XXXIII shows a bronze piece of this kind<sup>2</sup> representing a winged bird,

<sup>1</sup> Bulletin of the Essex Institute, Salem, Mass., Vol. xxv, pp. 1-7.

<sup>2</sup> It is in the possession of my friend, Dr. August Conrady, professor of Chinese at the University of Leipzig, who acquired it at Peking, and to whom I am indebted for his kindness in placing a photograph of it at my disposal. The height of the object is 24.7 cm.; from the bill to the tail-wheel it is 22.3 cm. long; the length of the bird's body is 17.2 cm., and its width is 7.7 cm.

with long tail curved downward, resting on two large wheels, and a small wheel attached to the end of the tail. On its back the bird carries a sacrificial vessel of the type called *ts'un*. A curious head is brought out in relief on the breast of the bird. Spiral ornaments are engraved on its body, and the graven lines on the wings seem to be intended to indicate plumage.

I do not hazard a conjecture as to the period in which this object may have been made, as I had no opportunity to examine it; but I may say that my general impression would favor a rather recent origin, which I infer chiefly from the modernized formation of the wheel, almost identical with that of the usual North-Chinese travelling-cart of nowadays. Then we must take into consideration the facts that, of genuine specimens of this type (i.e., such as come down from the periods of the Han and the T'ang), exceedingly few, if any, have survived, and, if such exist, they may be hidden away among the treasures of Chinese private collectors; further, that these very objects are imitated indeed in recent times, of which I had abundant opportunities to convince myself in specimens seen by me in China, the technique of which clearly stamped them as modern productions. These, as a rule, are made on a smaller scale than the antique ones, and easily betray themselves as epigones by the frequent applications of cloisonné enamel, and certainly by their deviation from the standard forms, by their inferior technique, by their plumpness of shape and their crudeness of execution. It is therefore a matter of some surprise to notice in Dr. S. W. BUSHELL'S recent book<sup>1</sup> the figure of such a vessel positively ascribed to the Han dynasty. The object is much like that illustrated on Plate XXXIII, except that it is lower, and the wings of the bird are entirely concealed behind the wheels. Dr. Bushell, in his description, remarks that "the curious wheeled wine-vessels commonly called *chiu ch'é tsun*, or 'dove-chariot vases,' are generally attributed to the Han dynasty (202 B.C.—A.D. 220)." Though this statement is undeniably correct, it certainly does not justify, without further evidence, the conclusion that the specimen in the South Kensington Museum is

<sup>1</sup> Chinese Art, Vol. 1, London, 1904 (Publication of the South Kensington Museum), Fig. 56 and p. 91.

necessarily also a Han, as asserted in the descriptive matter under the figure. It is naturally impossible to speak positively either for or against its authenticity, without submitting the object in all details of its workmanship to a close inspection; nevertheless I cannot suppress the opinion that to me it seems, from the general appearance of its style and technique, to fall rather under the heading of the coarser ware above alluded to. Fur-

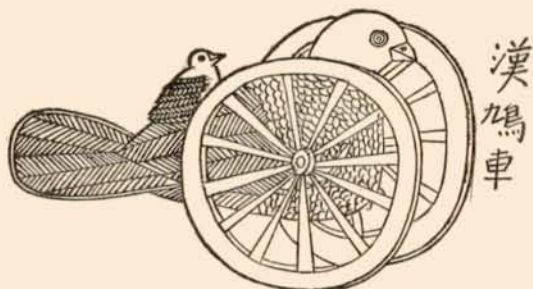


FIG. 19.

ther comments of Dr. Bushell are as follows: "The bird of mythological aspect, which is supposed to represent a dove (*chiu*), has its tail curved downwards, and a trumpet-shaped vase-mouth with scroll-ornament and dragons, and displays on its breast a grotesque head moulded in relief.

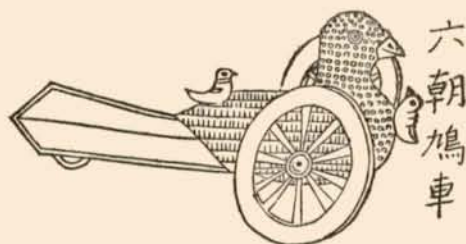


FIG. 20.

Two wheels support it at the side, and a smaller one at the tail, adapting it to circulate on the altar during the performance of the ancestral ritual ceremonies." I do not

know whether the latter statement is the opinion of the author, or whether he derived it from a Chinese writer: I am unable to trace it back to any Chinese source (see end of § 3, p. 419).

2. In the "Po ku t'u," Book 27, pp. 44 a and b, two so-called "dove chariots" are illustrated, the one (Fig. 19) attributed to the Han period,<sup>1</sup> the other (Fig. 20) to the age of the Leu

<sup>1</sup> These illustrations are photographed from the edition published in 1753. The cyclopædia *San ts'ai t'u hui*, section on implements (Book 5, p. 9), gives a reproduction of this engraving with the text of the *Po ku t'u*, curiously enough grouped in the chapter "Means of Transportation."

ch'ao or Six Dynasties (A.D. 221-589). In the legends over the illustrations, the bird is designated with the one character *chiu*, which is explained as "turtle-dove" or "pigeon." In the accompanying descriptive text, however, the compound *shih* (Giles, No. 9901) *chiu* is used, which is interpreted by Giles as "the cuckoo" (*Cuculus canorus*), while other lexicographers take this compound also in the sense of a pigeon or turtle-dove.<sup>1</sup>

The definition of this object, given by the art-historian WANG FU (first half of the twelfth century), the author of the "Po ku t'u," is to the effect that it consists of two wheels, between which the dove is placed, so that it moves through the motion of the wheels. In both pieces, the large dove is conceived of as the mother-bird, which in the Han specimen carries her young one on the back, and in that of the Leu ch'ao, two young birds,—one on her breast, the other on her back. In the front part of both, there is, according to the description

<sup>1</sup> COUVREUR (Dictionnaire classique de la langue chinoise, p. 1047 a), *shih chiu*, "huppe," "pigeon ramier." PALLADIUS (Chinese-Russian Dictionary, p. 528), *gorlitsa*, i.e., "turtle-dove." EITEL (A Chinese Dictionary in the Cantonese Dialect, p. 612 a) explains *shih* by "wood-pigeon," and *shih chiu* by "turtle-dove." Giles's interpretation evidently goes back to O. F. V. MÖLLENDORFF, The Vertebrata of the Province of Chihli (Journal of the North-China Branch of the Royal Asiatic Society, N. S., Vol. XI, Shanghai, 1877, p. 93): "*Shih chiu* has been explained as a kind of wood-pigeon or turtle-dove. But the description points evidently to the cuckoo; more especially the mention of the habit of that bird of not building nests, but laying its eggs in the nests of other birds, would not admit of any other identification." According to the investigations of T. WATTERS, Chinese Notions about Pigeons and Doves (Journal of the North-China Branch of the Royal Asiatic Society, New Series, Vol. IV, Shanghai, 1868, p. 229), *chiu* is a generic term for doves, *shih chiu* is a wood-pigeon or a dove of some sort (p. 238). The term *shih chiu* occurs in the Shih king (JAMES LEGGE, The Chinese Classics, Vol. IV, Part I, p. 222; Shih king, ed. COUVREUR, p. 157), where Legge translates it by "turtle-dove," Couvreur by "hoopoe." The meaning "cuckoo" would hardly be commensurate with the passage in question, as the *shih chiu* is here introduced as the symbol of filial piety and maternal love, a notion which is attributed by the Chinese just to the dove (see T. WATTERS, l.c., p. 236). The Chinese statement given above, on which Möllendorff's identification with the cuckoo is based, is an idea which seems to go back to the verse in the Shih king: "The nest is the magpie's; the dove dwells in it" (J. LEGGE, l.c., p. 20 and note p. 21); but this does not justify us in assigning to the word *chiu* or *shih chiu* the signification of "cuckoo," even though a confusion of the two birds be admitted. An engraving of this dove (*shih chiu t'u*) from T'u shu chi ch'eng, Vol. 579, ch'in ch'ung tien Book 28, *chiu pu hui k'ao*, p. 3 a, is reproduced as a vignette at the beginning of this paper.

given, a perforated knob for the passage of a cord, by means of which, apparently, the chariot can be drawn. Of features not mentioned in the text, we notice that in the former (Fig. 19) the wheels are larger and provided with twelve spokes, in the latter (Fig. 20) with ten; in the first one, the head and neck of the bird are unadorned, its body is decorated with what appears elsewhere as scales on fishes or dragons, and the six hatched portions behind leave no doubt that they are intended to represent the tail-feathers. In the second object, head, neck, and breast are dotted over with small circles; the body is divided into ten rows with vertical hatchings; and instead of the rounded-off tail-feather of the preceding object, we find here a pointed angular piece to which, as is also expressly added in the text, a third small wheel is attached "to strengthen" the chariot. The opinion of Wang Fu is, that these objects served as amusements, playthings for young boys; and since there is nothing that would conflict with their character as toys, I see no reason for rejecting such an interpretation. This is further accounted for by the author with a quotation from TU SHIH with the cognomen *Yu chiu tzü*,<sup>1</sup> to the effect that boys at the age of five years play with dove-chariots, while at the age of seven they enjoy the pleasure of the bamboo horse.<sup>2</sup>



FIG. 21.

Fig. 21 represents a dove-chariot of white nephrite, reproduced af-

ter an engraving in the "Ku yü t'u p'u" ("Illustrated Book of Ancient Jades"), Book 47, p. 12, compiled by LUNG

<sup>1</sup> In the *Ku yü t'u p'u* (Book 47, p. 13 a) the same quotation is given as derived from a book *Kin hai* (The Golden Sea), with the *varia lectio* that boys at the age of *six* play with the dove-chariot, and at *seven* with the bamboo horse.

<sup>2</sup> Hobby-horses are mentioned as early as the Han time, as is well attested by the bamboo horses on which the boys of Ping chou went out to receive the virtuous Kuo Chi (38 B.C.—A.D. 47), in token of respect and gratitude for his wise administration, on his return to his old magistracy (see GILES, Dictionary, p. 269 b, and Biographical Dictionary, p. 405; STEWART-LOCKHART, A Manual of Chinese Quotations, p. 73; C. PETILLON, Allusions littéraires, p. 288). See, further, STEWART CULIN, Korean Games (Philadelphia, 1895), p. 32; E. CHAVANNES, Documents sur les Tou-kiue (Turcs) occidentaux (St. Pét., 1903), p. 117.

TA-YÜAN in 1176, and published in 1779. The different character of the two birds, — particularly the formation of the



FIG. 22.

舌  
玉  
相  
輪

tail, which varies from the previous ones, — and the ornamental treatment of the wheel-spokes, are striking at first glance. This wheel appears almost identical with, and is probably derived from, a wheel-like object of jade pictured in the same work (Book 47, p. 7), and here given in Fig. 22. The text says that this piece is to adorn the upper part of the state carriage (*yü lu*),

and an implement of the time of the Three Generations (*san tai*, i.e., the Hsia, Shang, and Chou dynasties). That wheels of this type were employed for ceremonial carriages in

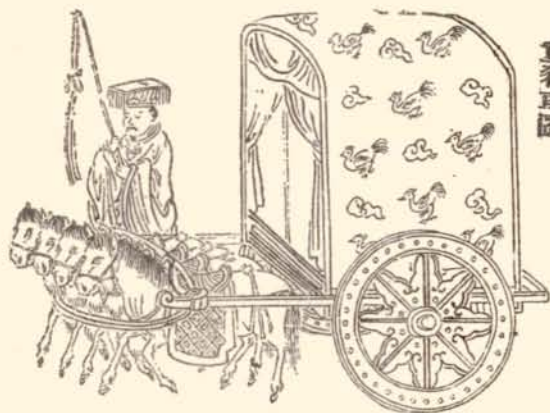


FIG. 23.

times of antiquity, will be seen from Fig. 23, which is meant to illustrate the *ch'ung ti ch'é* ("cart with pairs of pheasants") mentioned in the "Chou li."<sup>1</sup> As regards the explanation of

<sup>1</sup> T'u shu chi ch'eng Vol. 1114, k'ao kung tien Book 174, ch'é yü pu hui k'ao, IX, p. 9, whence also the illustration is derived. COUVREUR (Dictionnaire clas-

the bird-chariot in the "Ku yü t'u p'u," the quotation given in the "Po ku t'u" is repeated, and it is further remarked that "this bird-chariot was an object in the palace of the Six Dynasties." Whether this may imply that the piece there figured comes down from this period, according to the author's view, must remain an open question; at least, he makes no other attempt to fix a date for it.

Finally, Fig. 24 is a bronze dove-chariot of the T'ang dynasty, figured after the "Hsi ch'ing ku chien" (Book 38, p. 27).<sup>1</sup> The accompanying note states that the "Po ku t'u" also contains this implement, with the quotation of TU SHIH, which is then reproduced. It concludes with a new sentence not to be found in the other books, saying that this object was not made in the earliest days of antiquity, which seems plainly to hint at the fact that it first sprang up during the Han period. We thus have now an opportunity of viewing specimens of this

type from three ages, — the Han, the Leu ch'ao, and the T'ang. The T'ang piece in Fig. 24 is the simplest of all, void of all decorative elements. It is distinguished from all others by having three young

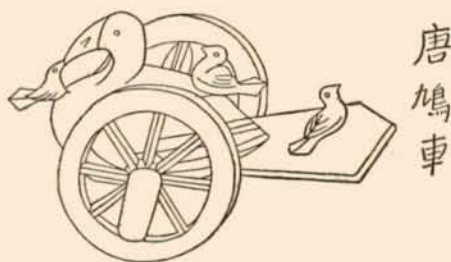


FIG. 24.

birds,—one on the breast, another on the back, of the old bird, as in the Leu ch'ao chariot, and a third on the tail, looking in the opposite direction. The form of the tail coincides with that of the Leu ch'ao object.

3. A type widely deviating from the previous ones is found in the eleventh book of the "Hsi ch'ing ku chien." First of all, we meet there, on pp. 27, 28, two vases called *chiu ts'un* ("dove-vases"), each resting on the back of a plastic bird

sique de la langue chinoise, p. 732) translates the term *ch'ung ti ch'ê* by "voiture aux plumes de faisan disposées par paires." The above figure would rather suggest representations of pheasants embroidered on the cart-awnings.

<sup>1</sup> From the quarto edition executed in Japan in 1888, which is an exact facsimile of the original, published at Peking in 1751.



figure, and both attributed to the Han period. The second of the two is here reproduced in Fig. 25.<sup>1</sup> No descriptive text is



FIG. 25.

added, except the measurements and weights of the pieces. The purely ornamental and conventional style will be readily observed; and that this bird is by no means a dove, but that the latter designation is transferred to it merely through seeming analogy, — badly chosen, indeed, — is quite obvious at the outset. This feature is still more striking in the former of the two bird-vases, in which the feet of the bird are set with enormous toes provided with long sharp-pointed claws, so that evidently a bird of prey is there intended. Our next illustration (Fig. 26) follows the two vases in the same book of the "Hsi ch'ing ku chien" (p. 29), and is superscribed as a "dove-chariot vase of the Han time;" and it will be seen that this

<sup>1</sup> Compare the similar piece in J. LESSING, *Chinesische Bronzegefäße, Vorbilder-Hefte aus dem Kunstgewerbe Museum*, No. 29, Berlin, 1902, Plate II, Fig. a. Boas Anniversary Volume. — 27.

wheeled vessel represents the same type of bird as the preceding. It is, besides, the same type as that shown on Plate XXXIII. I can but presume that it is, in fact, a secondary derivation from the former; the feet of the bird being replaced by the two eight-spoked wheels, and a small wheel in the shape of a disk being added to the extreme end of the tail. A clew to the understanding and presumable development of this object is afforded by a brief explanation in the accompanying text of the "Hsi ch'ing ku chien," in which is this statement: "Compared with the two foregoing vessels [alluded to above], this one is a *plaything*, and that is just the point in which it differs from those sacrificial vessels." If this interpretation is correct, we should have to look upon this object as an adaptation to the sacrificial vase borne by the bird, caused or influenced by the previously described real



FIG. 26.

dove-chariots, which I should like to style genuine or original ones, to distinguish them from the present pseudo-type. Whereas, as we shall see hereafter, the genuine Chinese bird-chariot seems to be derived from a foreign idea, there can be no doubt that the bird-vases, like that illustrated in Fig. 26, are a purely Chinese invention, since there are many analogies to this type which were in existence as early as the Chou dynasty (1122-255 B.C.), when we find the same type of sacrificial vessel standing on the back of elephants and other animals. In the Han period, such vases were placed on birds

called larks (*t'ien chi*) and on so-called auspicious or wonderful animals (*juí shou*); and in the T'ang period, on dragons and phœnixes combined, and on stags. I think we may say, therefore, that the bird-chariot in Fig. 26 is a distinct type, differing from the others enumerated above, and that it is secondarily derived from a previously existing bird-vase by the addition of wheels, the analogon to which was found in the then established dove-chariots, with the same object in view as the



FIG. 27.

latter implied; i.e., to serve as a toy. This deduction is very important, since it implicitly contains the inference that this wheeled sacrificial vase never was and never could be a religious or ceremonial object, as Dr. Bushell concluded (see end of § 1, p. 412), but was never anything more or less than a simple plaything. The occurrence of the vase had no significance, and was merely incidental in this toy, a mere grafting of a given favorite form, serving the purpose of creating a new variation of this then existing object of play, — a wholly subsequent and secondary development.

4. The utilization of the dove and pigeon in artistic representations was not frequent in ancient China. Besides the dove-chariots, there are only two kinds of objects known from the Han time, in which a dove was figured. The one is a staff, usually of jade, adorned with the figure of this bird, and bestowed upon men eighty or ninety years old. The details regarding this custom will be found in my forthcoming paper, "The Pottery of the Han Dynasty." The engraving Fig. 27 is from the "Hsi ch'ing ku chien" (Book 38, p. 19). It represents the handle of such a staff, formed by an inverted animal (sheep?)-head (presumably to serve as a socket) surmounted by a dove, the whole apparently made of bronze. The other kind of object is a "book-weight" (*shu chên*) of bronze in-

laid with gold and silver (Fig. 28), explained as having the shape of a dove (*ch'iu chên*), and as originating from the Han time (Hsi ch'ing ku chien, Book 38, p. 39). No description of it is furnished.

5. The type of the dove-chariot may raise the question whether there are other ancient vessels extant in the shape of chariots. I have found only one, reproduced in Fig. 29.

It is derived from the "Hsi ch'ing ku chien" (Book 38, p. 57), and is entitled *T'ang fang ch'ê hsün lu* ("a censer [lit., 'stove for fragrant herbs'] in the shape of a quadrangular cart of the T'ang period"). Unfortunately, no further discussion of this



漢  
鳩  
鎮

FIG. 28.



唐  
方  
車  
薰  
鑪

FIG. 29.

interesting specimen is added. The four monsters with spirally curved tails clinging to the four corners of the four-wheeled vehicle strongly remind one of the type of a hydra (*ch'ih*).

6. Aside from the illustrations in the above-mentioned archæological works, there is no documentary evidence relating to these dove-chariots to be met with in Chinese literature. Neither K'ANG HSI's Dictionary nor the "P'ei wên yün fu" mention this term, and, so far as I know, there is no contemporary record extant in the books of the Han.<sup>1</sup> This silence is very curious and suspicious; and the few unsatisfactory notes which the antiquarians append to this article do not help much in verifying its origin, being of such a nature as hardly to allow of stamping it as a genuine Chinese invention. They admit, on the contrary, that it was unknown in the days of greatest antiquity, and that it did not make its appearance before the era of the Han dynasty, — a period in Chinese art in which large waves of foreign elements burst over the native ideas. It was the time when, as I have tried to show elsewhere, Siberian or Old-Turkish art exercised a far-reaching influence on that of China, and new motives imported from abroad held full sway over the then Chinese artists. Would it not, then, be possible to associate the object under consideration with those other foreign invasions? Would it not be justifiable, under these conditions, to look for analogous phenomena in other spheres of art, which might have been the prototypes of the Chinese idea, and thus afford the foundation for a better explanation of it? We have seen that Morse pointed out the occurrence of a wooden wheeled bird in Egypt, and he is inclined to consider that country as the one where this curious object was first conceived of. But as in Eastern Asia, so in the western part of the Old World, we discover a much wider range and a far more extended geographical distribution of these things than is admitted by Morse. Indeed, almost throughout Europe and Anterior Asia, bird-chariots of bronze occur in large numbers which date from the end of the bronze age. As they have often been described and figured, I will refer the reader to the more important literature regarding these finds: R. VIRCHOW, "Nordische Bronze-Wagen, Bronze-

<sup>1</sup> This is particularly confirmed by the great cyclopædias, like Yen chien lei han, T'u shu chi ch'eng, Ko chih ching yüan, which, in mentioning the dove-chariot, are content merely with repeating the one quotation from the Po ku t'u.

Stiere und Bronze-Vögel," in *Zeitschrift für Ethnologie*, Vol. v, 1873, *Verhandlungen*, pp. (198)-(207); M. HÖRNES, "Urgeschichte der bildenden Kunst in Europa" (Wien, 1898), pp. 499 et seq., and "Die Urgeschichte des Menschen" (Wien, 1892), pp. 411, 540-542; E. CHANTRE, "Recherches anthropologiques dans le Caucase," Vol. II (Text), 1886, pp. 203-205, with 12 figures of such chariots; INGVALD UNDSET, "Antike Wagen-Gebilde" (*Zeitschrift für Ethnologie*, Vol. XXII, 1890, pp. 49-75, particularly pp. 49, 56); JOSEPH HAMPEL, "Altertümer der Bronzezeit in Ungarn," 2d ed. (Budapest, 1890), Plate LVIII; SALOMON REINACH, "La sculpture en Europe avant les influences gréco-romaines" (*L'Anthropologie*, Vol. III, 1896, p. 171); O. SCHRADER, "Reallexikon der indogermanischen Altertums-kunde" (Strassburg, 1901),

p. 930. Virchow remarks in his paper that groups of ducks figure on several chariots of bronze, and illustrates one found in Frankfurt-on-the-Oder, which consists of three wheels connected by an axle; between the wheels there are four

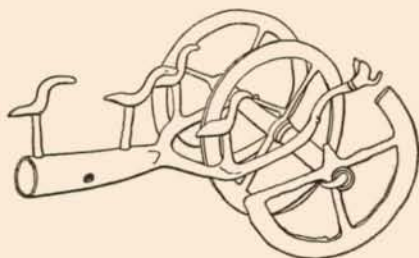


FIG. 30.

birds, two of which stand on the shaft going out from the axle. This sketch is here repeated in Fig. 30, after Virchow in the above-quoted paper. Undset (l. c.) discusses, among others, a bronze chariot from a tomb near Corneto in Etruria, supposed to belong to the eighth century B.C. On four four-spoked wheels connected by two axles rests an animal whose neck, body, and tail betray a bird, that, however, possesses four feet and a head (perhaps that of an ox?) with horns. In the middle of its back there is a quadrangular opening, and the hollow body thus forms a small vessel. The opening is closed by a lid formed like the back of a similar animal with the same bird's tail and neck and horned animal-head. In the bird-vessels from Italy, he interprets the bird as a duck, and presumes that these bird-chariots were a sort of sacred objects which might have some relation to Oriental models. Accord-

ing to him, in northern Europe also, kettle-chariots have been found, representing bronze vases resting on two bent axles.<sup>1</sup> These chariots of European finds are usually conceived of as votive chariots, and assigned to some religious cult. Whether this was so in all cases or not, it is not the place here to discuss; but considering the fact that, according to a well-authenticated tradition, they appear in China from the first as toys, and were there never anything else, I should venture to suggest to our archæologists that such a possibility might be admitted also for a part of the European objects in question. Or might mere ignorance of their true signification on the part of the Chinese have led them to intimate that they were toys?<sup>2</sup> Since European chariots are much older than Chinese ones, since they are found there over a much wider geographical area and in greater numbers, there can be no doubt that this idea must have spread from the west to the east; indeed, if such was the case, it can have found its way to China only by way of Siberia, in the first place through the medium of Scythian tribes, of whom it is now well established that they acted as the mediators also of other motives of art in their transmission from Europe to Siberia, and thence farther to China. Unfortunately, among the antiquities of Siberia, no such bird-chariots have hitherto been discovered. Should chance ever bring one to light, the evidence of the migration of the Chinese dove-chariot, and of the idea underlying it, from Europe to China, would be settled beyond any doubt. After all, the Yakut specimen figured by Morse might be looked upon, if not as a survival of former ages, still as a promising factor pointing in the direction of other possible future finds on Siberian soil.

7. Modern toys set on wheels are not rare in Eastern Asia. Professor Conrady informs me that he once saw in Siam a toy made of straw, representing a bird running on wheels. In a collection of toys made by me in Peking, there is a butterfly set on an axle to which two wheels are attached, the whole made

<sup>1</sup> See also R. VIRCHOW, *l. c.*, p. 199.

<sup>2</sup> R. VIRCHOW (*Ibid.*) mentions a bronze chariot with bull and bird heads which he acquired near Burg-on-the-Spree in 1865, when it was about to be worked into a child's toy.

of tin, and colored. Small models of carts are much in vogue as toys in the capital, and the cart-horse usually moves on four small solid wheels.<sup>1</sup> Although an historical connection between these recent toys and the ancient bird toy-carts cannot be directly demonstrated, there is much reason, after all, for the assumption of such a development.

8. My previous remarks are not by any means exhaustive as regards the archæological importance of these ancient Chinese bird-chariots of bronze: for, owing to their representation of wheels, they offer another source of study, from the view-point of ancient means of transportation. It is well known that carts are pictured in great numbers on the stone bas-reliefs of the Han time with several well-distinguished types, and a few others in relief are on metal mirrors of the same period. An immense amount of material is further stored up in Chinese literature regarding vehicles and modes of transportation in ancient and modern times; and the problem as to the origin, history, and distribution of wheeled vehicles over Asia, is one of no mean importance for the elucidation of oldest history.

<sup>1</sup> See, for instance, the figure in I. T. HEADLAND, *The Chinese Boy and Girl* (New York, 1901), p. 111.





BRONZE BIRD-CHARIOT, CHINA.