climate for small-scale agriculture. This latter scene is well examplified in the recent excavation of a neolithic site in Kashmir,[10] where neolithic is seemingly an extension from the main valley of the Indus. In brief the different environments helped endure different patterns of life in this subcontinent, and the position is not different even today. We must be prepared to accept these different categories of life subsisting side by side and mutually interacting. Hence there cannot be one common standard for all the areas lying south of the Himalayas. We have to distinguish provincial cultures, establish their mutual relations and reduce them to a time scale, at the lowest end of which now firmly stands the Indus Civilization. Throughout history the Indus zone has been a via media through which the ideas have percolated into this subcontinent. It is the germination of these ideas and their interaction with the hill cultures that have shaped the cultural pattern now obtaining in India and Pakistan.

[10] Information from Mr. V. D. Krishnasvami of the Indian Archaeological Department. Materials are unpublished.

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The Decoration of Mirrors of the Han Period. By ANNELIESE BULLING. (Artibus Asiae, Supplementum XX.) Pp. 104, plates 81. Ascona, Switzerland: ARTIBUS ASIAE PUBLISHERS, 1960.

The Han Dynasty, which lasted from 202 B. C. to 220 A. D., though broken in two by the reign of the usurper Wang Mang, was a glorious age in Chinese history. The nation had finally been consolidated as an empire, after a long period of war between contending feudal states, and except for foreign wars against the Huns or campaigns of conquest beyond its frontiers, it enjoyed comparatively long periods of internal peace. The silk trade with India and far-off Rome, and the tribute pouring in from the outlying dependencies, brought considerable wealth, and in this favorable atmosphere the arts flourished. One of the notable arts of the period was that of metal-working, which produced the magnificently ornate bronze mirrors that form the subject of this beautiful printed book. However, in spite of the great number of Han mirrors in museum collections all over the world, there has been little agreement as to their precise dates. Accordingly, the author has attempted to provide a definite system for dating these mirrors, hoping that this might serve as a beginning toward the establishment of a more general chronology to cover all the arts of the period.

Eventually, an accurate chronology for Han art will doubtless be achieved through controlled archaeology in China, carefully conducted and systematically reported. But, although a vast amount of archaeology has been undertaken in China during the last two decades, unfortunately in most cases it has been very hurriedly done, in connection with public works projects, as new areas were being cleared for roads, airfields, or factory buildings, and the reports have been vague and poorly illustrated. More recently, it has been impossible to get reports at all, as the Mainland Chinese have ceased to share their findings with scholars in other lands. In this sad situation, there is still a place for studies such as this one, based upon objects already recovered and now in well-known collections or public museums.

Of course, such a study can only be effective when it is reliably based upon objects actually seen and handled, not by a mere comparison of photographs and book illustrations. A great many false "Han mirrors" were produced to satisfy the scholar-antiquarians of the Sung, Ming, and Ch'ing dynasties—not to mention more recent examples skilfully produced to deceive wealthy foreign collectors in modern times—and unless one actually examines a given mirror very carefully, studying the quality of the metal, its patina, etc., it is not always possible to be sure whether it is genuine; although anachronisms in style and decoration are sometimes sufficient to expose the spurious examples, as Mrs. Bulling has demonstrated in her discussion of the mirror with decoration in inlaid lacquer at the Freer Gallery (illustrated in plate 74).

Incidentally, in addition to the non-Han characteristics in the decoration of this mirror which she has listed, one might also cite the fact that the

chief deity is seated above a lotus, reflecting a later Buddhist style, while over his head is poised the relatively late form of the Thunder god, based on the Tibetan Lamaist form of Garuda; and around the border prances a weird collection of beasts of the *k'uei-lung* category, which the Ming and Ch'ing forgers assumed were antique forms, along with some feline types that look quite modern. Also, in the forger's desire to include appropriate ancient literary elements, he included two representations of the fabulous pair of birds which shared mutual wings (one apiece) and hence had to fly together, whereas ancient tradition generally assumed that there was only a single pair of these unusual creatures (known as *pi-i niao*[a]).

The fact that this forged mirror long deceived some of America's most distinguished experts shows the hazards in this field, and the necessity for choosing unquestionable examples on which to base a sound chronology. However, in spite of her clever detective work in spotting some of the inconsistencies on this particular mirror, the author has included other mirrors—often as key examples to demonstrate her theories—which are equally blatant later forgeries. In place no. 59, for example, one finds a mirror "dated A.D. 117" with a soulful-looking ram awkwardly deployed around the central boss. The faulty depiction of both horns and hoofs might cause one to pause before assigning it to a Han artist, but the presence of the Eight Trigrams in the late arrangement ascribed by Sung scholars to the legendary Fu Hsi, and the fact that the two inscriptions are given in separate kinds of pseudo-archaic writing, both make it quite clear that this was a forgery, made expressly to appeal to a scholar of a later period interested in epigraphy and dated inscriptions. Even the texture of the surface, which is clearly apparent in the splendid reproduction, shows that the mirror was probably cast from a free wax model in a technique that was not characteristic of the Han period.

Another possible forgery is the mirror in plate 25. This is of a very simple type, easy to imitate, and it contains not only an atypical phrase at the center, but also two panels of inscriptions—one referring to the maker and the other (very awkwardly written) giving the date—in a style and position not characteristic of the known mirrors of that period. This, too, may have been made later for a date-minded antiquarian, perhaps during the Sung. Similarly, the mirror represented by the rather poor rubbing in Fig. M (p. 83) is probably a forgery also, as it was not the custom of any period to use a date as the most prominent, indeed sole, decoration on a bronze mirror; but the later forgers, knowing that antiquarians were obsessed by the desire to possess dated bronzes, did find it profitable to make such things to satisfy the demand. (Obviously false mirrors of this type used to be common among the jumble of wares in the *tung-hsi* shops of pre-war China, and when we protested at the transparency of their falseness, the dealers would smile and reply that scholar-collectors who wish to have dates were seldom very discriminating.) Such a mirror would have to be carefully examined before taking it as a genuine example. No safe attribution could possibly be made on the basis of such a vague reproduction.

The inadequacy of dealing with even good photographs is illustrated by the author's handling of the mirror in plate 29. This mirror is certainly atypical, even suspiciously so, but leaving aside for a moment the question whether it is genuine at all, let us consider the author's description of it. The main field bears the typical Han cosmic frame composed of signs that resemble T's, L's, and V's, and the author (on page 38) describes the associated decoration as follows: "The space between [the above-mentioned signs] is filled with scrolls reminiscent of the arrangement of Shou-chou mirrors and ancient dragon arabesques . . . Some [of the scrolls] interlace like plaits and others end in fork or trident-shaped signs." The author's interlacings and "trident-shaped signs" are actually parts of Chinese characters; for the basic decoration consists primarily of an inscription, clearly visible in the excellent photograph. It therefore seems ironic to read at the end of the same paragraph, "According to Professor Umehara the mirror has an inscription in the old style script placed towards the centre which cannot be seen in this photograph. It is an inscription often found on mirrors of the Western Han period . . ."

If the author never saw the inscription, how does she know it is of a type often found on Early Han mirrors? Actually, the eight characters shown constitute two auspicious phrases, neither of which is known from previously discovered Han mirrors,

and although the sentiments are similar to those found on Western Han mirrors, the wording of one of them in particular, *tzŭ sun pu chüeh*,[b] seems centuries later. (Incidentally, the author's purported "translations" of mirror inscriptions throughout are usually mere paraphrases, not always accurate.)

Another principal feature on this mirror in Plate 29 is the outer ring of design depicting the four animals known as the *ssŭ shên*.[c] (The author says on page 51 that *ssŭ shen* is equivalent to *ssŭ ling*[d]; but actually the two terms refer to separate groupings.) Here the four creatures are shown racing madly around the ring, with the dragon and the tiger extended in the "flying gallop," whereas on Western Han mirrors the dragon and tiger from this group are characteristically shown slinking in a very deliberate, rather sinister, fashion. In view of all these discrepancies, it seems impossible to consider this as an authentic example of the Western Han period, which the author frequently cites it as being.

Another example to which the author often refers is that in Fig. G (p. 54), represented by a rubbing from the collection of a Chinese scholar-antiquarian. Its pattern is a welter of anachronisms. The center depicts only three of the Four Spirits (*ssŭ shên*), and two of them (the dragon and the tiger) are transposed; the V's are lacking from the TLV pattern; and in the design around the rim one of the three coins has its two middle characters reversed. In addition to other unfamiliar elements in the design, these numerous iconographic mistakes would suggest a very late Han or post-Han date, when the earliest traditions had been forgotten, or even a much later forgery; but it is represented as a type example for the period of Wang Mang, and a number of theories and later citations are based upon this untenable attribution.

Since the mirrors in Plate 29 and Fig. G apparently served as the basis for the statement that animal borders originated in the period before the Eastern Han, and since both of these mirrors are later, if not spurious, we have nothing to show that such borders began until the Later (Eastern) Han period, at the earliest. Actually, they probably originated rather late in that period, being a mark of decadence. Among other signs that they are characteristic of a late development, in a time of the breakdown of old traditions, we find that the mirrors on which they occur often have defective central patterns. For example, the mirror on Plate 40 displays the *ssŭ shên* in the wrong order, while that on Plate 42 lacks the turtle and snake, showing an anthropomorphic monster wrestling with a serpent, instead.

Further anachronisms, including a border procession that changes directions in a disconcerting fashion, even showing one animal walking upside down, plus faulty casting, all mark the mirror in Plate 42a as an obvious fake. Also, the decadent mirror in Plate 37, lacking any recognizable Chinese symbol in its design except for the T, L, V marks of the frame itself, very likely dates from the post-Han period when old traditions in North China tended to disintegrate under "barbarian" rulers. The caption says of the latter, "Owner unknown," and the state of the illustration shows that it must have been drawn from some book, which is not cited. Unfortunately, too many examples have been chosen from photographs in books, rather than from actual mirrors personally examined. (If the author had been working with the mirrors themselves, rather than pictures of them, she would never have made the naïve statement on page 30: "Some of them are so finely cast as to be translucent when held against the light." No solid bronze object could be translucent.)

While on the subject of illustrations, it should be noted that although the plates are, for the most part, quite excellent reproductions, clearly showing all the necessary details, they are not always consecutively numbered, so the reader sometimes has difficulty locating a plate cited in the text. By comparison with the plates, the illustrations in the lettered figures tend to be unclear, or poor, while the numbered figures are disgracefully bad. The amateur draughtsman who drew the borders in Fig. 7, for example, might at least have used a compass to make even arcs for the outlines.

If the primary purpose of this book was an attempt to establish a chronology of Han mirrors, dating the introduction and development of certain patterns and stylistic elements, an equally important consideration in the author's mind seems to have been the promulgation of certain personal theories regarding these patterns. Thus, on the third page of the Introduction (p. 13 of the book), one comes upon the following statement:

> For a full appreciation of the intricacies of shapes and decorations it is essential to realize that these mirrors were originally meant to be replicas or images of parasols and canopies such as were used in all kinds of rites or ceremonies . . . these were intended to represent in some form or other 'the canopy of heaven.'

Since this statement is firmly expressed as an accepted fact, a reader who comes to this book without previous experience in the field would never guess that this was only a mere hypothesis, originating with the author. After this first remark, the theory is restated with monotonous frequency, as though to compel the reader to accept it by mere weight of repetition. However it is quite untenable.

Some Chinese mirrors, as attested by the symbols on them or the wording of their inscriptions, were considered as symbolic representations of the sun or the moon. Others represented the earth surrounded by the circular rim of the sky, making a universe in microcosm. Still others were undoubtedly intended to represent the sky, and the Old Chinese did sometimes describe the sky as a canopy (among other metaphors); but to assume without question that the men of Old China took the poetic idea of a celestial canopy so literally as to conceive of it in terms of a functional parasol is not only to misunderstand the nature of symbolism and poetic metaphor; it would also imply that the artists of Old China were less imaginative and resourceful than artists elsewhere, so that when the metalworkers were faced with the problem of decorating a circular field they would have be forced to draw upon patterns already designed by umbrella makers! The author's only concession to the creative powers of the mirror makers reads as follows: "Although the mirror maker did not invent new forms of decoration but merely copied parasols, the imitation of new types of parasols is no mean undertaking and presupposes some experimentation. New ways had to be found which could reproduce three-dimensional objects on a flat disk." (This is found on page 24.)

The author's persistent Procrustean efforts to force all mirror patterns into imitations of parasols also leads her to interpret some elements of the design as parts of the umbrella frame. Thus we find passages like this, from page 27: "The curved and straight lines on this mirror [shown in Pl. 20] and on others imitate structural parts of the parasol. The curved lines are replicas of bent stays or ribs and the straight ones of cords connecting the upper part of the cover with the lower one." This, and other similar passages, contains a basic fallacy. Quite apart from the difficulties involved in trying to show the top and underneath features of an umbrella at one and the same time, the Old Chinese mirror designers, even if they had been trying to reproduce the patterns on umbrellas, would not have been slavishly literal copyists; like artists anywhere, they would have omitted non-essentials. Thus they would have taken the pattern on the cover and would have deliberately avoiding reproducing any structural elements that would have been required for the proper functioning of an umbrella but which would have no remote use on a mirror.

One rather long analysis of a Han mirror pattern (on pp. 28-30) carries this hypothesis to absurd lengths. Discussing the mirror illustrated in Pl. 23, it says:

> Other mirror centres suggest that these cross lines [around the boss] often copied a square frame made of thin wire, bamboo sticks, or even of threads which was placed below the top of the parasol cover . . . None of the lines radiating from the inner ring on this mirror are curved which confirms that no bent stays were used in the construction of the upper part of the parasol, and the square frame may well have helped to keep it stretched and in position. Whether the triangular motifs issuing from the inner ring imitate a structural part of the parasol or whether they were simply a decoration is difficult to say. They may have been pendants dangling from the upper ring. On all these mirrors (Pls. 20-22) the bands carrying the inscriptions are placed on a striated background which suggests that the covers of the parasols were made of straw or light bamboo sticks and that the bands with inscriptions were fastened to them . . . etc.

If the mirror makers had been as literal-minded as the author assumes they were, then the inscriptions on the mirrors—in their form if not in their wording—would have been close copies of auspicious writings on the canopies or umbrellas. Here we have one of the most telling arguments against the theory that the mirror patterns were exact reproductions of parasol covers: because the inscriptions on the mirrors run around circular bands in such a way that on a parasol or canopy they would have been lying on their sides, and on certain specific examples, such as the mirror in Plate 14, had they been thus inscribed on a canopy they would have appeared upside down.

Some years ago, the reviewer presented in this journal (*JAOS*, 68 [1948], 159-167) a suggested explanation of the "TLV" patterns which seems to have been quite generally accepted. This book totally ignores that explanation, presumably because the reviewer's theory made no remote reference to umbrellas. However, no satisfactory substitute is offered here, and it is never clear just what the author thought these signs, recalling the Latin letters, actually stood for the minds of the men of Han; although they appear on so many mirrors of the period that they must have had some fundamental significance. However, it might appear from a strange remark on page 23 that she considered them as structural features of a parasol; for we read: "The parasols imitated by these mirrors must have been rather fragile constructions because the L and V signs fixed rather precariously to sticks and jutting out from the rim . . . were always in danger of being broken off." It seems scarcely necessary to point out that such fantastic parasols probably never existed outside the imagination of this author.

On page 96 we encounter a later form of mirror on which divinities were arranged in successive tiers, from bottom to top, so the decoration was essentially vertical, rather than concentric. Here we would assume that the parasol theory would collapse completely, but the author tenaciously clings to her obsession. Note 121 informs us: "Such an arrangement in no way contradicts the theory that this mirror is an imitation of a parasol. As shown on many reliefs they were often held like fans by servants standing behind their masters." These reliefs also generally show the umbrella top remaining horizontal, regardless of the angle of the handle; and even if they were not on a flexible point, the tops would have been designed in concentric fashion like any other parasol.

This book goes to great lengths to emphasize that all mirrors had to represent the sky-canopy, rejecting any idea that some of the old mirrors might have represented the whole universe, showing the earth encircled by the rim of the sky-dome. Thus the *ssŭ shên* are always regarded as signs of celestial constellations (as mentioned on page 37), and as such eminently suited for representation on canopies representing the sky, totally disregarding the fact that these four creatures were equally prominent—if not more so—as directional symbols representing the four cardinal directions upon the earth, and were thus shown on many mirrors.

Sometimes this sky-canopy obsession leads to amusing contradictions. For example, we read on page 63: "Whenever the sawtooth patterns decorate the rim of mirrors they symbolize cosmic mountains . . . believed to surround the sky along the edge of the universe." There is no specific evidence that the "sawteenth" represented mountains at all, but if they did represent mountains, these would not have been in the sky but on earth, beneath (or around) the rim of the sky; in which case, the area that they surrounded would have represented the world which the mountains encircled. The arcs around the edges of some Han mirrors are sometimes explained as representing these same mountains (as on page 35), but elsewhere they are described as "festoons" around the rims of parasols. As usual, these dogmatic statements are not supported by any proofs, and mere assertion does not make them true.

In accordance with the sky-canopy theory, the processions of animals around the rims of mirrors are described in this book as symbolizing "the orbit of the stars and planets and the route taken by celestial travellers." (Cf. page 93.) This can be easily disproved. If a person in the Northern Hemisphere sits out for a while at night looking up to watch the stars, they will appear to be wheeling slowly clockwise around the Pole Star; however, many of these rim patterns proceed counter-clockwise, and some move erratically in both directions. Moreover, the characteristic Late Han type of border contains terrestrial figures such as the nine-tailed fox, elephants, and little men, etc., which Chinese mythology assigned to earth, and did not number among the denizens of Heaven. Although a border pattern might sometimes show the sun disk and the moon disk 'mid drifting clouds, these are usually balanced by a pair of lucky coins which occupy the other two directions; thus the whole border pattern cannot have been representing the sky.

In that large category of later mirrors which depict Hsi Wang Mu and Tung Wang Kung, the "Western Royal Female" and the "Eastern Royal Male," the main field of the mirror must represent the Earth, because contemporary accounts of K'un-lun Shan, the Taoist axis-mountain at the

center of the world, say that Hsi Wang Mu lives on the east side of it and Tung Wang Kung on its west side, so the exaggeratedly large mirror boss looming between them would have to represent this cosmic mountain. While the large bosses on other Han dynasty cosmic mirrors are not always so explicitly labeled by the associated symbols, there seems little doubt that they usually were also thought of as representing the cosmic axis at the middle of the world, and not some point in heaven. In short, the sky-canopy theory cannot be exclusively maintained.

Less frequently mentioned than the parasol or sky-canopy assumptions, but equally fanciful, is this book's ideas that some Chinese mirror patterns of the Han period represented skeins of silk between bobbins, or "string figures." First developed on pages 30-31, this theory is again expressed on page 78 as follows: ". . . both later and earlier patterns are associated with winding or spinning plays. The large scrolls, partly hidden by the bat- or bird-like endings [on the four projections from around the central boss], represent stylized images of reels covered with coiled strands. The lines connecting two scrolls are signs of strands rotating between them, and the spirals branching off them represent threads attached to smaller bobbins." In this connection also, note 41, on page 31, remarks "On earlier mirrors the 而 signs are nothing else than representations of devices separating the strands." This is a decidedly novel interpretation of the meaning of the *êrh* character, which has often puzzled those who have attempted to translate the often-ambiguous mirror inscriptions; but it seems a trifle too simple to try to abolish the difficulties by asserting that this symbol is not a word at all. Characteristically, this startling suggestion is presented as an established fact.

It would be overly time-consuming to discuss all the numerous shortcomings of this book, but one particularly annoying thing is the pitifully inadequate index. This does not even list the "TLV" pattern, so frequently mentioned in the text, but it devotes an inordinate amount of space to the author's special hobbies, such as "Parasols (Canopies)," "Plays (winding)," and "Festoons," with cross-references to these, although not even for them are all the occurrences listed. Just to organize the material for this review it was necessary to fill out the references, and even to write in further categories and search out the references to them. Moreover, although the footnotes and bibliography are rather scanty, they are not always accurate. For example, the Japanese work *Kokyō no kenkyū*, the last item in the bibliography and also referred to in note 66, is ascribed to Dr. Umehara, whereas its actual author was Tomioka Kenzō.

In short, although this book presents an occasional good insight—such as on page 37, where a more convincing interpretation is given to a familiar inscription, permitting a change in dating of the mirrors on which it occurs—too many of the personal theories expressed in it fail to convince, in spite of their dogmatic presentation and stubborn reiteration. It also fails as a picture book, because nearly all of the illustrations are already familiar from previous publications (though acknowledgements to these are seldom given), and, as we have seen, the attribution of several examples is gravely in doubt. A definitive book on Han mirror patterns, giving a more precise chronology of their development, based on experience with actual examples, is still greatly needed.

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Chinese Characters

a. 比翼鳥

b. 子孫不絕

c. 四神

d. 四靈