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PRELIMINARY REPORT
ON
ARCHÆOLOGICAL RESEARCH IN KANSU

BY
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WITH A NOTE ON THE PHYSICAL CHARACTERS
OF THE PREHISTORIC KANSU RACE

BY
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甘肅考古記

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The translation into Chinese of Dr. Andersson's paper has been made by Mr. S. S. Yoh of the Geological Survey staff, who has also offered most valuable collaboration in compiling data from the Chinese archæological literature.

Plates I-IV are drawn by Mr. J. F. Na, and plate XII by Mr. P. Y. Tung.

The translation into Chinese of Dr. Black's paper has been made by Dr. Li Chi.

INTRODUCTION

Already in 1919 the Geological Survey of China took the first steps towards the unveiling of the prehistory of China, until then nearly unknown. Stone implements were discovered in different parts of N. China, and in February 1920 the present writer was able to present a brief report on such finds before the Anatomical and Anthropological Association and National Medical Association.¹⁾

In the course of our reconnaissance a large dwelling site with a rich and varied pre-metallic furniture was discovered at Yang Shao Tsun in Honan, and a systematic survey and excavation of this site was undertaken in the autumn of 1921.

In the early summer of the same year a culture deposit of approximately the same age but showing certain remarkable local features was discovered in a small cave at Sha Kuo T'un in SW Fengtien. This deposit was completely excavated, and a monographic description of the topography, stratigraphy and furniture was published in 1923.²⁾ A report on the human skeletal remains found in this cave, prepared by Dr. Davidson Black is now in press.³⁾

A preliminary review of the Fengtien and Honan finds was published under the title "An Early Chinese Culture."⁴⁾ A monographic report on the painted pottery from Yang Shao Tsun and other Honan localities by Dr. T.J. Arne has just appeared.⁵⁾

The culture described in these papers has been named *The Yang Shao Culture* from the type locality in Honan. It is characterized by a furniture which is in many ways late Neolithic in type, and no metal object has ever been found in the sites of this period during our extensive excavations. Still, there are features both of the monochrome and painted ceramics which make me believe it better to place this culture in the Aeneolithic period, the transition from the true late Neolithic to the beginning of the metal ages.

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- 1) *J. G. Andersson*. Stone implements of Neolithic type in China. Anatomical Supplement to the China Medical Journal. July 1920.
 - 2) *J. G. Andersson*. The Cave Deposit at Sha Kuo T'un in Fengtien. *Palaeontologia Sinica*. Ser. D. Vol. I. Fasc. 1. 1923.
 - 3) *Davidson Black*. Hunan skeletal Remains of Sha Kuo T'un, Fengtien, and Yang Shao, Honan. *Palaeontologia Sinica*. Ser. D. Vol. I. Fasc. 3.
 - 4) *J. G. Andersson*. An Early Chinese Culture. Bulletin of the Geological Survey of China. No. 5. 1923.
 - 5) *T. J. Arne*. Painted Stone Age Pottery from the Province of Honan. *Pal. Sinica*. Ser. D. Vol. I. Fasc. 2.

In the furniture of the Yang Shao culture there are features such as stone axes, pointed bone implements etc, which are of a general Neolithic type without special local color, there are furthermore artifacts such as the semilunar and rectangular knives which are so preponderant within the East Asiatic and the Esquimaux areas, that it is tempting to interpret them as a very ancient Mongoloid inheritance. Much of the monochrome pottery, as for instance the tripods Li (鬲) and Ting (鼎), the steamer Hsien (甗) and possibly others, are evidently related to and probably were the proto-types of early Chinese bronzes well known under the above mentioned names.

Lastly we have to draw attention to a most remarkable group of the Yang Shao furniture, namely the painted pottery, which in the patterns of decoration and in the technique in general, exhibits a most striking relationship to the large family of painted ceramics from the transition between the Neolithic and the beginning of the metal ages which has been made known from a very large number of localities in the Eastern Mediterranean, SW Russia and the Near East (Sicily, Tessaly, Tripolje, Susa, Anau etc.). In my preliminary publication "An Early Chinese Culture" I was not only able to compare the Yang Shao painted ware in considerable detail with Anau and to some extent also with Susa, but I was already at that time fortunate to add to my own incomplete comparisons an authoritative statement by British archaeologists headed by Mr. R. L. Hobson.

An Austrian archaeologist, Dr. L. Franz, has in a review of my papers made further very interesting comparisons between the Yang Shao culture and sites of the Near East.¹⁾ By means of comparisons with Anau and excavations made in Mesopotamia he has arrived at the first tentative determination of the age of the Yang Shao culture, a question to which we will return in much greater detail in a following chapter.

Quite recently, Dr. T. J. Arne in an elaborate monograph²⁾ on the whole material of painted pottery collected in the Yang Shao sites of Honan has made an exhaustive survey of the relationship of the Honan ceramics with those of the Near East, including several important localities such as the Zhob valley in Baluchistan and Tepe Mussian near Susa which were unknown to me when I wrote "An Early Chinese Culture".

1) Mitteilungen der Anthropologischen Gesellschaft in Wien. Bd. LIV. P. 70-82.

2) Arne Loc. cit. Pal. Sinica. Ser. D. Vol. I, Fasc. 2.

Already before the appearance of the important contributions presented by Franz and specially by Arne, the evidence of consanguinity between these prehistoric groups of ceramics from the Near and the Far East had become so convincing that we found it imperative to extend our archæological research further west to regions where we could expect to find relics of the hypothetical connection between the sites in Honan and those of SW Asia. The topographic features of Western China and its borderlands pointed to Kansu, specially the surroundings of the provincial capital Lanchow, with its several fertile river valleys, as the most promising second stage of such a regional effort to trace the migration of cultures at the end of the Neolithic age.

The archæological reconnaissance of a considerable part of Kansu, which I undertook during 1923 and 1924, has realized our hopes of success far beyond the boldest expectations. Not only did I meet with a surprisingly rich development of the Yang Shao culture including several dwelling sites with very fine furniture, but still more important was the discovery of extensive grave fields from which were obtained large numbers of unbroken painted funeral urns, which undoubtedly must be counted among the most splendid of Æneolithic ceramics in the whole of Eurasia.

In addition to this enlarged and deepened knowledge of the Yang Shao culture we have found a site, Ch'i Chia P'ing (齊家坪), practically devoid of painted pottery but with monochrome vessels of very characteristic type and very beautiful and distinct decorations of impressed patterns. For reasons which are given below, I consider this Ch'i Chia P'ing type to be slightly older than the Yang Shao period.

On the other hand we have found a sequence of cultural stages, marked by the growing use of copper and bronze and characterized, each by a varied and well defined assembly of ceramic types which enable us to establish a number of post-Yang Shao periods, among which the Hsin Tien and the Sha Ching stages at present seem most important.

The relative age of these archæological periods, six in number, is not in each case established beyond doubt, and the absolute ages can only be told by very vague approximations. Still it seems fairly probable that our reconnaissance has unveiled some preliminary outlines of the prehistory of Central Kansu covering one and a half to two milleniums, say from 3500 or at least 3000 to about 1700 B. C.

It is needless to say that these conclusions are preliminary. The laboratory study of the material from the 1923-24 expedition has hardly begun, and furthermore it can be foreseen that the conclusions based upon this first reconnaissance must be revised by continued field-work, for which plans are already in preparation. However, it has been found necessary to prepare a number of publications based on the material already at hand. A first preliminary report is given in this brief paper. At the same time a full description of the field observations accompanied by maps, plans and photographs, and containing also a general review of the furnitures of the different stages will in a short time be published in the *Palaeontologia Sinica*. Parallel with this preliminary review and detailed topographic description will proceed monographs on the different groups of artifacts and ceramics.

A detailed itinerary of the journey will be found together with the topographic description.

I take this occasion to express my respectful thanks to their Excellencies the Ministers of Agriculture and Commerce, the Director of Mines Mr. T. L. Lin and the Directors of the Geological Survey Dr. V. K. Ting and Dr. Wong Wen Hao who all permitted me the widest freedom of action in this purely scientific enterprise and gave their warm-hearted support.

My geological assistant Mr. P. L. Yuan occasionally took an interested part in the archaeological work and carried out the topographic survey of the Hsin Tien area.

My best thanks are also due to H. E. Lu Hung T'ao, Governor of Kansu, as well as many of his subordinates, who afforded me all facilities and protection within the province.

I am also under the deepest obligation to Rev. George Findlay Andrew of the China Inland Mission Station in Lanchow (recently appointed member of the staff of teachers of the British School, Chefoo, Shantung), to Mr. N. B. Doodha, Postal Commissioner, Lanchow, and to Dr. George E. King, Head of the Borden Memorial Hospital, Lanchow.

Mr. Andrew not only helped me most materially in locating the first large, complete funeral urns, but he also undertook during his vacation in January 1924 a very successful archaeological reconnaissance to Titao and Tsinchow and brought in April of the same year the first consignment of our collections safely to Peking.

Mr. Doodha, in addition to the most pleasant hospitality always shown to me, rendered most vital help in safeguarding the scientific results of our work. Dr. King, always untiringly helpful as our medical aid, finally arranged our return by raft in a way which secured for us with our collections a safe and pleasant homeward journey.

With deepest gratitude I wish to acknowledge the unfailing help given to me by the Swedish Research Committee, headed by H. R. H. the Crownprince of Sweden, which was formed some years ago to support my scientific work and which has financed not only the work of 1923 but also the extension over the larger part of 1924 which was decided upon at the end of the 1923 field season.

DWELLING-SITES AND BURIAL-SITES.

Before passing over to the descriptive chapters it may be well to define the two main types of sites with which we have been working, the dwelling sites and the burial places.

The former are the remains of the ancient villages. No surface indications are as a rule discernable, except fragments of pottery and other artifacts. Of house-foundations we have never found any trace, probably because the ancient people most likely built huts of the everywhere present, easily handled and easily eroded loess. Foundations of kilns, presumably used for burning pottery, have been noticed in one instance namely at Lo Han T'ang (羅漢堂) in Kuei Te Hsien (貴德縣), Yang Shao stage.

Mud-walls thrown up for defense, have been noticed only in the case of the sites of the Sha Ching stage, and the existence of the defense walls in these localities may be attributed to the fact that these village sites are situated on perfectly level ground lacking the natural protection of big ravines, which we meet almost everywhere round the sites situated on the edge of terraces in the river valleys (type: the Hui Tsui site of the Hsien Tien stage).

The remains of the ancient villages consist of more or less thick deposits of refuse, charcoal and ash from the fires together with potsherds and artifacts. A characteristic feature of the dwelling sites is that the ceramics and most of the other artifacts are nearly always broken. Only small objects, such as sewing needles, beads etc. are often found complete, evidently because they have been lost and not recovered. The bigger artifacts are often broken, and the pots in

many cases represented only by small fragments. They were well taken care of as long as they were whole, and only when broken and useless were they thrown out upon the refuse heap.

The broken condition of the ceramics in the dwelling sites stands in striking contrast to the often perfect condition of the urns which are found in the graves. When this term is used for the burials excavated by me, it must be made clear that there is never any setting of stones, no mark of remains for a coffin, but simply a skeleton associated with one or more funeral urns and eventually some objects of stone, bone and (in the case of the younger cultural stages) metal.

The burials are in most cases of the same type: the dead rests horizontally upon the back with the head turned more or less exactly to the north. In some few cases the body is in reversed position lying horizontally with the ventral side turned downwards, sometimes the head is turned westward or in other directions.

A strange and noteworthy exception from the horizontal-dorsal position are the graves at the Pan Shan area in Ning Ting Hsien (Yang Shao stage) where the bodies (at least in two cases) were laid down resting on the left side in a contracted position ("liegende Hocker").

Another exception from the common rule are some graves in the Hsin Tien burial site (Hsin Tien stage) where the skeletons rest on their backs in a straight dorsal position which is not however always horizontal but in a number of cases with the body sloping under an angle of 20-37° from the head to the feet.

TOPOGRAPHY OF THE SITES.

From a topographic point of view the sites examined by me can be conveniently classified under the following five headings:

- 1: Sites round Kokonor.
- 2: River-valley sites.
- 3: Grave fields of Ssu Shih Ting.
- 4: Grave fields of the Pan Shan area.
- 5: Sites in the desert W of Chen Fan.

Sites round Kokonor: During our journey round this famous salt-lake we noticed fragments of prehistoric pottery in many places. In two places I located small dwelling sites, of which one at the eastern end of the lake is of special interest.

At many places along the southern side of the lake, where the topography is favourable for observations of this kind, I had noticed an abandoned shore-line situated about 3 meters above the present level of the lake. At the eastern end of Kokonor this shore-line, above which there were no higher indications of any former extension of the lake, occupied a level of six meters above the present water level. This abandoned beach forms a low but conspicuous hill-ridge, at the top of which there is a culture deposit with primitive pottery together with stone and bone implements. It goes without saying that the lake has not been higher any time since the formation of the culture stratum, and it is even fairly probable that it has during this period never been considerably lower than at present. This observation that Kokonor during the last four thousand years has been at most six meters higher than at present will certainly become a fact of importance in the discussion of the changes of climate in Central Asia.

River-valley sites. The majority of my excavations have been made in three fertile river valleys, that of the Huang Ho in the Kueite (貴德) basin, that of the Hsining Ho and that of the T'ao Ho. Apparently the ancient populations, specially of the Yang Shao and Hsin Tien stages, settled with preference in these beautiful valleys which at that time probably were largely wooded and abounding in game, at the same time as they offered the best opportunities for cattle raising and for the beginnings of agriculture.

In order to understand the location of these river valley sites it is necessary to know something about the physiographic development of these Kansu valleys. The T'ao valley, which is best known to me, may be taken as a good example (Pl. XII, fig. 2).

Originally the drainage system was located at a much higher level than the present one to judge from an ancient, now deeply dissected peneplane at about 500 meters altitude above the present level of the T'ao river. From this peneplane the vertical erosion has cut down deeper and deeper during a considerable space of time, as manifested by spurs and terraces representing a sequence of now abandoned river levels. The oldest of these terraces are not very much lower than the peneplane (one of the most conspicuous terrace levels has been marked in the section Pl. XII, fig. 2 as 'upper terrace, unexplored'). The youngest and consequently lowest of these terraces is situated only about ten meters above the present river level. It is a quite modern terrace, still unde-

formation in many places. In the Huang Ho valley round Lanchow this young ten meter terrace is also well developed, and the numerous big wooden water wheels which are seen here everywhere are for the purpose of lifting water to irrigate the fertile fields of this ten meter terrace.

Half way in altitude between the high seated old terraces and the modern ten meter terrace, is a terrace in 50-100 meters altitude above the present level of the river. This terrace is by far the most conspicuous feature of the T'ao valley. Especially on the east side of the river it can be followed continuously for tens of li, and it forms a sharp demarkation-line between two contrasting agricultural regions: below this terrace the modern river bed (including the ten meter terrace) with richly fertile irrigation land, and, at the top of this 50-100 meter terrace cliff, a vast expanse of nearly level, but now deeply dissected land where only dry farming is possible. Physiographically this terrace is so remarkably similar to the somewhat lower Ma Lan terrace which I have distinguished as one of the outstanding physiographic features in the Western hills of Peking, that I have not hesitated to designate this main terrace of the T'ao valley by the same term. Because of the great distance between the two regions it must not however be taken for granted that the Ma Lan terraces of the Peking western hills and the 50-100 meter terrace of the T'ao valley are exactly contemporaneous.

It is on the dissected edge of this Ma Lan terrace that we find most of the sites in the Huang Ho, Hsining Ho and T'ao Ho valleys. Pl. XII, fig. 1 illustrating a Hsin Tien site in the T'ao valley, shows a typical instance of this kind of ancient habitations. In addition to the sites which are situated on the edge of this Ma Lan terrace there are others located on lower terrace formations, and in Kueite Hsien some sites were found quite close down to the present river courses. From these observations we can infer that the present topography is in its main features much the same as at the time when the Yang Shao people inhabited the region about five thousand years ago. It is quite likely that some of the ravines cut in the Ma Lan terrace are at least partly of younger age and that locally even the front of the terrace has been reduced by lateral erosion of the river. But as a whole the topography is at present much the same as in Yang Shao time. In several cases, as for instance the Hui Tsui site, Pl. XII, fig. 1, it is apparent that isolated islands of the once continuous Ma Lan terrace plain were selected for those early settlements because the surrounding deep and steep-walled gullies offered excellent protection against attack.

I want to lay special stress upon this fact because in the Yang Shao Tsun area in Honan the conditions are different. Sites like Yang Shao and Pu Chao Chai were formed upon a gently undulating plain with shallow water courses, and only after the culture strata were deposited did a period of vertical erosion set in, which dissected the sites with ravines of more than 40 meters in depth.

With the new experience from Kansu I would feel inclined not to draw too far reaching conclusions from the observations at Yang Shao Tsun and Pu Chao Chai. It might happen that continued research in Honan will in other parts of the province reveal sites of Yang Shao age in topographic environments like those just recorded from Kansu.

The grave field of Ssu Shih Ting (四時定). In Tao Ho Hsien, just opposite the Hsien city on the west side of the T'ao river, there is a grave field of the Hsin Tien stage which topographically offers considerable interest. Mountainous hills consisting of the Kueite red beds rise here to something like 300-400 meters above the river, and from these hills some short, steeply sloping spurs project so far that their river front is subject to continued lateral erosion by the river. Along one of these sloping spur crests we found a grave field, the higher part of which is 76 meters above the river. The place is not very easily accessible, it is bordered on the east by the river cliff, on the west by the steep mountain slope and on the north and south by steep-walled gullies. It is a position swept by wind and bathed in sunshine, and the visitor can hardly doubt that the people of the Hsin Tien stage selected this desolate spot for their burials because of the commanding view which it offers over the T'ao valley.

In this respect the Ssu Shih Ting grave field forms a transition from the typical sites at the edge of the Ma Lan terrace to the high seated mountain grave fields which will be mentioned under the following heading.

Grave fields of the Pan Shan (半山) area. On the west side of the T'ao valley in Ning Ting Hsien there is on some dominating hill tops of the dissected peneplane a group of grave fields of the Yang Shao stage (Pl. XII, fig. 2). They are all situated to the north of a deep ravine named Pa Yang Kou (八羊溝) and opening in the T'ao valley. The whole group has been named by me the Pan Shan area from the Pan Shan (半山) hill which carries one of the grave fields. Pien Chia Kou (邊家溝), another hill top with a grave field, is situated 1,750 meters E of Pan Shan, Wang Chia Kou (王家溝) is situated 2,100 m. N of Pan Shan and Wa Kuan Tsui (瓦罐嘴) 1,875 m. SW of the first mentioned central

point. As already indicated, all these four grave fields are located on the tops of hills which are remnants of the old peneplane surface 400 meters above the Pa Yang Kou ravine and about 450 m above the nearby T'ao river. The Pan Shan and Pien Chia Kou grave fields are located on small hill tops, but the Wa Kuan Tsui site extends far down on the steep southwards facing slope of the Pa Yang Kou ravine.

All these ancient burial places have a very dominating location with a free view of fifty li range or more in every direction, and there can hardly be any doubt that the sites have been chosen because of their commanding position. We do not know the dwelling sites corresponding to these large grave-fields, but there is little doubt that they are to be looked for in the T'ao valley, probably on the Ma Lan terrace. If so, the dead were carried at least 15 li from their homes and to places situated about 400 meters above the village sites.

Sites in the desert W of Chenfan. Chen Fan Hsien is in the true sense of the word a large and flourishing desert oasis. A river fed from the Nan Shan slopes, not far from Liangchow flows in NE direction into the desert.

In the desert area west of Chenfan city a number of sites were found which all belong to one culture period, probably the youngest studied by me and named the Sha Ching stage after a village situated 30 li W of Chen Fan city. Three dwelling sites and two grave fields are all in an area largely covered by sand dunes which certainly are of much later date than the sites. However, as modern habitations are to be found at short distance from the sites, their occurrence in the dune area can hardly be counted as the proof of a marked change of climate after the Sha Ching time.

All the Sha Ching sites lie on absolutely level ground, and mud walls were found round all the dwelling sites of this stage.

DESCRIPTION OF THE FURNITURE OF THE KANSU CULTURAL STAGES.

Considering the fact, as best exhibited by Arne's comparative research on the painted pottery from Honan, that the early cultures studied by us offer comparatively little relationship to objects of early Chinese dynasties, but have very much in common with the Æneolithic cultures of the Near East, it has been found necessary to bring the larger part of our Kansu collections to Europe

for comparative study where full access is possible not only to libraries and museums, but also to the help and advice of the numerous European archæologists who have already, by correspondence, contributed most materially to the progress of our archæological research here in China.

The funds, by means of which the work in Kansu was carried out, were raised in my home country by a research Committee headed by H. R. H. the Crownprince of Sweden, as already acknowledged in the introduction to this paper. In return for this help the Chinese Government has granted to that Committee a share in the collections. For this reason the Swedish archæological state museum has offered me the necessary facilities, and this museum, Statens Historiska Museum, Stockholm, will become my scientific headquarter for the next year or until the preparation and study of the material has been entrusted to a number of expert collaborators.

Before the collection was sent to Sweden, a representative set was selected to serve in the museum of the Geological Survey of China as illustrations of our Kansu finds, while awaiting the return from Sweden of the much fuller material, which will be available for exhibition when the whole collection has been described. The present preliminary paper will so far as the description of the furniture is concerned be based in large part upon this collection which is now on exhibit in the Museum of the Geological Survey.

The cultural stages met with in Kansu will hereafter be described in the order, which, as shown in the following chapter, is most likely that of their succession.

The Ch'i Chia stage: This stage is represented by a number of small finds, as for instance the Hsin Tien C finding place in T'ao Sha Hsien, and by a very considerable deposit, the Ch'i Chia P'ing site in Ning Ting Hsien, from which place the stage has derived its name. So far only dwelling sites of this stage have been found, and its burial furniture remains for the present unknown.

The stone implements of this stage are very much the same as those of the Yang Shao period, comprising chiefly polished stone axes and knives. There are also pointed bone instruments of different types.

The ceramics of the Ch'i Chia stage are practically all monochrome, and three main types can be distinguished.

I: Pottery of grey ware with mat-impression or impressed basket pattern resembling the surface of some vessels described by me from the Yang Shao sites of Honan (compare *An Early Chinese Culture*, Pl. XVI, fig. I & 7.).

II: Pottery of grey ware much resembling the preceding group, but collar and handles, sometime also a large part of the vessel are decorated in beautifully executed impressed pattern (Pl. V. fig. 1 & 2) of a type which very closely resembles, and might eventually be found to be related to the "Kamm-Keramik" of northern Europe and Siberia (compare for instance Ailio: Fragen der russischen Steinzeit, Zeitschrift der finnischen Altertums-gesellschaft. XXIX: 1, Figures 14 & 15).

III: A remarkable, elegantly shaped, thin-walled vase of a light greyish yellow ware (Pl. V, Fig. 3). It is a high-collared vase with smooth surface and two large handles, the whole somewhat resembling the *amphora* of the Greek and Roman antique. The specimens of this amphora-like vase which we have encountered in our excavations are comparatively small, but much larger specimens have been obtained by purchase.

The Yang Shao stage: Of this period we have met in Kansu with numerous sites, both dwelling places and grave yards.

The stone and bone furniture of these sites is on the whole so similar to that of Honan that it will suffice to call attention to certain differences in detail. A striking fact is that arrow points, which are quite common in Honan, and are there executed in several varied materials (slate, bone, mussel-shells) were exceedingly rare in Kansu.

Beads and pendants which are very rare in Honan are numerous in Kansu, and in this respect as well as in some other features there is closer relationship between the Kansu Yang Shao and the findings in the Sha Kuo T'un cave in Fengtien than with the sites in Honan.

An interesting fact is the occurrence in one of the grave fields of some cut pieces and even Yuan rings of jade of a type which we are accustomed to ascribe to Khotan in Chinese Turkestan. Apart from the light which this remarkable find seems to throw upon the trade connections of the Æneolithic inhabitants of Kansu, it is surprising that these people who, as far as we know, lacked metal, were able to cut these thin rings from such a hard stone.

In the Kansu sites we found a few specimens of a group of implements which were never encountered in Honan, namely knives of bone, provided with a cutting edge, which was produced by inserting thin flint-flakes in a groove in the edge of the implement (Fig. 1).

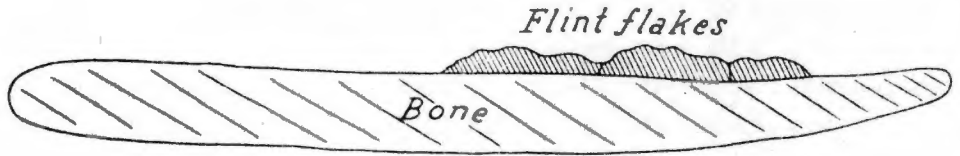


Fig. 1. Bone-knife with cutting edge formed by inserted flint-flakes. Yang Shao stage. Hsi Ning Hsien, Chu Chia Chai. Half nat. size.

第一圖：仰韶期之骨刀，其切口乃燧石薄片所嵌成，（見西寧縣朱家寨，照原式縮小二分之一）

The ceramics of the Kansu Yang Shao differ from those of Honan in that the coarse monochrome pottery is much less abundant and that tripods of the Ting and Li types are missing or at any rate exceedingly rare.

The painted pottery of the dwelling sites is very closely related to that of Honan, though the color of the ware is paler than the beautiful deep red of the pot sherds from the type locality Yang Shao Tsun. The painting is much of the same designs as on the Honan bowls etc., but a new feature is that in Kansu many household vessels are also painted on the inside.

In the graves of Yang Shao Tsun we found a very poor burial furniture. In the Kansu graves were discovered large and gorgeously decorated sepulture vessels (Pl. VI-VIII) which certainly belong to the most marvellous products of the Neolithic ceramic art. The patterns are very varied, only a small selection being represented in our plates. However, in nearly all these varied designs there is one motive which reoccurs with striking persistence, namely a

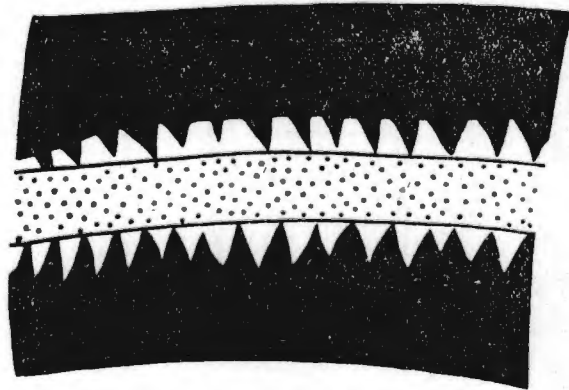


Fig. 2. The "death pattern", a design reoccurring upon most of the funeral urns of the Yang Shao stage. A red band (dotted) surrounded by two black bands with saw-like indentations. Nat. size.

第二圖：仰韶期之葬紋，為殉葬陶甕上所常見之圖案，乃一種紅色條紋，外加夾黑色之鋸齒紋二道。（原式）

red band bordered by very narrow belts which are left unpainted, and outside these unpainted belts there are black bands from which saw-like dentations project towards the central red band. A detail showing this design is given in fig. 2. As this motive reoccurs in nearly all funeral urns of this period but is never found in the household pottery of the same time, it appears reasonable to suggest that it is a kind of "death pattern" specially connected with the funeral rites.

In the sepulture furniture of some graves of this stage (the Chu Chia Chai site in Hsi Ning Hsien) were found some bone objects which deserve special mention (Fig. 3). They are small rectangular bone plates, either smooth as (a) or incised as (b) and (c). Sometime these bone plates were found in small groups lying side by side as shown by (d). I am tempted to think that they represent some kind of primitive writing or otherwise record some abstract ideas connected with the dead.

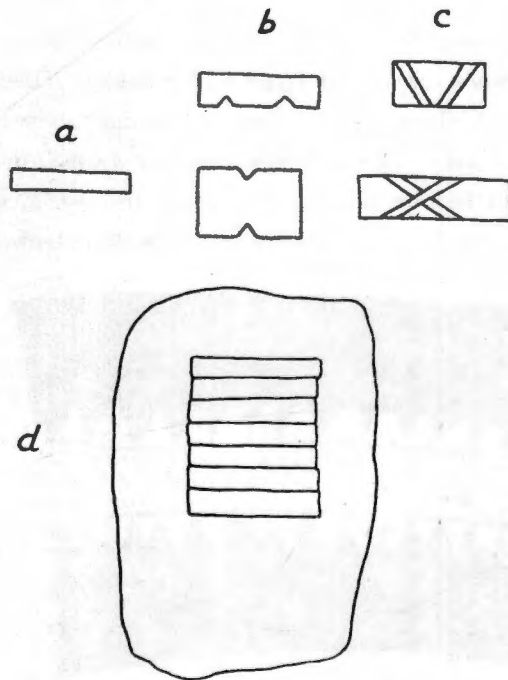


Fig. 3. Bone plates which possibly represent a primitive script. Yang Shao stage. Hsi Ning Hsien, Chu Chia Chai. Nat. size.

第三圖：仰韶期上有近似原始文字之骨板。(見西寧縣，朱家寨，) (原式)

The Ma Chang stage: This period is mostly known to us through a number of urns obtained by purchase (Pl. II and Pl. IX fig. 2). A couple of graves excavated by us in Nien Po Hsien (碾伯縣) at Ma Chang Yen (馬廠沿) loc. 4 has given us some idea about the association of different ceramic types and the stage has been named from this locality.

Nothing is known so far about the dwelling site furniture of this period.

The urns are of two types, one consisting of relatively large and high urns decorated sometimes with big circles filled with trellis pattern, sometimes with zigzag bands, at the angles of which there are finger-like projections, the whole suggesting some very strongly stylized anthropomorphous representations.

The other group of urns are small vessels with wide mouth and high-seated handles. The whole upper part of these small urns is painted in intricate designs: horizontal, vertical and diagonal lines, diagonal ovals, triangles filled with cross lines etc.

The Hsin Tien stage: One of the greatest surprises of the eventful season of 1924 in Kansu was the discovery at Hsin Tien (辛店) in T'ao Sha Hsien of a rich grave field (Hsin Tien A) with a sepulchral pottery entirely unlike anything previously known among our prehistoric finds. Later a fine dwelling-site of the same time was found at Hui Tsui, only 12 li S. from Hsin Tien, and additional finds were made during the course of the summer, so that the Hsin Tien stage is one of the best known in the whole prehistoric record of Kansu.

Concerning the stone and bone instruments there is not much to say, as they are of types also widely distributed in other stages, with the notable exception of mattocks made of the scapulas of cattle or horses.

Some very few copper utensils were encountered in the Hui Tsui site, among them what seems to be a knife.

In the ceramics of this period there is not that distinct contrast between household and funeral pottery which is shown in the Yang Shao sites. The potsherds found in the dwelling sites of this time exhibit the same designs and were most likely of the same shape as the complete funeral urns found in the burial places,

The ware of this stage is much more porous and as a whole of quite inferior quality when compared with the hard, resonant ware of the Yang Shao and Ma Chang periods. The bottom of the Hsin Tien urns is concave when viewed from below in marked contrast to the flat bottom of earlier periods.

A glance at Pl. IV will suffice to show how radically the designs of the Hsin Tien stage differ from those of the preceding stages. Then too, the shape of the vessels is different: the urns having a wide mouth, some being low (IV:1) but most of them high.

The painting is largely in horizontal black bands and narrow wave-lines. There are furthermore alternating low triangles separated by an unpainted zigzag line.

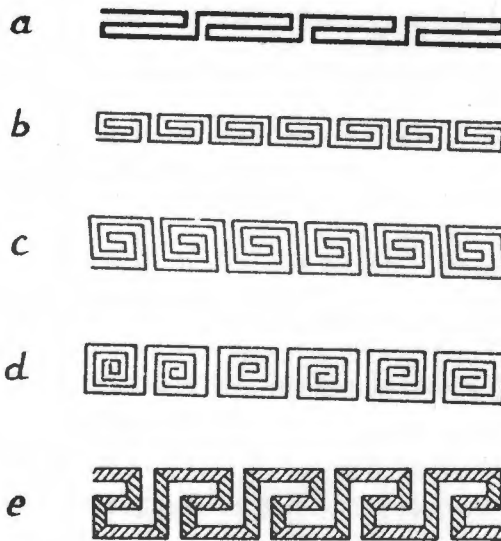


Fig. 4: The meander in Chinese and Western art.

第四圖：中國與西方藝術之 meander 花紋。

- a: Painting on the neck of a double-conical pottery vessel.
Hsin Tien stage. Hsin Tien, T'ao Sha Hsien, Kansu. (Pl. III, fig. 2)
甘肅辛店期梭狀陶瓶頸部之花紋 (出甘肅洮沙縣辛店)
- b: Decoration on the rim of a fourlegged, square Ting bronze vessel of the Chou dynasty.
From Hsi Ch'ing Ku Chien. Vol. 5, page 33.
周代四足銅方鼎沿口之花紋 (見西清古鑑卷五第三十三頁周鬯鬯鼎十五)
- c: Horizontal zone forming the uppermost part of the decoration of a three-legged bronze-Ting of the Chou dynasty.
From Hsi Ch'ing Ku Chien, Vol. 3, page 9.
周代三足銅鼎鼎面最上部之花紋 (見西清古鑑卷三第九頁周拱鼎二)
- d: Lei wen pattern. Three-legged bronze Ting of the Shang dynasty or earlier.
From Hsi Ch'ing Ku Chien. Vol. I, page 35.
商癸鼎上之雷紋 (見西清古鑑卷一第三十五頁商癸鼎三)
- e: Painting on the lower narrow part of a high-footed Dipylon-vase, Athens, Greece.
From Forrer: Reallexikon der prähistorischen, klassischen und frühchristlichen Altertümer. Pl. 50, p. 180.
雅典滴比龍式 (Dipylon) 高足瓶下部之花紋 (見伏勒爾氏古物辭典第一百八十頁第五十版)

From two curved bands projecting downwards from a horizontal line (IV: 3a) in a manner which slightly recalls the character 丩 we may derive the central design of the figures 2 & 4 of the same plate. Parts of the same design are shown in fig. 2, Pl. III. This very interesting vessel exhibits another notable design which is quite common upon the big Hsin Tien urns, namely the true continuous angular meander.

A meander-like pattern is quite commonly seen covering the background of animal designs upon the early Chinese bronzes. This *lei wen* (雷紋) pattern is not a genuine meander but consists of pairs of angular spirals as shown by fig. 4 d. This lei wen and the variants of the same, is by far the most dominant among the meander-like designs of the Chinese bronze art. However, my research assistant Mr. S. S. Yoh has kindly called my attention to a few rare cases of real continuous meanders, two of which are represented by fig. 4 b & c. A continuous meander of western art is represented by fig. 4 e for comparison.

A peculiar feature of the decoration of these vessels is the intermixture, among the large bold designs already described, of very small details such as the N-like figures of IV: 2. To the same group should also be referred the small animals, a dog and a sheep, shown by III: 2.

A vessel from Hsin Tien shows the figure of a horse? (fig. 5a) and upon the collar of a vessel from another site of this period were found a human figure and that of a bird (fig. 5 c & d). A wheel-like design (fig. 5b) has been noticed in a few cases.

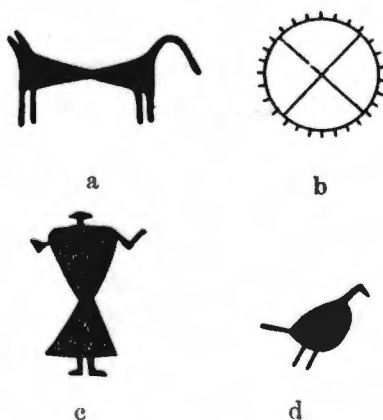


Fig. 5. Details from painted urns of the Hsin Tien stage. a & b 1/2 nat. size. c & d 1/4 nat. size. a & b from Hsin Tien. c & d from San Shih Ting.

第五圖：辛店期彩色陶甗詳細之花紋。a及b 爲原式，c及d 爲照原式縮小二分之一（a及b 出辛店，c及d 出四時定）。

The Ssu Wa Shan stage: Under this heading I have brought together two groups of sites which at closer examination might prove to be somewhat different in age.

The type locality Ssu Wa Shan (寺窪山) is situated in Ti Tao Hsien (狄道縣). Close by a dwelling site of the Yang Shao age we here located a burial place characterized by the prevalence of large unpainted urns with saddle-shaped mouth (Pl. X, fig. 1 & 2) and also a Li tripod with bulbous legs (Pl. X, fig. 3). Some copper objects were found in the same graves proving that this stage undoubtedly belongs to the younger group of Kansu stages.

In Hsi Ning Hsien, at two places, Ch'ia Yao and Hsia Hsi Ho, we excavated numerous graves with unpainted pottery and rather numerous small copper objects (Fig. 6). The vessels of these graves are not of the shapes found at Ssu Wa Shan, and the bringing together of all these finds under one heading is, as already indicated, only a provisional arrangement.

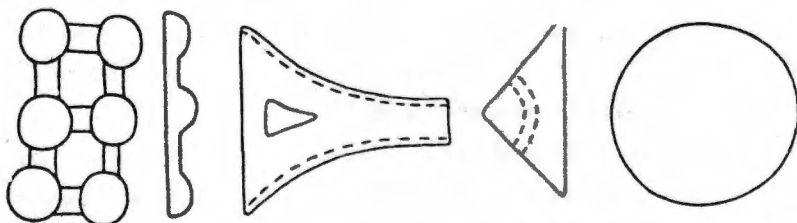


Fig. 6. Copper objects from the graves at Ch'ia Yao and Hsia Hsi Ho, Hsi Ning Hsien. Nat. Size.

第六圖：卡窰及下西河墓中所得之銅器（出西甯縣）

The Sha Ching stage: In Chên Fan Hsien (鎮番縣) we found a number of sites in a region which is now largely occupied by sand-dunes. Both burial sites and dwelling places were found, the latter surrounded by mud walls, a protective measure, which is quite natural in this perfectly level landscape.

The furniture of all these sites is so similar that they can all be safely assigned to one period, for which I have proposed the name Sha Ching (沙井) stage after the type locality which is situated 30 li west of Chen Fan city.

In the graves and dwelling sites of this group have been found numerous small copper objects, including such elaborate types as winged arrow points. For this reason I have interpreted the Sha Ching group as the youngest of our Kansu stages. Together with the copper objects there occur in the graves numerous cowries and beads of turquoise and other materials.

The pottery is made of a rather coarse ware. The shapes of the vessels are manifold as shown by Pl. XI, fig. 3-6. Most of the pots are not painted, or otherwise a part is covered with a red slip as is the case with those shown on Pl. XI, fig. 3 & 5. Some few vessels were found covered with very exquisite painted designs, the main features of which are vertical triangles and horizontal zones of bird figures (Pl. XI, fig. 1 & 2). These painted vessels exhibit such striking likeness to the pottery with bird-figures etc. from Susa, that it would be tempting to consider the two groups as interrelated, but the apparently much younger age of the Sha Ching culture makes a relationship very unlikely.

RELATIVE CHRONOLOGY OF THE KANSU CULTURES.

In the previous chapter we have reviewed a number of cultural groups, each one extended more or less widely over the area surveyed by me, and each one marked by a well defined furniture, among which the ceramics offer the best characteristics.

Here it will be our task to trace, as far as available facts allow, the relative ages of these cultural stages.

As a starting point for our survey we can most conveniently choose, what has been called above the Yang Shao group. The name, borrowed from the type locality, Yang Shao Tsun in Mien Chih Hsien in Honan, emphasizes the fact that it belongs to the same prehistoric period as that which became known through my excavations in Honan in 1921.

In fact, the similarity between the Honan and the Kansu Yang Shao sites is so great, the furniture in general and more markedly the designs of painted pottery of the dwelling sites is so strikingly the same in Honan and Kansu, that we can take for granted that these sites are all approximately of the same age. Chronological subdivisions may one day become established within this period, but the differences between the Honan and the Kansu Yang Shao sites is no doubt due to geographical differentiation far more than to difference in age. A number of these local characteristics have been mentioned in the previous chapter when describing the Yang Shao sites of Kansu. The whole problem will be fully analyzed in the forthcoming monographic description of the furniture.

For various reasons I believe that the Ch'i Chia type is somewhat older than the Yang Shao sites.

As seen in the description of the Ch'i Chia P'ing site, the pottery is nearly all monochrome, partly very much like the Yang Shao monochrome wares, partly a whitish thin-walled, high-collared vase, characteristic of this period, and partly vessels with beautiful impressed patterns recalling the "Kamm-Keramik."

In most of our excavation-places at Ch'i Chia P'ing only monochrome pottery was encountered, but in the big road ravine some few small fragments of typical Yang Shao painted vessels were also found.

While walking across the wheat-fields, during the topographic survey of the site, I noticed on the surface several Yang Shao sherds. In half an hour's stroll over these fields I collected as many Yang Shao sherds as my men obtained in their excavations during several days in the road ravine.

I feel inclined to interpret these facts thus: the Ch'i Chia type is somewhat older than Yang Shao, while in the Yang Shao time sherds of the then common painted vessels were strewn over the preëxisting Ch'i Chia deposit. At a much later time the road ravine was cut down, and during this process there occurred from time to time slides in the steep walls of the ravine. In this manner Yang Shao sherds from the top were mixed deeply with the Ch'i Chia deposit.

These facts are hardly to be taken as conclusive stratigraphic evidence that Ch'i Chia is older than Yang Shao. However, the frequency of stone axes in the Ch'i Chia furniture and the total absence of copper (as far as our experience goes) clearly indicates that Ch'i Chia belongs to the older, pre-metallic group of cultural stages.

There is one rare and highly remarkable feature in the Ch'i Chia P'ing site which deserves mention in this connection, namely the occurrence of some painting on the inside of the collar of one of the ceramic fragments (Pl. V, fig. 1). This painting consisting of vertical, very narrow triangles is somewhat similar to the triangle design of some vessels of the Sha Ching stage, and the likeness is further accentuated by the fact that the painting on the Ch'i Chia piece is made in a violet-red color similar to the Sha Ching paint, but quite unknown on the Yang Shao vessels. As the Sha Ching stage is rich in metal objects, I cannot imagine that these facts mean more than a casual likeness between the ceramics of two widely different stages.

We have now surveyed the main evidence indicating that Ch'i Chia is the earliest and Yang Shao second in age among the stages here described.

Next we have to deal with the Ma Chang group, which is unfortunately the most imperfectly known of our Kansu stages. Only the contents of some few graves are well recorded; for the rest we have to depend upon a number of vessels without detailed finding records. The furniture consists of large, relatively narrow urns (Pl. IX, Fig. 2) with very strongly conventionalized anthropomorphous (?) figures, and of small bowls (Pl. II.), the upper parts of which are entirely covered with geometric designs.

In the nature of the ware, its shape and decoration, these vessels are allied to the Yang Shao funeral urns, but they are on the other hand sufficiently distinct from the Yang Shao family to be considered as forming a group by themselves. It seems highly probable that the Ma Chang group is, in age, closely related to the Yang Shao stage, and I have tentatively placed it after Yang Shao, partly because there is no sign of these ceramics at Ch'i Chia P'ing, partly because the ornamentation of the Ma Chang family seems strongly mature and conventionalized.

We have now discussed three cultural stages: Ch'i Chia, Yang Shao and Ma Chang which, as far as our experience goes, seem to have one essential feature in common namely *the absence of metal*.

In the following we will describe three stages: Hsin Tien, Ssu Wa and Sha Ching which *all are copper-bearing* and which have here been tentatively numbered according to the increasing frequency of copper objects, beginning with Hsin Tien, where copper is quite rare.

The Hsin Tien stage is in many ways second only to Yang Shao in the abundance of sites and the wealth of designs on the painted ceramics.

As shown in the description of the Hsin Tien furniture, the ceramics of this group are radically different from those of the Ch'i Chia, Yang Shao and Ma Chang stages, both in the character of the ware, the shapes of the vessels and the designs of the decoration. The occurrence of some few copper objects indicates that the Hsin Tien group is younger than the three stages just mentioned.

In the case of the Hsin Tien group we have one of the very few instances of stratigraphic evidence to guide us, namely to show that Hsin Tien is decidedly younger than Yang Shao.

The type locality of the Hsin Tien stage is the burial site which has been named Hsin Tien A. 300 m. south of this grave-field, on the south side of a rather big ravine there is a dwelling site with rather puzzling surface indications. Over the whole area of this site we found mixed in about equal proportion painted potsherds of the Yang Shao and the Hsin Tien types. Their occurrence together seemed at first sight to indicate that the two groups were contemporaneous, and I thought at first of the possible intermixture in one site of two contemporaneous but ethnologically different cultures. At last I undertook a stratigraphically conducted excavation of a part of the site which seemed to be comparatively undisturbed. The culture stratum was excavated in layers of 33 cm. thickness. In the top layer the two types of pottery occurred just as at the very surface in about equal frequency. In the second layer there was one doubtful sherd of Hsin Tien type, all the rest was typical Yang Shao, and in the two deeper layers only Yang Shao sherds were found. From these facts we learn beyond doubt that the lower and larger part of this dwelling site-deposit belongs to the Yang Shao stage with merely a thin covering layer of Hsin Tien material.

To judge from the pottery of the type locality, Hsin Tien A, the Hsin Tien stage seems to stand in strong contrast to the previous periods, i. e. Yang Shao and Ma Chang. But on the west side of the T'ao river we found at Ssu Shih Ting (四時定) another burial site, the ceramics of which are essentially Hsin Tien in type, but with a much wider variety of design which on closer examination might reveal connections with the two stages just mentioned.

Under the Ssu Wa group, I have brought together a number of burial sites which might properly be subdivided into two smaller groups, Ssu Wa proper and Ch'ia Yao, and which in fact have very little in common except the prevalence of rather crude unpainted urns and a moderate abundance of metal objects. Possibly these two sub-groups will one day prove to be more independent of each other than here suggested. At any rate the furniture shows so little in common, that each of the sub-groups has to be treated independently. As shown by the description in the previous chapter, the pottery of the Ssu Wa group proper is by far the more characteristic, with such striking types as the big urns with saddle-shaped mouth and the Li-tripod with bulbous legs. On the other hand the copper furniture of the Ch'ia Yao (and Hsia Hsi Ho) sites is much more varied and better known.

The Sha Ching sites are here described as representing the youngest of the Kansu cultural stages, and my principal reason for this interpretation is the relative abundance of in part highly differentiated copper objects (arrow points etc.) in the Sha Ching deposits. The pottery of these sites is largely monochrome, but its possible relationship to the prevalently monochrome vessels of the Ssu Wa-Ch'ia Yao group has not yet been studied. At any rate, one thing deserves notice, namely the absence of the Ssu Wa big urn with saddle-shaped mouth.

Many of the Sha Ching vessels are covered with a red slip and some few are painted in red in very remarkable patterns, the most striking feature of which is horizontal zones of birds reminding us of some of the Susian designs.

We have now arrived at a tentative local chronology which can be outlined as follows:

PREHISTORIC STAGES OF KANSU.

Early Bronze Age	}	Sha Ching stage.
and		Ssu Wa stage.
Copper Age		Hsin Tien stage.
Æneolithic	}	Ma Ch'ang stage.
and		Yang Shao stage.
Late Neolithic Ages		Ch'i Chia stage.

It might be questioned whether these six culture groups, which are founded principally upon the ceramics, really mark successive cultural stages or rather, in some instance at least, merely geographical families of contemporaneous, but possibly ethnologically different cultures.

It has been noted above (p. 22) that for some time I believed that the Yang Shao and Hsin Tien families might have been such contemporaneous but ethnologically differentiated cultures, but that I had been able to prove beyond doubt that this was not the case, but that Yang Shao was markedly earlier than Hsin Tien.

In another case, Ssu Wa and Ch'ia Yao, I have for the present, and until fuller material is available, assumed that all these sites might belong to one period to which the name Ssu Wa has been assigned. It is quite possible that this group will be split up after continued research.

In another case, namely the Sha Ching group, here described as the youngest, it could be suggested for geographical reasons that it is merely a geographical facies of some other stage, as all the Sha Ching sites so far known occupy a small area rather far away from the rest of our excavation places. However, the Sha Ching stage is marked by such a rich and highly characteristic furniture of relatively advanced type that it is hard to imagine that it coincides in time with any of the other groups.

All the rest of these cultural groups, Ch'i Chia, Yang Shao, Ma Chang, Hsin Tien and Ssu Wa occupy nearly the same, rather small area, where most of them are represented by several sites. As each of these groups is characterized by well defined ceramics, which, as far as our researches show, hardly in any case are intermixed, it seems very reasonable to assume that we have here to deal with six distinct chronological stages. The order between these stages might in one or two cases not yet be proved beyond doubt, and it is quite possible that additional stages will be found to link up such ceramic groups which now seem to follow abruptly, the one upon the other.

ATTEMPTS AT AN ABSOLUTE CHRONOLOGY.

So far we have only traced a tentative, locally valid, relative chronology of the Kansu sites.

In order to establish a beginning of an absolute chronology for these cultures, two ways of research are available: comparisons with the well-known archaeological data of the Near East, and comparisons with the very few reliable data so far known on the early historical archaeology of China.

So far as the first method is concerned, i.e. comparisons with the Near East, considerable results, based mainly upon the material found in Honan, have already been arrived at by myself, by Dr. L. Franz and above all by Dr. T. J. Arne.

In my paper "An early Chinese Culture" I have shown, with the support of Mr. R. L. Hobson and other British archaeologists, that the painted ceramics of the Yang Shao culture belong to the same family of design as the Æneolithic pottery found in many sites in the Near East. I especially compared the painted pottery from Honan with the first culture of Anau and the second period

of Susa. In the paper referred to I did not venture to give any estimate of the age of the Yang Shao culture, but simply stated it as my opinion that it belonged to a time slightly preceding the dawn of recorded Chinese history.

A young Austrian archæologist, Dr. L. Franz, who reviewed my archæological papers in "Mitteilungen der Anthropologischen Gesellschaft in Wien" Vol. LIV, 1924, took advantage of his fuller access to the European archæological literature and carried the comparisons into more exact detail. Franz compares the Yang Shao culture more especially with Anau II-III, whereas I called attention principally to the relationship which appeared with the painted pottery of Anau I. This is a difference in detail which I will discuss in the final monograph, for the present I will only review briefly the comparisons made by Franz.

From Anau Franz' correlations proceed in a second step to Mesopotamia, where especially A. W. Andrae's excavations of the Ishtar-temple of Assur are of importance. The beds H-G in Assur offer connection with Anau II-III, and the termination of the bed G is held as contemporaneous with the overthrow of the dynasty of Akkad, about 2600 B. C. If these correlations hold true, the Yang Shao culture can be estimated at 2700 B. C.

Dr. T. J. Arne in his monographic work on the painted pottery from Honan has gone into still more exhaustive comparisons with the vast literature on the *Æ*neolithic cultures of the Near East and of S.E. Europe. In addition to the sites already mentioned in my paper and in Franz' review, Arne refers to a large number of *Æ*neolithic deposits, such as those in the Zhob valley in Baluchistan, Tepe Mussian, 150 km. W. of Susa, Petreny in Bessarabia, Cucuteni in Moldavia, Koszylowce in Galicia and Schipenitz in Bukovina.

Arne considers that the painted pottery of the Yang Shao culture is related to Susa I-II and to Anau I-II and he estimates its age at about 3000 B. C.

It seems in every way reasonable, while waiting for the final result of the researches on the vast and beautiful Yang Shao material from Kansu, to accept this figure, 3000 B. C., as a provisional determination of the age of the Yang Shao stage.

This is the only approach so far offered to anything like an absolute figure for the age of anyone of the prehistoric cultural stages of Kansu.

In the absence of better means for comparison, we may be justified in making a tentative, and naturally exceedingly uncertain, conjecture of the *duration* of the whole series of six stages in Kansu, by comparing them with the archaeological records from other regions where the corresponding space of time has been determined with considerable precision by intensive archaeological research supported by historical correlations. For this purpose I have selected two areas where the archaeological chronology has been carried to a high degree of perfection, namely Scandinavia and Crete.

In Scandinavia the successive stages of the Neolithic and Bronze Ages have been made known in admirable clearness by the classical researches of Montelius*. In the Scandinavian Young Stone Age, which is held to range approximately from 4000-1800 B. C., he distinguishes four periods, based upon the typology of the stone axes and upon the modes of burial. The earliest of these periods was by far of the longest duration. The three later stages, which might approximately correspond in time to the earlier periods in Kansu, cover the time from the beginning of the third millennium to the beginning of the Bronze Age about 1800 B. C. This gives us an average of 400 years, or slightly less, for each of these periods.

The Bronze Age of Scandinavia is subdivided by Montelius into six periods, based upon the bronze furniture, especially the axes and the fibulas. The whole Bronze Age ranges from 1800-600 B. C. giving us an average of 200 years for each period. The minuteness and exactitude into which Montelius was able to carry his researches made it possible to distinguish an older and a younger subdivision in each of the five older periods (the sixth one being in fact merely the transition to the Iron Age). Such minute subdivisions are not yet in sight in Kansu, where the researches have just begun, and we can for the present be content with stating that the late Neolithic and Bronze Ages of Scandinavia have been divided into nine periods with an average length of 400 years for the late Neolithic and 200 years for the Bronze Age.

The post-Neolithic prehistory of Crete has, thanks principally to the admirable researches carried out by Sir Arthur Evans, been made known in a remarkably complete record comprising three main periods, Early, Middle and Late Minoan, each subdivided into three stages. This chronology is based upon

* Montelius: *Minnen från vår forntid*. 1. Stockholm 1917.

the pottery and the bronzes, as well as upon the construction and ruin of the successive palaces of Cnossos.

The Minoan culture covers the time from 3000-1100 B. C., which gives a little more than 200 years as an average for each of the periods established by Sir Arthur Evans. Fimmen is of the opinion that the third Late Minoan period came to an end about 1250 B. C., but on the other hand he considers the subdivisions of the Early Minoan as not quite fully established.*

These brief notes suffice to show that the length of the several periods which have been distinguished in Scandinavia and in Crete, two regions where the ancient cultural record from 3000 B. C. to the end of the second or the early part of the first pre-Christian millennium has been made known by archæological researches in rather unparalleled fullness, varies from 400 to 200 years.

It seems likely that the ceramic stages which I have distinguished in Kansu are approximately equivalent in order to the periods discovered by Montelius in Scandinavia and by Evans in Crete. Considering that there is no proof that the Kansu record is complete and unbroken (the abrupt appearance of new ceramic types rather indicates that one or more additional stages remain to be discovered) I feel justified in assuming 300 years as a reasonable estimate for the average life-time of each of these six stages in the prehistory of Kansu, which gives us 1800 years as a vague conjecture for the duration of the whole cultural series here recorded. If we accept Arne's figure, 3000 B. C., as indicating the age of the middle of the second or Yang Shao stage, we arrive at the figures 3500-1700 B. C. as an approximation of the duration of the Kansu record.

I am fully aware of the fact that this estimate rests merely upon very general and debatable comparisons, and I give it only as a working hypothesis which will foster research and discussion, that will in the course of time give us more substantial knowledge about a series of cultural stages which were until yesterday entirely unknown.

* Unfortunately I have not here access to the original works by Sir Arthur Evans but only to the summaries of his researches given by Dussaud in 1914 and by Fimmen in 1921.
R. Dussaud. *Les civilisations préhelléniques dans le bassin de la Mer Egée.* Paris. 1914.
D. Fimmen. *Die kretisch-mykenische Kultur.* Leipzig & Berlin. 1921.

We have above indicated 1700 B. C. as an approximation for the end of the archaeological record here summarized. It will be noted that this figure takes us into the semi-legendary early history of the Chinese, the figure given nearly coinciding with the ascendancy of Shang, the second dynasty of the San Tai (三代) in 1736 B. C.

Unfortunately nothing has so far been recognized among the furniture of the late Kansu sites which can be regarded as identical with objects of the San Tai. No painted pottery of the prehistoric type has been seen in any historical site, and the few and small metal objects found in my Kansu excavations are so simple and undecorated that they cannot help at present to link up the Kansu finds with early historical times. In the absence of positive facts we may be justified in calling attention to some negative evidence which tends to show that even the latest of our Kansu stages can hardly be supposed to extend in time beyond the figure here given i. e. 1700 B. C.

The earliest dynasty of the San Tai, the Hsia, remains entirely legendary as, so far, no archaeological material has been found to support the scanty historical data. Also for the early Shang such evidence is badly lacking. But with reference to the late Shang, which has also been called Yin after the then capital in northern Honan, we are in a much more favourable position.

On the site of Yin, which in modern times is An Yang Hsien (安陽縣) on the Honan-Chihli border, rich and remarkable finds were made in 1899. Some comment on this material has been made by foreign students of the subject, among them Menzies, Hopkins, and especially Chalfant, but by far the most exhaustive work on these oracle bones and allied objects has been done by the leading Chinese archaeologist of our day Lo Chên Yü, who has published a series of important works on the palaeography of the Yin Dynasty, and furthermore, a volume, Yin Hsü Ku Chi Wu T'u Lu (殷虛古器物圖錄) on a number of highly important objects stated to have been found in this site.

The most abundant and in many ways also the most illuminating material of the An Yang site consists of pieces of bone and tortoise shell with a very archaic Chinese script, used in this case mostly for divination. Together with the oracle bones there were found bone arrow points, ivory carvings, fragments of bronze, cowrie shells and other objects which help to form a picture of the culture of that time. We learn from these objects that the people of Yin had a script, still primitive and largely pictographic, but marking a tremendous stride

towards a higher civilization. These writings tell about the structure of their social life, their calendar, and such interesting details as for instance, the use of the two horse cart.

In the work *Yin Hsü Ku Ch'i Wu T'u Lu* by Lo Chên Yü, there are figured some richly decorated objects of the highest interest. Fig. 2 is a carving of a Rhinoceros horn and fig. 4 a carving on ivory, both covered with the design of angular spirals which is known among Chinese archaeologists as the Yun Lei (雲雷) pattern. In addition we recognize in both cases within the Yun Lei pattern the features of the T'ao T'ieh (饕餮).

Figures 5 and 6 also represent richly decorated bone carvings, these objects being interpreted as the handles of a spoon Bi (匕).

Fig. 39 is a fragment of a large bronze object decorated in Lei Wên (雷紋) pattern in high ridges, the interspaces of which are filled with pieces of a green precious stone, presumably turquoise.

All the objects described in the work mentioned are of such farreaching importance that it seemed desirable to know beyond doubt their connection with the inscribed bones. For this reason I approached Mr. Lo through the kind mediation of Dr. V. K. Ting, and Mr. Lo kindly favored me with information regarding the manner in which these objects were obtained. They were not actually excavated by the representative of Mr. Lo but bought in 1910, in the village Hsiao T'un (小屯) which is situated on the site. The villagers from whom the bones were obtained explained that they were excavated together with the inscribed bones. Under these circumstances it is considered by Mr. Lo as beyond doubt that the objects described in his work *Yin Hsü Ku Ch'i Wu T'u Lu* are of the period of the capital of Yin.

Viewed in this light Mr. Lo's finds are of the highest interest. The historical tradition which ascribes a number of highly decorated bronze vessels to the Shang Dynasty proves true as, apart from the bronze fragment decorated in Lei Wen pattern with inlaid stones, the richly decorated tusk carvings are worked exactly in the pattern of the bronzes ascribed to the San Tai.

From Mr. Lo's researches on the remains from the site of Yin we have learned two facts of fundamental importance, namely that from the fourteenth to the twelfth centuries B. C., the Chinese had already developed their pictorial script, and that the art of producing richly decorated bronze vessels and ivory carvings in the same designs, was also perfected to a high degree.

In all our extensive excavations in the prehistoric sites of Kansu we never saw on any pottery vessel or other object the slightest indication of writing, in spite of the fact that our attention was constantly bent in that direction (the incised bone plates of the Yang Shao time described on page 14 are at the most some kind of primitive record, in no way related to the archaic Chinese script).

Similarly we never found upon our small and plain bronze objects, in the Kansu sites, any decorative design resembling the rich ivory-carvings described from the capital of Yin or recalling that of archaic Chinese bronze vessels. These two groups of negative evidence deserve mention as an indication that even the most recent of our Kansu sites are earlier than the Yin Dynasty (1401-1122 B. C.).

It is true that the distance from the capital of Yin to our sites in Kansu is so great that such negative evidence must be regarded as very slender, and in addition it must be remarked that our excavations were confined to village sites, the inhabitants of which may have lacked both the writing and the arts which we can believe to have been in the possession of the ruling class of the time.

With all these reservations it should not be overlooked that the area where we worked in Kansu is along the great highway from Central Asia to the cradle of Chinese civilization in the valleys of the Wei Ho and the lower Huang Ho. Our discovery of an unparalleled development of the Yang Shao culture in Kansu has confirmed the view expressed in my earlier communications that the migration of the painted pottery across Central Asia to the valley of the Huang Ho must have taken place over the natural highway between the Pei Shan and the Nan Shan in N.W. Kansu, reaching the Huang Ho in the region of Lanchow, the capital of modern Kansu, that is in the centre of the area studied by me in 1923-24.

I do not feel competent to review the opinion advanced by several authors, such as Chalfant and Ball, that there is a common origin for the Chinese script and the ancient pictorial writings of the Near East, but it goes without saying that our discovery of the existence of strong cultural influences across Central Asia to the Huang Ho valley at the close of the Neolithic Age, as manifested by the Yang Shao painted ceramics, cause those philological speculations to appear less phantastic from the purely archaeological point of view.

Voices have also been raised to explain the ornamental system of the archæic Chinese bronzes as derived from the Near East. In this connection I may quote Rostowtzeff who in his "Iranians and Greeks in South Russia" page 198, after mentioning four principal animal types of the early Chinese bronze art, writes: "It goes without saying that these types were not invented in China. All four as we know, were favourite types in Babylono-Assyrian art, which had inherited them from Sumerian art, It is impossible to suppose that such peculiar creations were invented independently by Sumerians and later by Chinese."

If any of these cultural innovations, the pictorial writing or the decorative style or both were brought into ancient China from the Near East, they must have reached the Huang Ho near modern Lanchow, the centre of our activities. Had these cultural migrations taken place during any of the stages studied by us, it would not be entirely unwarranted to expect some trace of them in the extensive collections unearthed by us. For this reason I think it justified for the present to interpret all our Kansu stages as earlier than the dynasty of Yin.

As a summary of the above considerations, I assume as a provisional conjecture that the six cultural stages made known through our work in Kansu cover the larger part of two thousand years ranging from the midst of the fourth to the midst of the second millennium B. C.

THE NEOLITHIC HIATUS.

The discovery in the summer of 1923 by the two distinguished French naturalists Père Teilhard de Chardin and Père Licent of Palæolithic implements in excellent stratigraphic conditions, and associated with a rich Pleistocene mammalian fauna in the Ordos, has offered us a new starting point for reviewing the history of Man in Northern China. So far only a preliminary note on these important finds is available, but the facts given in that paper are sufficient for our present purpose.*

The implements, made of quartzite and other rocks, are points, scratchers, coups de poing etc., and are stated by the authors to appear to be of Moustierian or early Aurignacian type.

* Teilhard de Chardin and Licent. On the discovery of a Palæolithic industry in Northern China. Bulletin of the Geological Society of China. Vol. 3. No 1. Peking 1924. pp. 45-50.

Together with these implements were found numerous mammal (and bird) remains: *Rhinoceros tichorhinus*, *Elephas (primigenius?)*, a horse, *Camelus*, *Bison*, *Cervus*, *Gazella*, *Antelope*, *Hyena*, *Meles*, and *Struthiolithus*.

The artefacts seem to have been found partly in stratified deposits underlying the loess, partly in the loess itself.

The fauna associated with the artefacts consists, at any rate to a considerable extent, of extinct Pleistocene species, and its composition together with the type of the artefacts marks these deposits beyond doubt as belonging to the Palæolithic era. To judge from the brief notes so far available as to the stratigraphic conditions, it seems likely that the majority of the finds were made in the fluviatile bedded sediments below the loess or otherwise in the lower part of the loess deposit. It goes without saying that the sub-loess or low-loess position of these finds is a further proof. if such were needed, of their high antiquity.

A further fact which has so far been little emphasized in this connection, but which undoubtedly shows the complicated geological history which N. China has passed through after the deposition of the loess, is the considerable vertical erosion of more recent age.

In the final passage of another paper by the two French scientists on the geology of the Ordos, there is a reference to gravel terraces above the loess as "proof of a very important post-loess erosion".*

During my researches on the physiography of Northern China, undertaken as early as 1918, but not yet published, the post-loess erosion in the Chai T'ang valley near Peking has been studied in minute detail. A brief summary of my results are given in Mr. L. F. Yih's volume on the geology of the Western Hills of Peking and from this statement the following main facts are derived:**

1: In the valleys cut during the Fen Ho stage of vertical erosion there were laid down considerable masses of gravel, amounting to a thickness of 30-40 m. or more. These deposits consist of gravel, with intercalations of loess-like material, and in certain places these gravels are covered by deposits of typical pure unstratified loess. The time of deposition of the valley gravels and the superposed loess has been named the Ma Lan (馬蘭) stage, which was interpreted as of Middle Pleistocene age, because of the mammalian fauna, *Elephas* etc., of the loess.

* Bulletin of the Geological Society of China. Vol. 3. No. I. p. 44.

** Memoirs of the Geological Survey of China. Ser. A. No. I. 1920. pp. 68-71.

2: Following this stage of deposition there set in a period of renewed vertical erosion which resulted in partial removal of the Ma Lan loess and gravel with formation of terraces, 30 meters in height, and locally also the cutting of small rock canyons. Closely following this erosion there occurred the formation of redeposited loess with a fauna of *Bos*, *Cervus* and a *big-horn sheep*. This period of vertical erosion I called the P'an Chiao (板橋) stage, of presumably Late Pleistocene age.

In Kansu I made numerous observations on the physiography, and some principal facts have been mentioned above (P. 7-8). In the T'ao Ho valley and in several other valleys of Kansu the erosion has cut down from an old peneplane, about 500 meters above the present river bed. The progress of this vertical erosion is marked by a series of terraces from close below the old peneplane down to ten meters above the modern river course. Certainly most of this vertical erosion was carried out in pre-loess time, as the 50-100 m. terrace is covered by loess, and this pre-loess erosion might be correlated with the Fen Ho stage of N.E. China.

That the lower and consequently younger part of this erosion-process took place in post-loess time, is proved by many observations in the valleys of the Huang Ho and the Ching Ho, a tributary of the Wei Ho. Pl. XII, fig. 3, from the Huang Ho valley in Ching Yuan Hsien and Pl. XII, fig. 4, from the Ching Ho valley near Pin Chow, give a good idea of this part of Kansu which at the end of the loess time formed a gently undulating, but as a whole remarkably level steppe which has later become deeply dissected by post-loess erosion, that cut down not only to the gravel underlying the loess, but into the bedrock of Kueite beds or other older formations as well. To what extent this post-loess erosion reopened old river valleys covered by the loess, or cut entirely new channels, is difficult to say at present. At any rate there is not the slightest doubt that very extensive erosion, with resulting radical change of the physiographic aspect of Kansu, has taken place in post-loess time: Just as we compare the gravel and loess accumulation with the Ma Lan stage of N.E. China, so we feel entitled to enclose the post-loess erosion in our P'an Chiao stage of the vicinity of Peking.

NORTHERN CHINA IN PLEISTOCENE AND MODERN TIMES

GEOLOGICAL RECORD	PHYSIOGRAPHIC STAGES	ARCHÆOLOGICAL PERIODS
Blown sand Peat River gravels	Modern stage of river- gravel accumulation*	Historical times Yang Shao and allied prehistoric stages
Redeposited loess	P'an Chiao stage of ver- tical erosion	
Primary eolian loess	Ma Lan stage of gravel and loess accumula- tion	Palæolithic sites of Ordos
San Men gravels and sands		
	Fen Ho period of ver- tical erosion	

From the above given facts we learn that since Palæolithic Man lived with the woolly *Rhinoceros*, *Elephas* and *Struthiolithus* in the Ordos, two radical changes of the physiography of N. China have taken place, one culminating in the deposition of the primary, probably largely eolian loess, the second, the vertical erosion which deeply dissected the loess steppe and produced the modern scenery with its innumerable valleys and gorges, forming an intricate network between the remnants of the old loess plateau.

There is a marked contrast between the very ancient traces of Man discovered by the French *savants* and our finds of late Neolithic and Æneolithic cultures especially in the furnitures, the one exceedingly primitive, the other rich, varied and highly advanced. Furthermore, the general setting surrounding the two cultures was radically different: Palæolithic Man of the Ordos

* The fact that the modern river beds of N. China almost everywhere consist of gravel and that the bed-rock is almost nowhere shown in the bottom of the rivers, seems to prove that some deposition of gravel followed the P'an Chiao vertical erosion. This does not mean unconditionally that deposition is generally going on at present. In some places the occurrence of very low terraces seems to indicate that erosion has taken place quite recently. However, there is little or no doubt that the P'an Chiao erosion had cut down to the bed rock in many places now covered with gravel.

hunted a fauna of now extinct big game in a landscape, the true nature of which can only be gradually revealed by patient research because of its burial under the immense loess cover; late Neolithic Man, on the other hand, lived in a natural setting nearly identical with that of today, apart of course from the wholesale cutting of the forests, which still abounded in Late Neolithic time. It is true that in some places, as for instance, the site of Yang Shao Tsun in Honan, extensive vertical erosion has taken place in post-Yang Shao time, but most of the Kansu sites evidently existed in the topographic setting of today. In the animal life of Yang Shao time we have traced some features different from the fauna of today, as for instance the spread northward of *Hystrix* over areas where this mammal does not occur today. But as a whole the mammal life of the Yang Shao stage was not very different from that of our time.

At the present moment when the French scientists have not yet published the full results of their researches, their epochal discovery naturally remains surrounded by a number of unanswered questions. It is stated that the implements found are of Moustierian or early Aurignacian type. It is of course not proved that such a similarity in *type* will unconditionally allow a correlation in *time*, but for our present very general purpose it might be permissible to anticipate that the finds in the Ordos fall approximately in the Middle Palæolithic of the classical record of France.

Of the Upper Palæolithic we know so far nothing from this part of the world, except possibly a big laurel-leaf point of Solutrean type which has been described by me, but which for reasons given in my paper might possibly be of younger age.*

As stated above, the finds in the Ordos were made principally in the stratified deposits underlying the loess and to some small extent in the lower part of the loess. It might then be questioned, whether the time of deposition of the main mass of the eolian loess was not such a period of dry steppe condition, that Northern China during this time was largely depopulated and that we must imagine a repopling of the area in post-loess time.

At any rate there can be no doubt that during the P'an Chiao stage, when the rainfall again became abundant, while the temperature was probably not very different from that of today, the conditions were favorable for the occupation by Man of the revived river-courses.

* J. G. Andersson. Cenozoic of N China. Memoirs of the Geol. Survey of China. Ser. A. No. 3. 1923. pp. 134-135. & Pl. IX, fig. I.

This P'an Chiao stage of northern China seems to correspond approximately to the post-glacial time of northern Europe, where the Neolithic history of mankind is known in admirable fullness.

Granted, in the absence of better evidence, that the deposition of the main part of the eolian loess might cover considerable part of the Upper Palæolithic, it seems justified to ask why we have never seen any trace of the early and full Neolithic, the time of polished stone implements accompanied by *primitive* pottery.

In order to deal with this problem it is necessary to review the general characteristics of the six cultural stages which we have discovered in Kansu.

It will then be seen that most of our stages have several essential features in common, as for instance the stone axes (rare in the later stages), the rectangular knives, some types of beads, the pointed bone implements and the Li-tripod (the latter however very rare in the early stages). The sepulchral customs are also in most cases the same.

The chronological subdivisions established in this paper are based in a general way upon the absence of metal in the three early, and the presence of copper (probably also bronze) in the three late stages. For the rest, minute and distinct chronological zoning has been established by aid of the ceramics which alone offer abundant and distinct means of classification.

There can be but little doubt that all these six cultural groups are inter-related. They probably represent more than one ethnological unit. Races may have met and mingled in this area, and certainly new cultural impulses were more than once introduced from other regions. But everything seems to prove that the area was continuously inhabited from the C'hi Chia stage to the Sha Ching period by populations which carried on certain cultural traits in an unbroken inheritance.

The stone implements of the Kansu cultures are of a simple and Neolithic type and remain so until in the later stages they are replaced by metal tools without having ever reached anything like the graceful perfection of the stone outfit of the late Neolithic of northern Europe. It seems as if the ancient inhabitants of Kansu remained satisfied with their simple axes and rectangular knives, when at the same time concentrating all their artistic inventiveness upon the production of really startling ceramics.

There is very little of primitive features, but many surprisingly advanced and refined types among the pottery vessels, even of the early Kansu stages. The impressed-pattern fragments of the first stage (Ch'i Chia) compare well with any products of the "Kamm-Keramik" of northern Europe and Siberia, and the thin-walled, high-collared vase with two large handles (Pl. V, fig. 3) rather reminds us of a type of classical Greece: the amphora. In the same way the profusely painted urns of the Yang Shao and Ma Chang burial sites stand among the foremost of all the painted ceramics of the Æneolithic cultures of the Old World.

It is principally because of these varied and highly advanced ceramics that I have hesitated to call even the earliest of these stages Neolithic and preferred the term Æneolithic (Stone-Copper Age). There is no metal visible in any of the three early Kansu stages, but it seems at least possible that the indirect influence of a culture, located elsewhere and already having access to metal, is felt in the furniture of these early sites. So for instance there are among the stone-arrow points in the furniture of the Yang Shao sites of Honan, the majority of which is of Neolithic type, some few which seem to be copied from specimens made in a metal technique. If this interpretation is true, the shapes produced by a culture which has already made use of metal, migrated farther than metal itself. This suggestion of mine may be confirmed or refuted by future research. When waiting for such a definite settlement of this question I have considered it most appropriate to name these early stages in Kansu Late Neolithic and Æneolithic (compare page 23).

As stated above, we have distinguished in Kansu a pre-Yang Shao stage, the Ch'i Chia stage, with very little painted pottery, but ceramics which are in other ways highly developed.

In like manner we have in Honan a small number of sites, like Pu Chao Chai (不招寨), where no painted vessels have ever been found, but where the ceramics are very closely allied to the monochrome vessels of Yang Shao Tsun. We do not yet know definitely the chronological relationship of these sites of the Pu Chao Chai type to those of Yang Shao sens. strict., but it might be permissible to suggest that they are slightly older and mark a time before the painted pottery had been introduced. If that is the case, we have in Honan, just as in Kansu, a type of sites which is older than Yang Shao sens. strict.

These two presumably pre-Yang Shao types, the Ch'i Chia type of Kansu and the Pu Chao Chai type of Honan, have very little in common, the former being characterized by the Kamm-Keramik and the amphora-like vase. The latter by such proto-Chinese vessels as the Ting and above all the Li-tripod. To this interesting feature we will return in the sequel. For the present it is most important for us to recognize that both these early groups are in many ways related to the Yang Shao stage, especially of course to its monochrome ceramics. The Pu Chao Chai type of Honan is in its peculiar line just as far developed as the Ch'i Chia type of Kansu, as proved above all by the presence of such a specialized vessel as the high, slender, thin-walled Li-tripod which is common at Pu Chao Chai.

When all the facts mentioned above are taken together, we will realize that all these early sites of Honan and Kansu, Yang Shao Tsun and Pu Chao Chai of Honan together with Ch'i Chia Ping, the numerous Yang Shao sites and the Ma Chang sites of Kansu, all form a complex of highly developed cultural groups which are inter-related in a very complicated manner. None of these geographical and chronological subdivisions can be said to be primitive in its composition. On the contrary it is a striking feature of them all that they represent a very advanced cultural stage which we have placed in the transition period from the Late Neolithic to the beginning of the metal ages.

The remarkable frequency of such *Æ*neolithic sites, especially in Kansu, when compared with the total absence, as far as we know, of the early and middle Neolithic, is a fact which deserves close attention. Of this early *Æ*neolithic group, Yang Shao and allied, we know now one site in Fêngtien (Sha Kuo T'un), one in Shansi (not yet described), 7 in Honan, two in Shens (undescribed) and not less than about 27 in Kansu.

Several times during our field-work in Kansu I thought that I had struck a really primitive site with coarse, largely chipped stone-implements and crude pottery, but always in the course of persistent excavation some pieces of painted pottery turned up, these being sufficient evidence to show that these sites also belong to the *Æ*neolithic group. I gradually became inclined to think that such poor sites with crude pottery mark, not a different period, but rather places which were occupied by poor people or otherwise were only temporarily occupied.

It is quite possible that the deposition of the primary, eolian loess, which might approximately correspond in time to the Late Palæolithic of Europe, was marked by such a semi-desert or dry steppe climate that northern China was then largely depopulated and that consequently human remains from the Late Palæolithic may prove to be very rare.

On the other hand I take the post-loess river erosion, which certainly was at work many millenniums after the primary loess was deposited and before the Æneolithic cultures appeared, as the proof that the region was quite inhabitable in Early and Middle Neolithic times.

Our failure so far to find indisputable traces of these Neolithic periods is then a striking fact which must be accounted for.

The explanation nearest at hand is that research has so recently begun and been of such small extent that the filling in of the Neolithic gap can be expected from the further pursuance of our field-researches. This will undoubtedly prove to be true, and some indirect indications of the existence of remains of Neolithic Man are already known to us.

From large parts of northern China we know numerous surface finds of polished stone implements. An interesting collection of such artefacts was described by Laufer from Shantung,* and many hundred specimens derived from Fêngtien, Joho and Chihli are in our possession and will be described in the *Palæontologia Sinica*. Most of these stone axes, adzes, chisels etc. belong to types well known from the Æneolithic sites and may very likely belong to that relatively modern age.**

But in addition to these types, which we have found *in situ* during our excavations, there are some few types of stone implements among these surface finds which we never encountered in our excavations. Such a tool is the grooved hammer described by Laufer and also rarely represented in our collection. Another implement, never found in our excavations but represented

* Laufer. *Jade*. Chapter I.

** It is possible that real Neolithic finds occur among the numerous sites discovered by Torii in Manchuria and E. Mongolia. Much of his material is evidently of Yang Shao age. Because of the small size of his illustrations of the ceramics and the briefness of his descriptions it is difficult to utilize his finds for comparisons.

In the same places in the Ordos where the French scientists discovered the Palæolithic implements deep below the loess, they also found polished stone axes, unpainted pottery etc. on the surface. According to their statement "all those specimens belong probably to the Yang Shao Culture". (*Bull. Geol. Soc. China*. III. 1. page 50).

by several specimens from N. Chihli, is a very big, nearly triangular stone hoe. Such stone implements, which were never encountered in the *Æ*neolithic sites, may have belonged to aboriginal tribes which carried on their own stone industry contemporaneous with the Yang Shao and allied cultures, but it is tempting to think that they partly belonged to true Neolithic stages, preceding in time the Yang Shao and allied cultures.

Granted that we know some few stone implements which may belong to the true Neolithic, it remains an indisputable fact that we have discovered 38, mostly very rich, *Æ*neolithic sites but not a single one with an Early or Middle Neolithic furniture.

There is but little doubt that true Neolithic sites with primitive pottery will be found and that Early and Middle Neolithic stages will be established also in northern China.

But the overwhelming abundance of rich and large *Æ*neolithic sites, when compared with our failure so far to locate a single true Neolithic station, can hardly be explained otherwise than that the Yang Shao and allied sites mark a new development in the history of mankind in this part of the world. As we know from our geological observations that the rivers, after the termination of the loess steppe period but prior to the appearance of the *Æ*neolithic cultures, flowed during several millenniums, marking a climate which was certainly quite inviting to Neolithic Man, the cause underlying the sudden and rapid spread of the *Æ*neolithic settlements must have been, not entirely a change for the better of the climate, but rather *the coming of a higher civilization.*

CULTURAL MIGRATIONS.

In the previous chapter, when dealing with periods like the Late Palæolithic and the Early and Middle Neolithic which are so far not represented by actual finds, I have been forced to express certain opinions on questions where there are not at present sufficient facts available. In the following, when trying to interpret the real meaning of the *Æ*neolithic finds, I will be forced to proceed further along the same very dangerous path of slightly founded conjectures. I do this purposely at this very early stage of our research with the sole intention of formulating a working hypothesis which will stimulate fruitful discussion

One of the results of our researches on the *Æneolithic* sites of Honan was the discovery of strong evidence of cultural relationship in those prehistoric times between the Near East and the valley of the Huang Ho. By aid of Dr. Arne, who kindly furnished me with the literary means for comparisons, I was already able to point out in my paper "An early Chinese Culture" the striking similarity between the painted pottery of the Near East and that of Honan. Recently Dr. Arne in his splendid monograph on the painted pottery of Honan has undertaken such exhaustive comparisons between the painted ceramics of southwestern and eastern Asia that we might be justified in accepting as a fairly well proved fact that the painted pottery of Honan belongs to the same family of ware, form and design as the painted pottery of the *Æneolithic* sites of the Near East

My more recent finds in Kansu of large masses of painted ceramics of Yang Shao age, including many complete funeral urns, have only further accentuated the close relationship between the *Æneolithic* ceramics of the Near and the Far East. The problem will be fully discussed in the final monograph on the Kansu finds, and for the present I proceed under the assumption that in *Æneolithic* time cultural influences from the Near East were strongly felt in the Huang Ho valley.*

When, at the end of my first years work in Kansu, I wrote a brief report on the results so far obtained, which was later published in the Swedish geographical journal *Ymer*, I was so impressed by the predominance of painted pottery among the Kansu finds that I joined in the opinion expressed earlier by Richthofen that the Chinese have migrated from an ancient home in Chinese Turkestan, where they were supposed to have developed their earliest culture and received influences from western peoples.

This idea of a migration in Yang Shao time of the Chinese from Hsinking into the Huang Ho valley where they carried with them an *Æneolithic* culture of western type, has been reviewed and criticised by Karlgren in the new journal *Litteris*. As my paper was published in Swedish and as the opinions

* In the small note on my first years work in Kansu published in the Swedish geographical journal *Ymer* I have expressed the opinion that the painted pottery of Sh-Ching, in Chen Fan Hsien containing among other designs horizontal rows of birds, is related to the painted pottery of Susa where such zones of bird-figures are also very common. The similarity between the painted urns of Susa and those of Chen Fan is certainly striking but judging from my second year's work it seems that Sha Ching is much younger than Susa.

admirably expressed by Karlgren in English have carried the discussion much nearer a final solution, I take the liberty of quoting the following passages from the distinguished sinologist:

"In drawing his historical conclusions Dr. Andersson first suggests that the Kansu and Honan (Yang-shao) sites have so many implement types in common, and such an accordance in regard to the painted pottery that they must be considered as essentially contemporaneous and belonging to the same culture. And yet, according to Dr. Andersson, we must distinguish between a Kansu province and a Honan province within this culture, for on the one hand the painted ceramics are much more fully developed in the former, with richer patterns and more complete similarity to the Western types, and on the other hand the Kansu sites lack almost entirely certain elements which were most typical in Honan, e. g. the li and ting tripods: one single fragment of a li was found in the very extensive Kansu excavations. Whether Dr. Andersson's view holds good or not, depends upon which general historical theory we adopt.

"It seems obvious that two different theories are possible regarding the proto-Chinese culture. The one which Andersson proposes is best expressed in his own words (Ymer 1924, p. 25): "This analysis of the geographical milieu points decidedly to Turkestan as the territory where we shall have chances of finding a final solution of the Yang-shao problem. Possibly we shall be able to identify there the region where, in Neolithic times, a group of the Mongolian race, under strong cultural and perhaps also racial influence from the West, while settling down gradually to stationary agriculture, developed the civilisation which was to be the beginning of the historical Chinese culture. The exact localisation of this earliest proto-Chinese civilisation can be ascertained only by future researches in Chinese Turkestan, but already on the basis of our finds in Honan it seems highly probable that migration waves carrying along this culture have come down from Central Asia through the main channel of communication which passes between the two mountain chains of Peishan and Nanshan, leading from the eastern part of Turkestan in a southeasterly direction to the Yellow River at Lanchou, the provincial capital of the present Kansu."

"According to this theory, then, the foundations of the Chinese civilisation would have been laid already while the people lived in Turkestan, and this

culture, in its essential and typical traits, would have been brought into China by migration. Dr. Andersson underlines this in summing up the preliminary results (Ymer 1924, p. 34): 'Several facts, such as sites indicating stationary agriculture, the occurrence of pig bones in the cultural strata and methods of sepulture agreeing with those of Yang-shao Ts'un and those of the historical Chinese, suggest that the possessors of this culture (i.e. in Kansu) were of proto-Chinese race. The strong development of this culture here in the north-western corner of China proper and the marked signs of a civilisatory influence from the West, seem to give further support to my repeated surmise that the earliest evolution of the Chinese race was located in the interior of Asia, probably in Chinese Turkestan or adjacent regions. These conclusions involve a radical change in our views concerning the origin of Chinese civilisation.'

"This theory seems to me to offer serious difficulties, at least at the present stage of investigation. Our point of departure was that the occurrence of the characteristics enumerated above is the essential reason why we should consider the Yang-shao culture as Chinese, as the proto-Chinese basis of the later historical civilisation. If this culture were to have originated in Turkestan and therefore flourished more vigorously in Kansu than in Honan, of course all these implement types should exist in Kansu and ought to be even more richly represented there than in Honan. But in the preliminary report (Ymer 1924) Andersson expressly states that, while rectangular knives were found also in Kansu, li and ting tripods scarcely exist there, and as he mentions nothing, as far as Kansu is concerned, about the other more decisive elements found in Central and Eastern China—yüan rings, haches-poignards—I suppose he has found no specimens of them.

"Thus we find that, apart from the knives, the pig bones and the grave customs, and some general neolithic implements of no peculiarly Chinese type it is only the Western element, the painted pottery, which is more fully represented in Kansu, not those which we have accepted as "genuine Chinese"

"Moreover, there have been found in Kansu several very particular artifacts entirely unknown in Honan: specimens (both in Si-ning, Kuei-tö and close to Kukunor) of a bone knife with a score into which flint chips are fitted to serve as cutting edge; small carved ivory tablets with incisions, possibly serving as a primitive script; and ornamental beads of various substances (semi precious stones, marble etc.)

“Supposing Dr. Andersson’s theory to be true, the only possible explanation of these facts would be that continuous waves of Western influence gradually succeeded in supressing the genuine Chinese culture elements as created originally in Central Asia, the tendency being more victorious in Western China, for geographical reasons, than in the more Eastern colonies. But this seems far-fetched.

“Another and to my mind more natural general theory is this:

“In Honan, with offshoots in various directions, e.g. Fêngtien, there flourished a neolithic, genuine Chinese (proto-Chinese) culture, characterized *inter alia* by *li* and *ting* tripods, *yüan* rings, *kou* haches-poignards, crescent-shaped or rectangular knives, breeding of pigs and certain sepulture methods. In late Neolithic times this sphere of culture was reached by strong influences from the West, along the channels of communication which in later times proved to be the natural and normal ones, and thus was introduced the art of making finer, painted pottery besides the native, coarse and uncoloured pottery (largely found in Yang-shao). Hence the *comparativcly* sparse finds of painted ceramics in Yang-shao. The tribes from which the Honan people learnt this art, living in Kansu, were probably not proto-Chinese but rather a Turkish race, as they lacked several of the most important elements acknowledged by us as genuine Chinese. But of course the influence was reciprocal, which might account for the rectangular knives, the breeding of pigs and the burial customs in Kansu. A certain amount of trade with the proto-Chinese Honanites must have existed (thus Andersson has found cowry money in the Kansu graves, clearly indicating relations with the Eastern coast), and therefore we have every right to expect in the future excavations some finds of genuine Chinese objects, though scanty and only as a result of trade or war looting.

“Now the Kansu influence in Honan may have been peaceful, but it might equally well have been due to war excursions and political hegemony. If some branch of “the people of the red and black pottery” did really penetrate, from its original home in Turkestan and Kansu, towards the East in the 3rd millennium and push on as far as Honan, which is quite possible, they did not found colonies there, bringing with themselves the proto-Chinese culture, but they found it already flourishing round the large bend of the Yellow River, and they were soon assimilated by these real Chinese, enriching them with their own art of making finer pottery.”

A further contribution to the discussion on the relationship of the Yang Shao culture to the Late Neolithic and *Æ*neolithic of the Near East and Europe has been forwarded by Arne, from whom I quote the following:

"I find no reason for moving the Chinese finds nearer our own times owing to the appearance of tripod vessels and their resemblance to later Chinese types of bronze. Tripod vessels turn up as early as in the oldest Troy (Town I). They are spoken of as kettle-like vessels with three tall feet and a broad vertical handle. They chiefly call to mind tripods of the Ting type. Thus the Chinese tripods may possibly proceed from a model imported from the west. A double conic vessel found at Yang Shao with a perforated bottom has also connections in the oldest culture of Troy, as also in Egypt and Tepe Mussian. This kind of clay vessel has long survived in Korea. The tall, pointed-bottomed clay vessels (pithoi) spoken of by Professor J. G. Andersson have parallels not only in Egypt, but also at Hissarlik, Troy, and in India, as Wilke shows in the work which has several times been cited. A connection with the west may also be hinted at by the stone and mussel rings. These occur, in fact, often in flint, seldom in jadeite and nephrite, in France, Italy and Spain during the early Neolithic Age, and also in Egyptian graves (as early as the third dynasty) and—also at a rather late date—in India (G. Wilke, *op. cit.* pp. 9. ff.). As a rule, they have a triangular section. Mussel rings have been found in the Thessalian dwelling-places from the later Stone Age, e.g. at Dimini and Rakhmani (Wace and Thompson, *Prehistoric Thessaly*, 1912, p. 84). Wilke knows them also from several other South European countries. They were also met with in the course of the above-mentioned excavations in the Zhob Valley in Baluchistan, but it is uncertain from what date they come.

"Thus judging from the perhaps insufficient archæological material known to me there is but very little distinctively Chinese in the Honan culture, although many of the elements introduced have survived in the fully developed Chinese civilization. Nevertheless it seems to be probable that the newly-discovered culture, which in the third millennium precedes the historic or quasi-historic culture, belonged to the ancestors of the present day Chinese. Attempts have not been lacking to place the mark of a special race on the civilization of the late Stone Age, which is characterized by painted pottery and the first appearance of copper. It has been declared to be South Indo Germanic, and it has also been regarded as belonging to a brachycephalic race.

As the bodily characteristics of the Mongolians are so well marked, it should not be impossible to find a satisfactory solution of the race question in the skeleton material collected by Professor Andersson."

It is evident that the contributions offered by Karlgren and Arne have added materially to the elucidation of the problem in which we are now interested. It is natural that Karlgren, the sinolog, has examined the problem so to say from a Chinese viewpoint, and that Arne, the European archaeologist, has laid special stress upon the evidence of cultural relationship with the west. Waiting for the result of the anthropological examination of the human skeletal material, Arne has avoided expressing an opinion as to possible migrations of races and confined himself to the discussion of the spread of cultural traits.

It goes without saying that a full review of these intricate and fundamentally important problems cannot be delivered before the large material from Kansu has been fully studied and described. For the present we will deal only with one, certainly one of the most important groups of artefacts, which is fairly well known and which seems to form part of the autochthonous proto-Chinese culture. I refer to the Li-tripods, eventually also to the tripods of the type Ting.

Dr. Arne's mentioning of tripod vessels from the first city of Troy is a fact new to me and of greatest interest. Mr. Ellis H. Minns of Cambridge, the distinguished author of "Scythians and Greeks" has kindly called my attention to the occurrence in the Tripolje culture of southern Russia of a Ting-like tripod.

Until the Ting-like tripods of early Troy and the Tripolje culture are more fully known to me, I am not able to express an opinion as to the possible relationship of these western vessels to the Chinese Ting. Moreover, it seems as if the Ting tripod in its primitive form, a clay bowl with three very small legs, is such a simple thing that it might have been invented more than once in the history of mankind. The assumption may be justified that a clay bowl was used for cooking first by putting three stones to support it, and that then the stones were replaced by three lumps of clay attached to the bowl.

It has often occurred to me that the origin of the Li is entirely different from that of the Ting. As already stated, the Ting is a bowl with three solid legs, whereas the Li has hollow, wide legs which form three, only partly confluent cavities. It is tempting to think that the Li was invented by merging

three vessels with pointed bottom in order to form a household utensil which could stand by itself, while at the same time it offered a very large contact surface to the fire when used for cooking. We know that crude pointed vessels are among the earliest ceramics known from the European Stone Age (time of the Danish kitchenmiddens), and the occurrence of several widely different types of pointed vessels in the Yang Shao beds of Honan may indicate that forerunners to these comparatively advanced types were in use in eastern Asia in early Neolithic stages, so far unknown to us.

This suggestion as to the origin of the Li is for the present a mere conjecture, and I intend to return to this question when the whole material from Honan and Kansu has been fully studied.

As far as I know, the *Li* is a ceramic type confined to the proto-Chinese and historically Chinese cultures. From Laufer's description we know a clay Li assigned by him to the Chow dynasty; three other forms are figured in my paper "An early Chinese Culture" and a fifth type is here described (Pl. X, fig. 3) from the *Ssu Wa* stage of Kansu. In our undescribed material there are still other species of this remarkable ceramic family, and then we have to add the bronze Li of various types figured by the Chinese antiquarian works from various dynasties, ranging in fact from the remote San Tai to the present day, when the Li still remains a favorite motive for the Chinese bronze founder. When sufficient material becomes known, the typology of the Li will form an intricate but most attractive field of research, and already at this early stage of our knowledge it seems justified to mention the Li as a symbol of Chinese culture, a venerated and beloved vessel, which can be traced in an unbroken ancestry back to the remote time of the Yang Shao settlers.

The early history of the *Li* throws much light on the question of cultural beginnings in northern China.

In the Yang Shao sites of Honan, especially in the Pu Chao Chai and similar sites without painted pottery, sites which are possibly somewhat older than Yang Shao sens. strict. Li tripods are very common, and most of the best Honan specimens come from these sites.

In Kansu the situation is different. In the earliest three stages Ch'i Chia Yang Shao and Ma Chang, there are very few or practically no traces of the Li, while at the same time the Ting tripod is very rare or missing in Kansu. Th^o

only specimen of the Li-tripod which I have recorded in my field notes from Kansu is a small fragment of a leg from one of the sites of the Yang Shao stage. It is only in the fourth stage of the prehistory of Kansu (the Hsin Tien stage) that we meet more abundant remains of the Li, and in the fifth and sixth stages (Ssu Wa and Sha Ching) special types of Li are quite common.

Everything goes to show that the earliest known history of the Li centers in the area which has been by tradition marked down as the cradle of the Chinese civilization, the lower Huang Ho valley on the Shensi-Shansi-Honan borders. The presence or not of the Li in Kansu in the early premetallic stages is so far not quite settled, at any rate it was exceedingly rare in those early times, and only during the three later stages of Kansu prehistory did the Li ceramic family become richly represented by some peculiar local Kansu species.

It then seems fairly probable that the Li tripod from its early home on the Shansi-Honan border slowly spread N.W.-ward to central Kansu.

Under the generally accepted view that the original home of the painted pottery was in the near East, we feel inclined to believe that the art of making the fine pottery with painted decoration reached Kansu first and Honan later. This is undoubtedly true, but the spread of this western art must have been comparatively rapid, because there is at present very little *de facto* archaeological evidence that the painted ceramics reached Kansu earlier than Honan.

There is just one sherd (Pl. V, fig. 1) of undoubted Ch'i Chia type with some little painting on the inside of the collar. But this is rather an exception within the Ch'i Chia group of Kamm-Keramik, and but little importance should at present be assigned to this find also for the reason that it is hardly proved beyond doubt that Ch'i Chia is actually older than Yang Shao.

The painted ceramics occur in Kansu as well as in Honan first in the Yang Shao sites, and there is nothing at present known to prove that the Kansu Yang Shao was somewhat older than the Yang Shao sites of Honan. Not only does the Honan Yang Shao combine the painted pottery with a Neolithic stone and bone furniture devoid of metal, just as is the case in Kansu, but the painted ceramics of Honan, though closely related to those of the Kansu Yang Shao, still form a province of their own, which in certain respects is superior in quality to the overwhelming masses of Yang Shao pottery found in Kansu. The painted pottery in the Kansu Yang Shao sites is far more abundant than is the

case in Honan, and numerous complete vessels have been found, especially in the burial sites of Kansu. Also the design of the painting is in Kansu far more gorgeous than in Honan, being sometimes even overburdened. But in hardness of the ware, in the deep, beautiful red and the exquisite polish of the surface, in the variety of colors, grace of design and thinness of the vessels, the Honan fragments compare very favorably with the painted vessels from the Kansu sites of the Yang Shao time. To this must be added that there are certain characteristics which mark the Honan polychrome material as forming a province distinct from that of Kansu.

It seems as if the new cultural influences from the distant west, when they once had reached the Huang Ho in what is now central Kansu, spread swiftly down the large river and its tributaries, became amalgamated with preexisting aboriginal cultures and got modified into local varieties of the wide-spread Æneolithic culture family.

It has already become apparent that I deal for the present only with the migrations of *culture* and that the question of migration of *races* is here left out of consideration. What Dr. Black can tell us on the racial question at this very early stage of his vast research will be indicated in his note at the end of this paper.

I now return to my assumption, as expressed above, that the thousands of years, during which the revived rivers flowed and eroded after the end of the loess-steppe period and prior to the coming of the Æneolithic culture, was a time when the climate of northern China was favorable to harbour Neolithic Man. For this reason I take it for granted that genuine Neolithic sites will be found in the continuation of our archæological research.

But the striking fact that we know at present not less than 38 Æneolithic sites in northern China, many of them large and rich, whereas not a single Early or Middle Neolithic deposit has been found, goes to prove that the aboriginal Neolithic population lived under conditions markedly different from those of the Æneolithic settlements. As there is nothing to indicate a radical change of climate or otherwise physical environment at the beginning of the Æneolithic time, it seems reasonable to assume that the new start marked by the abundant early Æneolithic remains was more in the way of *introducing a new, superior culture*.

Most likely the Neolithic aboriginals, Mongoloids who had already begun to mould the humble beginnings of the proto-Chinese culture, lived principally

as hunters and fishermen, possibly at the same time and in suitable regions carrying on a primitive hoe culture. If this assumption is true, they very likely lived in comparatively small groups and were not permanently settled but moved from place to place as changes in the supply of game forced them to do.

The Æneolithic settlements were, to judge from their location and size, large villages permanently occupied for a considerable space of time. In fact many of these sites coincide in place with modern villages, and as a whole it is safe to say that the settlements of that time were located very much as are the present communities, with the only exception that the Æneolithic villagers preferred to settle upon the terrace surfaces, whereas most of the modern villages have moved down upon the river plain which was probably in the Æneolithic time too densely wooded and locally too swampy to invite permanent settlement.

Several features combine to show that the Æneolithic settlers probably were to a very large extent dependent upon agriculture for their existence. The size of the dwelling sites and the thickness of the culture deposit indicate such permanence of the villages as could hardly be maintained except by a farming population, the marks of strings and cloth-pattern upon the pottery indicates the cultivation of some textile plant, and such numbers of pigs as are indicated by the abundant bones of this animal in the dwelling refuse could hardly be kept except by a people of agriculturists.

The tentative hypothesis which I want to present in order to explain how we have come across not less than 38, mostly large Æneolithic sites without encountering a single Middle Neolithic station, can be briefly expressed as follows:

The early Neolithic aboriginal inhabitants of northern China were hunters and fishermen, carrying on also a primitive hoe-culture. They lived mostly in small groups which migrated from place to place. The sites deposited by these people were relatively inconspicuous and most likely located in a topographic setting different from that of the large Æneolithic villages.

The painted pottery of the Æneolithic cultures is, together with some few other ceramic types (as for instance the high, pointed-bottomed *pithci*), the only mark of western cultural influence which has been preserved to our time. But it is exceedingly probable that, together with these ceramic innovations,

migrated many other gifts from the high cultures of southwestern Asia, and considering that these very early leading cultures of the Near East were so predominantly agricultural, it may not be too bold to assume that one of the most valuable endowments to the peoples of the Far East was a stride forward in the perfection of agriculture. Whether this improvement was in the form of introducing new cultivable plants or in better methods of tilling the soil or in a combination of both, we cannot even guess at present. If the plough was already in use among the people of the Yang Shao time, it was probably made all of wood, as such a light tool would work well in the easily tillable loess soil. That the cart wheel was possibly known to these prehistoric cultures, may be surmised from the fact that the potters wheel was already in use in Yang Shao time and that the picture of what resembles a wheel is seen upon pots of the Hsin Tien stage. (fig. 5b).

If the spread to the Huang Ho valley of the painted ceramics was accompanied by the introduction of other cultural progress, foremost of which were improved agricultural methods, then it is easy to understand that the population rapidly increased and that there were formed during a comparatively brief space of time numerous permanent settlements in nearly the same places as the villages of today.

This is merely a tentative effort to explain the sudden and rapid spread of the Yang Shao and allied cultures. It will have fully served its purpose, if it helps to stimulate research and discussion on these now obscure but highly fascinating problems.

A NOTE ON THE PHYSICAL CHARACTERS OF THE PREHISTORIC KANSU RACE*

By

DAVIDSON BLACK.

It gives me great pleasure to have this early opportunity of acknowledging to Dr. J. G. Andersson and to the Directors of the Geological Survey, Drs. V. K. Ting and W. H. Wong, my very sincere appreciation of their kindness in placing at my disposal for study and description the splendid collection of human skeletal material recovered by Dr. Andersson during his recent Kansu expedition.

Dr. Andersson has done me the honour to ask for an expression here of my opinion as to the physical characters and identity of the people represented by this material. In complying with his kind request I do so with some hesitation since instead of a considered report it is only possible to present at this time preliminary and tentative remarks on the subject. The cases of specimens were unpacked in my laboratory during the latter part of last December and most of the available time since then has necessarily been devoted to the work of cleaning, numbering, and arranging the specimens. However, in carrying on this work and in the initial phases of the systematic examination of the crania and long bones I have gained certain general impressions as to the physical character and race of the people represented in the collection. The remarks on this subject offered here are in substance essentially the same as those made at the close of Dr. Andersson's lecture on the prehistoric sites of Kansu delivered at the meeting of the Geological Society of China held in Peking on May 15th last and though I believe that their general truth will be substantiated by subsequent detailed work they represent purely tentative opinions.

The collection includes remains representing more than 120 individuals of whom the majority are adults, both sexes being well represented. All skulls and fragile specimens had been reinforced in the field by the pasted paper method and packed with such care that none suffered injury in transit to the

* From The Department of Anatomy, Peking Union Medical College, Peking.

laboratory. More than thirty skulls are in a good state of preservation and have been examined in some detail. Not a few of the remaining skulls can be fully or to a large extent restored but some are in such a friable and eroded state, apparently due to some more acid condition of the soil in which they lay, that restoration will be impossible.

No skeletal remains from the first or earliest cultural period (Ch'i Chia) were recovered. From the localities at Chu Chia Chai and at Ma Chang Yen the remains of more than fifty individuals from the second or Yang Shao and the third or Ma Chang culture horizon were obtained. In the remainder of the collection individuals from each of the subsequent culture periods recognized (fourth to sixth period) are represented.

In general it may be said of all the groups represented in this collection that the average adult stature appears to have been moderate. Muscular development in both sexes was good and may even be described in many cases among both sexes as marked. Postural facets on the astragalus, tibia, patella and femur together with moderate platymeria and platyknesia occur in a high percentage of cases and not a few typically flat sacra have also been observed. (cf. my report in *Palæontologia Sinica, Series D, Vol. I, Fasc. 3, 1925.*)

The majority of the adult skulls of the different groups examined present an interesting and suggestive complex of characters which may be summarized under the two following headings:—

(1) *Measurements:*—mesocranial (average cranial index 75-79 with an index range from 69 to 90); hipsicranial (average length-height index 76-81 with an index range from 65 to 82); metrio- to akro-cranial (average breadth-height index 95-101 with an index range from 88 to 106); long face (average upper facial index from 56-60); nose mesorrhine to leptorrhine (average nasal index 43-49); wide interorbital breadth (average interorbital index 24-27 with an index range from 23 to 30).

(2) *Observations:*—a subnasal fossa either slightly or moderately developed is of frequent occurrence; the frontal region is well formed but the glabella and superciliary ridges are usually slightly or at most moderately developed; a persistent metopic suture obtains in more than 15% of the adult skulls recovered from the Chu Chia Chai site (second cultural period) and in 11% of those from Hsin Tien A (fourth cultural period), though among the crania from other sites metopism occurred considerably less frequently; the nasal bones are long

and are usually compressed and depressed for some distance below the nasion; the malar bones are usually prominent and large and the fronto-orbital deviation angles relatively small; in males the external occipital protuberance is usually well developed and frequently hook-like.

Thus in general cranial and skeletal features the majority of the individuals included in this collection exhibit characters which seem to identify them beyond much doubt as belonging to the so-called Mongoloid division of mankind. Further, in contradistinction to other Asiatic Xanthoderms they would appear to resemble most closely the particular type termed by Giuffrida-Ruggeri "typical *Homo Asiaticus*".*

I have already shown in the report on the Sha Kuo T'un and Yang Shao remains (*loc. cit. supra*) that the people there represented appear to conform to a physical type closely similar to that of the modern inhabitants of these regions and which I have termed North Chinese. If this be true it follows that the proto-Chinese Yang Shao and Sha Kuo T'un peoples are in general physical type similar to those of the Kansu prehistoric sites since both broadly conform to the modern type termed North Chinese or *Homo Asiaticus proprius*.

The foregoing conclusions would seem to apply to the majority of the individuals represented in the Kansu collection. There are, however, some which are apparently to be distinguished from the rest by a combination of certain skull characters and it may be that these differ from the majority sufficiently to be considered as a sub-type. Three such individuals have been noted, two from the Chu Chia Chai site (second period) and one from that of Ma Chang Yen (third period).

In the three skulls in question in contrast to the majority of those in the collection the nasal bones are definitely less compressed and depressed in the region of the nasion while at the same time the plane of the orbital entrance is set relatively obliquely to that of the *norma frontalis*, i.e., the fronto-orbital deviation angle is relatively large. When, therefore, these skulls are viewed in *norma lateralis* the root of the nose is more prominent and a greater part of the medial orbital wall is to be seen than is the case in the majority of the skulls. The effect of the combination of these characters is much less evident when the skulls are viewed in *norma frontalis* in which view the large and

* v. Giuffrida-Ruggeri 1921, The first outlines of a systematic anthropology of Asia. Translated by H. Chakladar, University of Calcutta, Journal of the Department of Letters (Anthropological Papers No. 6) Vol. V., pp. 1-110.

prominent malar bones and general facial proportions are such as to indicate at once a fundamental similarity to the proto-Chinese type. Until the present uncertainty is removed as to the status and relationship of the individuals represented by these skulls I shall refer to them as "Type X".

It is of interest to note that "Type X" skulls have only been observed in the material recovered from the earlier pre-metallic culture periods and are apparently not represented in the later horizons of the collection. Further, the characters by whose moderate development "Type X" skulls have been distinguished are those which have reached their highest development in man among western races. On this account it might be suggested that the occurrence of "Type X" skulls in Kansu was to be explained as due to a mixture of western and proto-Chinese strains. If this be the explanation, however, it is difficult to see why "Type X" skulls are not more abundant in the intermediate and later culture periods than in the earliest period represented. An alternative explanation at once suggests itself, namely, that "Type X" skulls may represent individuals allied to those from whom the proto-Chinese type was derived, since it is reasonable to suppose that the peculiar flat type of face characterizing *Homo Asiaticus proprius* represents a specialization away from a more generalized facies in which the shape of the nasal bones and the contour of the lateral orbital margins were modelled along lines such for example as those characterizing these parts among late palaeolithic peoples in Europe. Some light may be shed on this speculation during the further study of this interesting material but the true answer can be looked for only with the recovery of further human skeletal material from central Asiatic sites which antedate the Yang Shao culture period of Kansu.

Some reference should also be made here to the widespread occurrence among the prehistoric peoples of Kansu of the practice of depositing red pigment with the dead. Whether or not the practice of *scarnitura*, or removal of the soft parts before pigment deposition, also obtained is uncertain but from every major site in which human skeletal remains were recovered, one or more of the graves contained bones which were colored with a bright red pigment. The deposition of red pigment, usually ochre or peroxide of iron, is a special feature marking many interments both in palaeolithic and neolithic times throughout Europe while the practice is also known to have obtained in certain early

historic Chinese burials.* Its occurrence in the prehistoric Kansu sites provides a further interesting link between the burial customs of the west and east. The chemical nature of the red pigment used in the Kansu burials is not yet known.

In recapitulation it may be said that the general impressions gained from a preliminary survey of the human skeletal remains from the prehistoric sites of Kansu are such as to indicate that the inhabitants of this region were probably largely of proto-Chinese type and not as Professor Karlgren† suggests of Turkish race, while among the earliest inhabitants known by their skeletal remains, a few individuals occur belonging to an allied and possibly more archæic type.

Peking, May 27, 1925.

* Mr. C. W. Bishop, field director of the Freer Art Gallery Expedition of the Smithsonian Institution, has recorded the occurrence of a red pigment deposit both about the human skeletal remains and on objects associated with them in his most interesting account of the recovery of the Hsin-Cheng Bronzes. This burial in his opinion probably dated from "the latter part of the Chou Dynasty or roughly between 400 B.C. and 250 B. C." Concerning the pigment deposition Mr. Bishop says in part that there was "both above and below the skull, a dark layer about an inch and a half in thickness, quite distinct against the yellowish soil and rather deeply impregnated on both sides with the same red pigment already noted." For further details see Mr. Bishop's paper, *The Bronzes of Hsin-Cheng Hsien*. *The Chinese Social and Political Science Review*, Vol. VIII, No. II, April 1924, pp. 1-19.

† vide Professor Karlgren's critical review of Dr. J. G. Andersson's archæological publications of 1922-1924. *Litteris*, Vol. I, No. 2, December 1924, pp. 142-153.

**EXPLANATION OF
PLATE I.**

(中英文說明見此頁背面)

PLATE I.

All figures reduced to 1/3 of natural size.

Urns belonging to Mr. Hsü Ch'êng Yao, (許承堯) ex-taoyin of 'Tsinehow, and kindly placed at my disposal for reproduction.

Black = black.

Dotted = red.

Figures 1 & 2 are urns of the Yang Shao stage.

Figure 3 of not quite settled age, Yang Shao or Ma Chang?

第 一 版

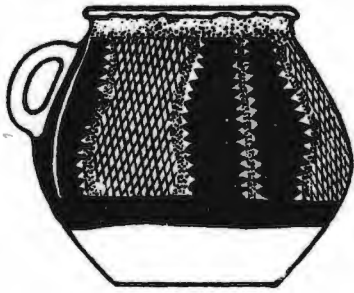
(各圖均按原式縮小三分之二)

遠古陶甕，前渭川(秦州)道尹許承堯君所藏。

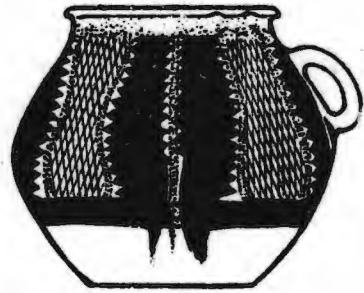
黑處爲原器之黑色，點處爲原器之紅色。

第一圖及第二圖：仰韶母之陶甕。

第三圖：時代未定(仰韶或馬廠?)



1a



1b



2a



2b

2c



3a



3b

EXPLANATION OF PLATE II.

第 二 版

(各圖均按原式縮小三分之二)

馬廠期之小陶甕。(購買所得,產地不明)

圖中黑處爲器之黑色,點處爲器之紅色。

第一圖:陶質橙黃色,花紋深紫色。

領部裏面,有彩繪之花紋,第一圖所示。

器高一百二十六公厘,腹徑一百四十八公厘,領部口徑,九十九公厘。

第二圖:陶質與第一圖同,花紋亦爲深紫色。

領部裏面,有彩繪之花紋,第二圖所示。

器高一百五十公厘,腹徑一百八十公厘,口徑一百零四公厘。

第三圖:陶質與第一圖同。

彩繪爲紅黑色,領部裏面之花紋,可於第三圖見之。

器高七十九公厘,腹徑八十七公厘,口徑八十三公厘。

第四圖:陶質及花紋,與第三圖所示者同,其領部裏面之花紋,可於第四圖見之,

器高九十七公厘,腹徑一百十九公厘,口徑九十四公厘。

(For English explanation see other side of this sheet)

PLATE II.

All figures reduced to 1/3 of natural size.

Small urns of the Ma Chang stage, obtained by purchase, locality not known.

Black = black.

Dotted = red.

Fig. 1. Ware reddish yellow, painting in a deep purplish black.

Painting inside the collar as shown in fig. 1.



Height 126 mm., width of widest part of body 148 mm., width of mouth 99 mm.

Fig. 2. Ware like fig. 1. Painting in deep purplish black.

Painting inside the collar as in fig. 2.



Height 150 mm., width of widest part of body 180 mm., width of mouth 104 mm.

Fig. 3. Ware like fig. 1.

Painting in red and black. Painting inside the collar shown in fig. 3.



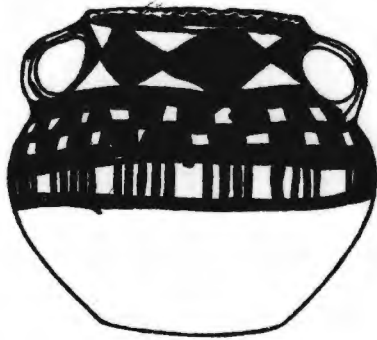
Height 79 mm., width of body 87 mm., width of mouth 83 mm.

Fig. 4. Ware and painting like fig. 3. Painting inside the collar shown in fig. 4.

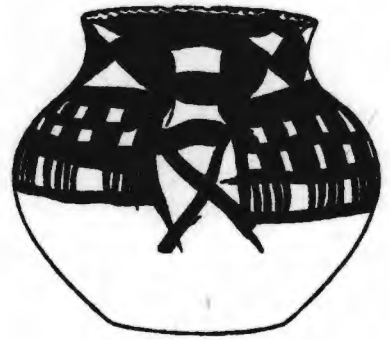


Height 97 mm., width of body 119 mm., width of mouth 94 mm.

(中文說明見此頁背面)



1a



1b



2a



3a



3b



2b



4

**EXPLANATION OF
PLATE III.**

(中英文說明見此頁背面)

PLATE III.

Figures reduced to 1/3 natural size.

Fig. 1. Urn of the Yang Shao period, obtained by purchase, locality unknown. Painting in black and red (dotted). Two lugs at the widest part of the body. Another pair of small lugs on the uppermost part of the collar. These lugs have only a very narrow hole each, which was apparently for the purpose of inserting in these holes a string to fasten a (wooden?) cover.

Height of the vessel 248 mm., width of the body 211 mm., width of mouth 90 mm.

Fig. 2. Urn from the Hsin Tien A burial site (type locality of the Hsin Tien stage). Painting in black upon a grayish yellow, coarse, porous ware. The decoration consists of straight horizontal bands and lines, horizontal wave-lines, straight and wavy vertical lines and a big central figure like that shown in Pl. IV, fig. 2 & 4.

In the openings of the curls of this central figure there are small animal figures, two dogs and two sheep or goats. Above each lug there is a snake-like figure with filamentous appendages.

Round the neck there is a true continuous meander (see page 16-17).

第 三 版

(各圖悉照原式縮小三分之二)

第一圖：仰韶期之陶甕，購買所得，產地不詳，花紋作紅(點處)黑二色，腹部具有二耳，傍口處亦有一對，此等器耳孔均甚小，似為穿繩繫蓋之用。

器高二百四十八公厘，腹徑二百一¹公厘，口徑九十公厘。

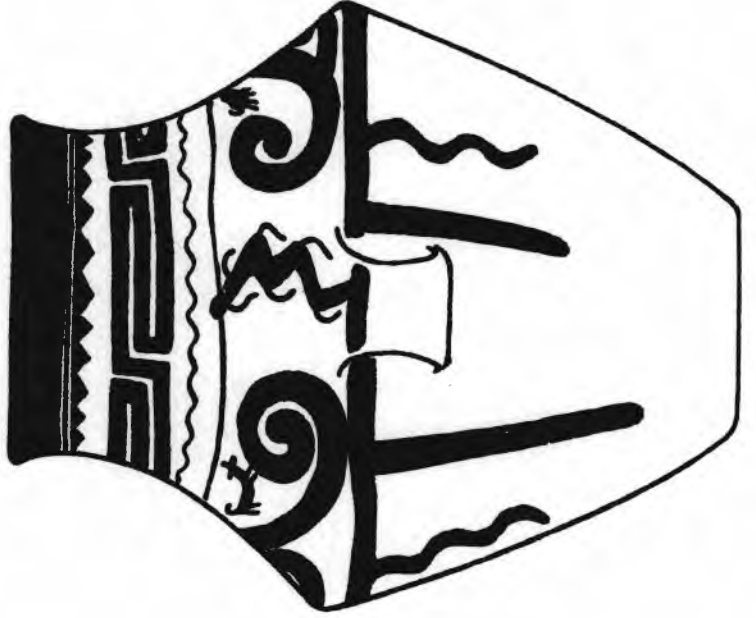
第二圖：辛店甲址(即辛店期之模範址)葬地之陶甕。

彩紋黑色，繪於灰黃色之粗陶地，花式為橫行之條紋，線紋，及波紋，縱行之直線紋，及波線紋等，花紋集中之處，則與附圖第四版第二圖及第四圖相似，此種花紋中空之處，見有犬羊之獸紋各二，各耳之上，有鬚毛蓬蓬之蛇紋，頸部周圍，則有真正之連續回紋(參閱本書第十六頁至第十七頁)

1



2



**EXPLANATION OF
PLATE IV.**

(中英文說明見此頁背面)

PLATE IV.

All figures 1/3 of natural size.

Urns from the Hsin Tien A burial place.

All these urns (and also III:2) are made of a coarse, porous, grayish yellow ware*. Nearly all these vessels show on the bottom and, in some cases, over the whole vessel traces of a largely obliterated vertical cloth impression. The painting is mostly only in black, applied directly upon the raw and spotted surface of the ware. In one case (IV:2) a much improved effect was obtained by first laying out in red a bottom for certain bands and figures. Upon this bottom the figures were then painted in black lines and cross-lines.

Fig. 1. Height 95 mm., width (body) 150 mm., width (collar) 113 mm.

Fig. 2. Height 184 mm., width (body) 178 mm., width (collar) 105 mm.

Fig. 3. Height 172 mm., width (body) 146 mm., width (collar) 110 mm.

Fig. 4. Height 145 mm., width (body) 140 mm., width (collar) 93 mm.

Fig. 5. Height 156 mm., width (body) 150 mm., width (collar) 99 mm.

* In one case at least (IV:5) the ware is reddish in color, and a gray slip seems to have been applied to cover over the ruggedness of the red ware.

第 四 版

(各圖均按原式縮小三分之二)

辛店甲址葬地之陶甕。

此等陶甕(第三版第二圖亦在內)係粗鬆及灰黃色之陶質所構成*, 器之底部, 或器之表面, 常有縱行布紋之痕跡, 但大半則消失殆盡, 彩紋僅屬黑色, 直施於陶地之上, 如第四版第二圖, 其繪畫之法較佳, 蓋先塗紅色條紋及他圖形之底, 然後再加黑色之線紋及格紋也。

第一圖: 器高九十五公厘, 腹徑一百五十公厘, 口徑一百十三公厘。

第二圖: 器高一百八十四公厘, 腹徑一百七十八公厘, 口徑一百零五公厘。

第三圖: 器高一百七十二公厘, 腹徑一百四十六公厘, 口徑一百十公厘。

第四圖: 器高一百四十五公厘, 腹徑一百四十公厘, 口徑九十三公厘。

第五圖: 器高一百五十六公厘, 腹徑一百五十公厘, 口徑九十九公厘。

* 第四版第五圖之陶質係為紅色, 而其上之灰色彩衣, 似專為掩覆此紅色粗糙之地。



**EXPLANATION OF
PLATE V.**

(中英文說明見此頁背面)

PLATE V.

Figures 1 & 2 natural size. Figure 3, one half natural size.

All objects from the Chi Chia P'ing site in Ning Ting Hsien. (齊家坪寧定縣) (type locality of the Chi Chia stage).

Fig. 1 a. Outside of fragment of vessel with lug and attached parts of collar and body. Uppermost part of collar is decorated in impressed pattern exactly similar to the "Kamm-Keramik". The lug is decorated in horizontal impressed lines and in diagonal X-like rows of impressions. Upon the uppermost part of the body there are oblique lines of "Kamm-Keramik" impressions and further down to both sides of the lower part of the lug elevated ridges.

Fig. 1 b. Inside of the same fragment showing painting, consisting of three hanging triangles in violet red.

Fig. 2. Another fragment with lug and adjoining parts of collar and body. The lug is decorated with horizontal rows of impressions and with a mammary-like elevated dot at the centre. Collar smooth, but the transition zone between collar and body covered with oblique groups of "Kamm-Keramik" impressions.

Fig. 3. Amphora-like urn of whitish-yellow ware, thin-walled (3 mm.) with smooth surface.

Height 118 mm., width of body 85 mm., width of mouth 76 mm.

第五版

(第一圖及第二圖大小等於原式，第三圖則照原式縮小二分之一。)

寧定縣齊家坪遺址所產陶器 (即齊家期之模範址。)

第一圖: 有耳陶片之表面, 及其領與身之碎片, 領部最上處, 綴以壓花之圖案, 酷似康克拉米 (Kamm-keramik), 耳上亦綴壓成之平行綫紋及 X 式之斜交綫紋, 器身最上部, 下至凸耳之兩側, 均有康克拉米式之斜綫紋。

第一圖b: 陶片裏表之彩繪, 作紫紅色, 為三下垂之三角紋所組成。

第二圖: 另一有耳之陶片, 及其領與身之碎片。

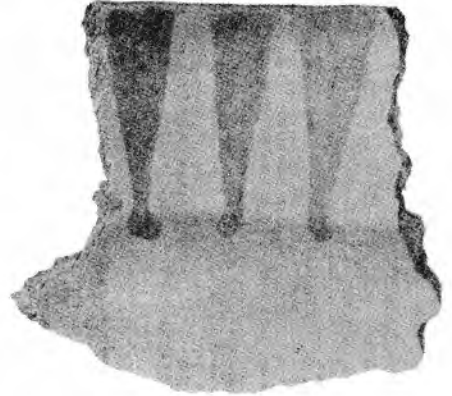
器耳綴有多數壓成之橫綫紋, 中心飾以乳狀突起之點, 領部平滑無紋, 身與領之交界處, 滿綴康克拉米式之斜綫紋。

第三圖: 安佛拉式陶甕, 陶質粉黃色, 器肉甚薄 (僅三公厘), 有平滑之面, 器高一百十八公厘, 腹徑八十五公厘, 口徑七十六公厘。

1a



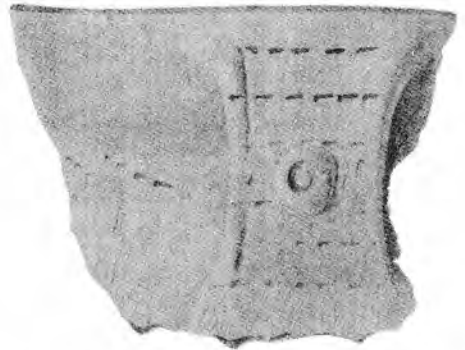
1b



3



2



EXPLANATION OF PLATE VI.

第 六 版

(各圖均按原式縮小四分之三)

仰詔期陶甕，出寧定縣，第一圖自半山區所得，第二圖自瓦罐嘴所得。

第一圖：器身之最闊處，見有大耳一對，另有具小孔者一對，位於高領之口部，（比較第三版第一圖），領上繪有橫行線紋，居中上部者黑色，其在領之底部者，則為紅色，二者之中更有直立之黑三角紋，器身上半，有連續之螺紋四，其組織與喪紋同（比較本書第二圖及第十三頁至第十四頁說明）即二紅條紋之中夾有一鋸齒之黑色帶紋是也，在螺紋之上捲處，中列多數有紅核之桃式圖形，器身有彩繪之下部，則綴以橫行波紋一道。

器高三百八十六公厘，腹徑三百九十一公厘，口徑一百二十九公厘。

第二圖：此器之形狀與裝飾，大致與第一圖者相同，但口低而寬，彩繪之下部，亦缺少橫行之波紋，器身綴有連續之螺紋四，組織亦與喪紋同，其紅色條紋之寬度，約與有鋸齒之黑紋相等，黑紋直貫入螺旋圖案之中心，領部裏面，繪下垂之連續曲條紋六（亦依喪紋之組織）。

器高二百九十九公厘，腹徑三百六十六公厘，口徑一百六十九公厘。

(For English explanation see other side of this sheet.)

PLATE VI.

1/4 of natural size.

Urns of Yang Shao stage, both from Ning Ting Hsien. Fig. 1 from the Pan Shan area, fig. 2 from Wa Kuan Tsui.

Fig. 1. With two big lugs just below the widest part of the body and two small lugs with very small perforations at the upper edge of the high collar (compare III:1).

Collar painted in horizontal lines, the uppermost and the middle ones black, the one at the base red. Between these lines standing black triangles.

Upper half of body painted in four confluent groups of spiral designs, the elements of which are the "death pattern" (compare fig. 2 and explanation page 13-14), narrow red bands and between them broad black bands with serrations. In the upper curls of these spirals there are groups of pointed, oval shaped "peach" like figures with a red "kernel".

At the bottom of the upper painted part of the vessel runs a horizontal wave-line.

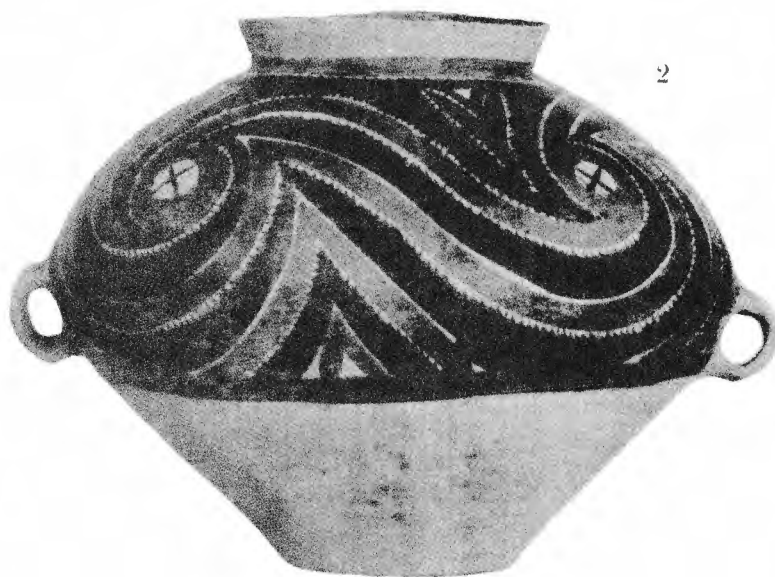
Height 386 mm., width of body 391 mm., width of mouth 129 mm.

Fig. 2. Shape of vessel and decoration much the same as fig. 1, but mouth low and wide and painting lacking the wave-line at the bottom.

Painting in four confluent groups of spirals drawn in the "death-pattern" element. The red bands (lighter on the figure) nearly as broad as the black serrated bands. Black crosses in the centres of the spiral designs.

The inside of the low collar is painted in six confluent, downwards bent bands of the "death pattern".

Height 299 mm., width of body 366 mm., width of mouth 169 mm.



EXPLANATION OF PLATE VII.

第七版

(各圖均爲原式四分之一)

仰韶期陶甕，第一圖出寧定縣瓦罐嘴，第二圖購買所得產地不詳。

第一圖：高領陶器領部之碎片，領之底部，繪有紅色條紋，其上爲直立之黑三角紋，其下爲黑色有齒之寬條紋，合觀之適與喪紋相符，此黑紋之下，更有三黑色同心之狹線紋，自此條紋，下至兩耳，有彎拱之曲線四組，每組復爲四黑線所疊成，而黑線之中，則另綴黑色寬條之紋（圖中淺色處），與兩耳相齊，則爲二橫行之直線，中飾波綫紋二道，均用黑色；腹徑爲三百四十二公厘。

第二圖：短領陶器，形式與第六版第二圖相同。

領部表面繪有黑色之波線紋，領底之下爲紅色線紋及黑色齒線紋所組成之喪紋，喪紋與器耳之間，則有依喪紋組織之方形圖八個，中實黑底圓形之陰紋四，與耳相齊爲一橫行線紋及一波行線紋，領部裏面，繪有連續之下垂曲條紋六組，結構與喪紋同，每二組之間，隔以一縱行紅色之直綫，下達領底。

器高三百二十五公厘，腹徑三百四十八公厘，口徑一百六十八公厘。

(For English explanation see other side of this sheet.)

PLATE VII.

1/4 of natural size.

Urns of Yang Shao stage. Fig. I from Ning Ting Hsien, Wa Kuan Tsui (寧定縣瓦罐嘴).

Fig. 2 obtained by purchase, locality unknown.

Fig. 1. High-collared vessel with only small part of the collar preserved. Red band at the base of the collar and, above this, standing black triangles. Below the red band is a broad black one, which, with its serrations together with the red band, forms the "death-pattern" element. Below the said black band three narrow black concentric lines.

From these concentric lines downwards to the lugs four confluent groups of arched lines consisting of repeated four narrow black lines (repeated in four groups) and between them broad black bands (lighter on the picture).

In level with the lugs is a zone consisting of two horizontal lines and between them two undulating lines, all black.

Width of the body 342 mm.

Fig. 2. Low-collared vessel of the same shape as VI:2.

Outside the collar is painted a black undulating line.

Below the base of the collar is a red and a black serrated line forming the "death pattern".

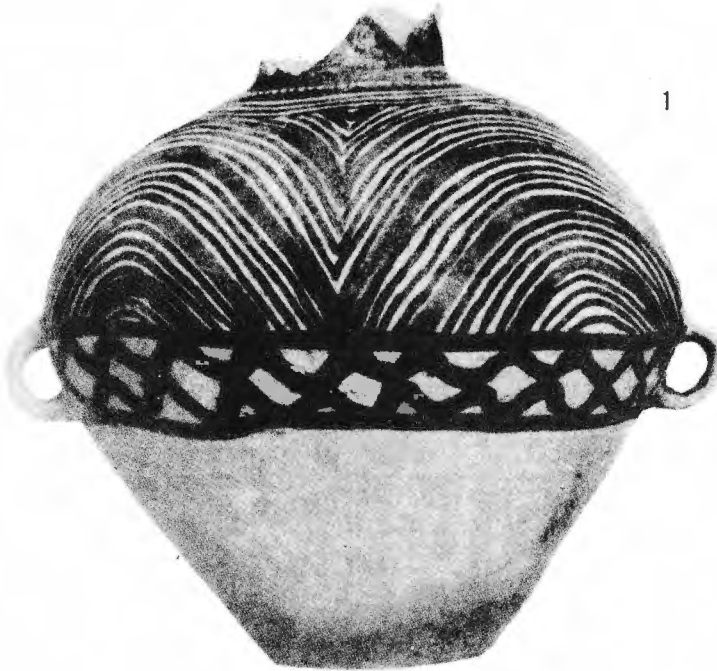
From these two lines downwards to the level of the lugs the space is occupied by eight groups of square figures framed in by the "death pattern" with central black painting which leaves bare four rounded dots.

In the level of the lugs a straight horizontal line and below it a wave-line.

Inside of collar painted in five confluent groups of downwards bent "death pattern" bands. Between each of these bands a vertical red line projects downwards to the base of the collar.

Height 325 mm, width of body 348 mm, width of mouth 168 mm.

(中文說明見此頁背面)



EXPLANATION OF PLATE VIII.

第 八 版

(各圖均爲原式四分之一)

仰韶期陶甕，購自狄道，產地不詳，想係半山區所出。

第一圖：陶甕之正面及側面。

第二圖：大口陶甕，形式與第六版第二圖及第七版第二圖同。

第一圖示領部裏面彩繪之情形，其圖案與第七版第二圖同，但大部消失而不明晰，領之外表有雙綫之格紋五組，領底部，接有同心喪紋，上爲暗紅條紋，下爲鋸齒狀之黑色條紋；同心喪紋與二耳之間，綴有瓶狀之圖形六組，亦依喪紋之結構（黑色有齒之紋在外，紅色條紋居內），瓶狀圖形之中，則實方格花紋，凡瓶與瓶之間又飾以黑底之橢圓陰紋三箇；吾人於此藉可想見仰韶時代之繪師，隨手繪畫，初不待陶器之周圍，分爲相等之六部，而與六瓶紋及其中空之部位相對應，瓶紋爲圖案之主要部分，故其大小，必當一致，但當第四瓶紋完全之際，該繪師始查及所餘地位不敷，因將中間之區域縮小，故最後者其中僅含一細長之橢圓紋也，器上有彩紋之部分，下爲一直綫及波綫所包圍，恰與第六版第一圖及第七版第二圖相似。器高三百四十五公厘，腹徑三百九十八公厘，口徑一百七十二公厘。

(For English explanation see other side of this sheet.)

PLATE VIII.

1/4 of natural size.

Urn of the Yang Shao stage, bought in T'itao, locality unknown, probably from the Pan Shan area.

Fig. 1. view from above of the same urn as that shown in side-view *Fig. 2.*

Wide-mouthed urn of the same shape as VI:2 and VII:2.

Fig. 1 shows how the inside of the collar is painted in five groups in the same design as VII:2, but in this case the painting is largely destroyed and obscure.

Outside the collar there are five groups of double cross-lines.

Below the base of the collar there is a concentric "death pattern", consisting of an upper dark-red band and a lower serrated black band.

From this concentric "death pattern" downwards to the level of the lugs then are six groups of flask-like figures, framed by the "death pattern" (black serrated band outwards, red band inwards). The interior of the "flasks" is filled with trellis pattern. Between the "flasks" are paintings in black leaving bare three large pointed ovals.

It is interesting to see how the artist of the Yang Shao time worked entirely by free hand without first dividing the circumference of the vessel into six equal parts to correspond to the six "flasks" and their interspaces. The "flasks", being the essential part of the design, are all of the same width, but when the fourth group was made, the artist noticed that there was too little space left, and so he narrowed down the interspaces so that the last one shows only one of the pointed ovals.

The painted area is bounded below by a straight and an undulating line just as VI:1 and VII:2.

Height 345 mm, width of body 398 mm, width of mouth 172 mm.

(中文說明見此頁背面)



21

EXPLANATION OF PLATE IX.

第九版

(第一圖爲原式四分之一，第二圖及三圖爲原式三分之一)

第一圖：仰韶期陶器，出碾伯縣彌勒溝黑土莊。

第二圖：馬廠期陶甕，購買所得產地不詳。

第三圖：此甕時代未定，但似與仰韶期相近，購買所得，產地不詳。

第一圖：短頸外部，繪有黑色之橫行綫紋，其下稍遠，另有黑色條紋一，二者之間，實以短斜之線，再下則分列棋盤圖案四組，此四組圖案，其隔離之情形，各各不同，兩耳之下，更有縱行之綫紋四，其兩旁與紅黑色之直條紋爲鄰，後者與棋盤紋之間，則以齒紋相連，(此則圖中所不能察見)，兩耳間之正中，另有簡單之花紋，圖中完全顯露，此花紋爲紅黑色之縱行條紋所構成，其兩側則含接於棋盤圖案下垂之齒紋，此器有紋部分，下爲一黑色橫線所包圍。

器高一百五十八公厘，腹徑二百三十六公厘，口徑一百四十八公厘。

第二圖：此器彩紋，爲紅黑色，圖案較爲粗率，參以其他同式之器，似爲一種流爲風上之人形花紋，其在底部之橫行綫紋及波形綫紋，使吾人回憶仰韶陶甕之彩繪(第六版第一圖，第七版第二圖，第八版第二圖)。

器高三百二十六公厘，腹徑二百四十六公厘，口徑一百零七公厘。

第三圖：彩紋爲暗紅色，其圖案之各部，圖中皆可察及，自底部所綴之螺紋及波紋，使吾人回憶仰韶之圖案。

器高二百四十三公厘，腹徑二百二十四公厘，口徑九十七公厘。

(For English explanation see other side of this sheet.)

PLATE IX.

Fig. 1. 1/4 of natural size. Figures 2. & 3. 1/3 of natural size.

Fig. 1. Vessel of the Yang Shao stage from Nien Po Hsien, Mi La Kou, Hei T'u Chuang (碾伯縣彌勒溝黑土莊).

Fig. 2. Urn of the Ma Chang stage, obtained by purchase, locality unknown.

Fig. 3. Urn of unsettled age, probably nearly allied to the Yang Shao stage, obtained by purchase, locality unknown.

Fig. 1. The outside of the very low collar is painted in a black horizontal line from which oblique short black lines extend to another broad, black horizontal band, below which there are four fields of chess-board pattern.

These four chess-board fields are separated from one another in two different ways. Below the two lugs there are four vertical lines bordered on each side by a reddish black vertical band, connected with the broad black chess-board frame by means of serrations from the latter. (All this pattern is invisible in the figure). Halfway between the lugs there is another simpler pattern fully shown on the figure. This is a vertical, broad, reddish-black band, from both sides receiving serrations of the broad black frame of the chess-boards.

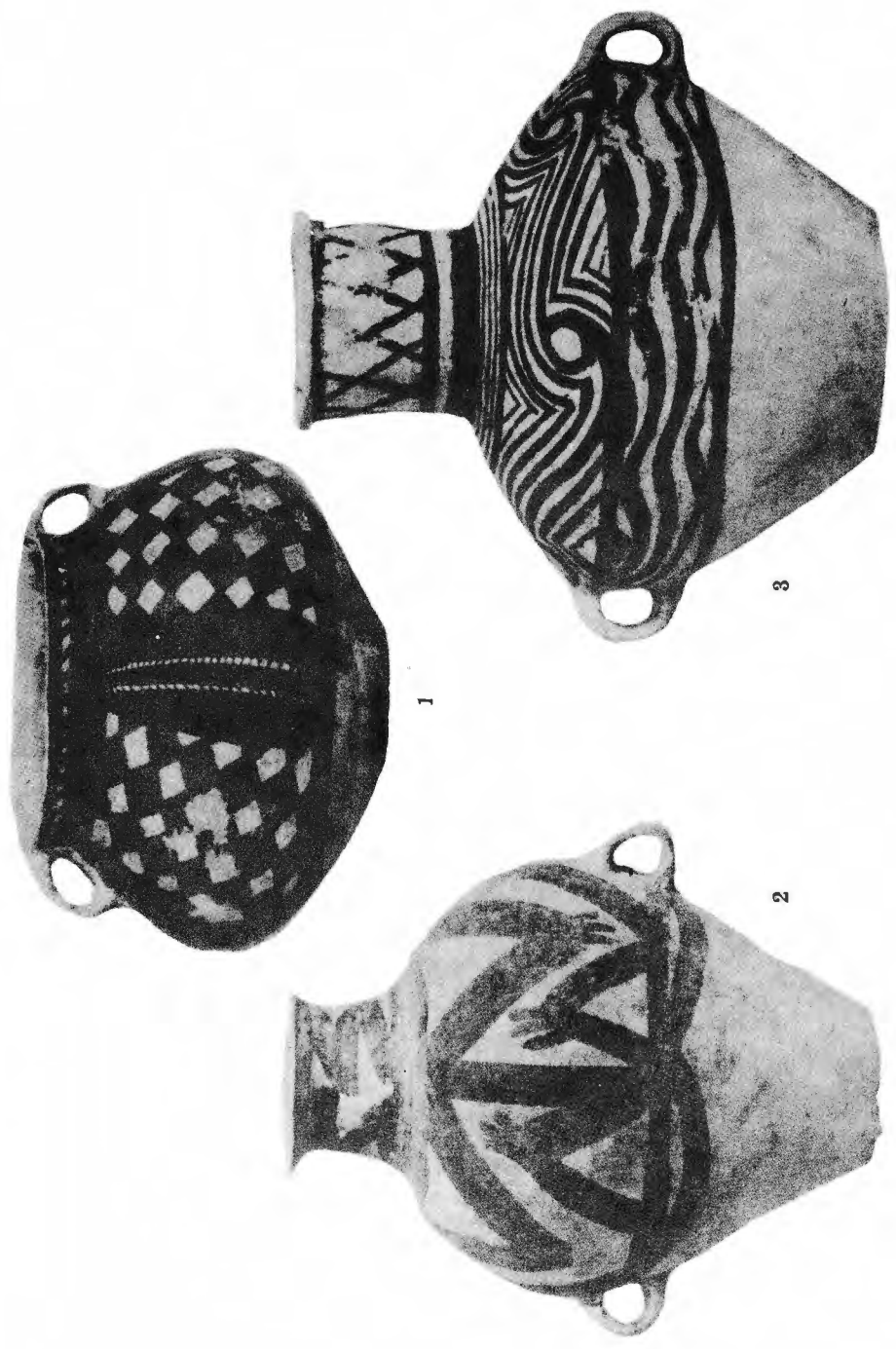
The painted area is bounded below by a horizontal black line.

Height 158 mm, width of body 236 mm, width of mouth 148 mm.

Fig. 2. This vessel is painted in a reddish black color, in a coarse design, which, to judge from other specimens, might be of very strongly conventionalized anthropomorphous origin. The horizontal line and wave-line at the bottom remind us of the painting of certain Yang Shao urns (VI:1, VII:2, VIII:2)

Height 326 mm., width of body 246 mm, width of mouth 107 mm.

Fig. 3. is painted in a dark reddish color. The design, which is in every detail visible on the figure, reminds us of the Yang Shao patterns because of the spirals and the wave-lines at the bottom. Height 243 mm, width of body 224 mm, width of mouth 97 mm.



**EXPLANATION OF
PLATE X.**

(中英文說明見此頁背面)

PLATE X.

Fig. 1. 1/4 of natural size. Fig. 2 & 3. 1/2 of nat. size.

All these pots are from Ti Tao Hsien, Ssu Wa Shan (狄道縣寺窪山), type locality of the Ssu Wa stage. Fig. 1 is derived from our own excavation Skel. 7, pot 2. Fig. 2 & 3 were obtained by purchase from the villagers.

Fig. 1. Ware reddish, rather coarse. Surface smooth. The mouth is saddle-shaped as seen from the side and oval as seen from above, as is also the body of the vessel.

Height 367 mm., width of the body, long diameter 30 mm., short diameter 281 mm., width of mouth, long diameter 242 mm., short diameter 215 mm.

Fig. 2. Small pot of the same general shape as fig. 1 but with indented ridges, vertical upon the lugs and horizontal between the lugs. Ware reddish gray, surface rough.

Height 148 mm., width of body, long diameter 128 mm., short diameter 121 mm.; width of mouth, long diameter 100 mm., short diameter 90 mm.

Fig. 3. Li-tripod of a special species with bulbous legs, characteristic of the Su Wa stage. Ware coarse, brick-red. Surface rough. An indented ridge between the two legs upon which are fixed the two lugs.

Height 114 mm.

第十版

(第一圖爲原式四分之一，第二圖及第三圖則爲原式二分之一。)

此等陶器，均自狄道縣寺窪山所得(即寺窪期之模範址)，第一圖爲吾人親身探掘，第二圖及第三圖則自村人購買。

第一圖：陶質紅色，略粗，表面光滑，口部側面作馬鞍形，自上視之，則爲卵形，其體亦如後式。

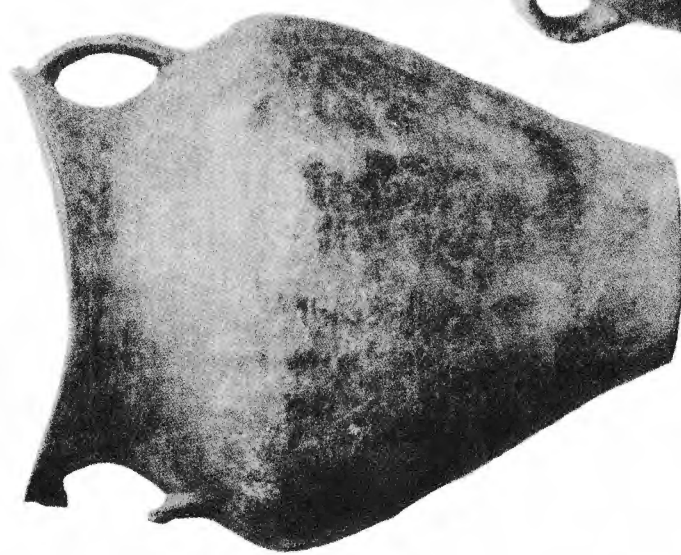
器高三百六十七公厘，腹部長徑三百零二公厘，短徑二百八十一公厘，口部長徑二百四十二公厘，短徑二百十五公厘。

第二圖：器形與第一圖相同，但不如上圖之大，且耳上有犬牙狀之直凸紋，耳間有犬牙狀之橫凸紋，陶質灰色，表面粗糙。

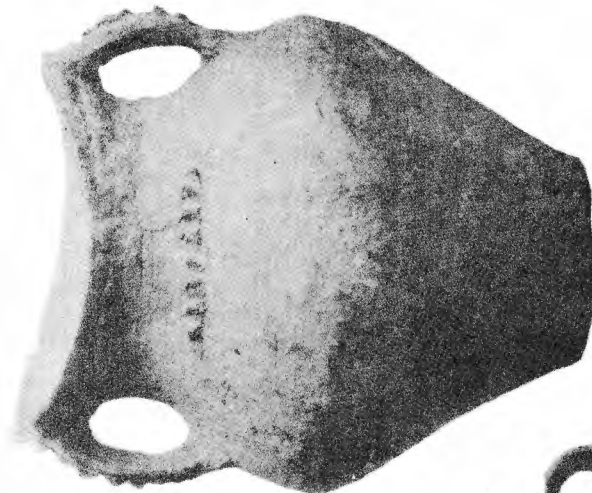
器高一百四十八公厘，腹部長徑一百二十八公厘，短徑一百二十一公厘，口部長徑一百公厘，短徑九十公厘。

第三圖：寺窪期特式之大足鬲，陶質磚紅色，但略粗，表面不平，兩足間有犬牙狀之凸紋，上接兩耳。

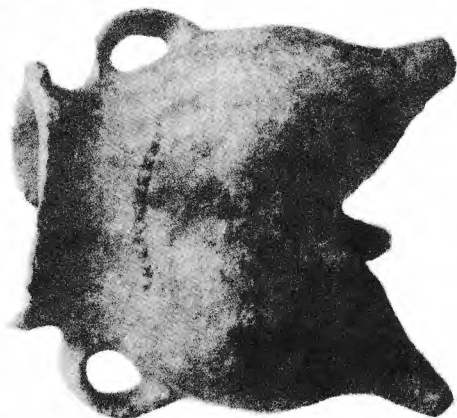
器高一百十四公厘。



1



2



3

EXPLANATION OF PLATE XI.

第十一版

(第二圖爲原式，第一圖縮小二分之一，第三圖至第六圖縮小三分之二。)

本版器物，均出鎮番縣沙井之南葬地，陶質紅色，略粗，第六圖所示則富於黃色之雲母質，陶器如第三及第五圖所示者其上一部塗有紅彩，他如第一圖及第二圖之陶器，則綴以紅色美麗之花紋，但施有黑色彩紋者，終無所見。

第一圖：陶質之一部，其上半繁複之圖案，頗爲美觀，係橫行線紋，或垂或立之三角紋，成列之角紋鳥狀形帶紋等所組成。

第二圖：繪有同心圈紋，縱行線紋及鳥形帶紋之陶片。

第三圖：大耳之瓶狀陶器，器之下部，及耳之外部，均塗有紫紅色之彩衣一層。
器高一百十五公厘，腹徑九十公厘，口徑七十六公厘。

第四圖：筒狀陶器，上有器耳下部之跡，腹徑爲一百零六公厘。

第五圖：有二高耳之陶器，兩耳間之稍底處即器身之最闊處，見有突出之小凸紋二箇，器耳底部，綴一連續而不規則之闊溝紋，器身上部平滑，但施有紅色之彩衣，器身下部，則清晰之布紋，特爲顯著。

器高一百六十二公厘，腹徑一百三十九公厘，口徑一百二十五公厘。

第六圖：破碎不堪之陶器，其上有耳，耳上穿有細孔，僅容一線，器身上部，露有紅色之彩衣，下部則有布紋。

PLATE XI.

Fig. 2. Natural size. Fig. 1. 1/2 of nat. size. Figures 3-6. 1/3 of natural size.

All these objects came from Chen Fan Hsien, Sha Ching, South burial place. They are made of a reddish, coarse ware which in one case at least (fig. 6) is rich in yellow mica. Some of the vessels, like fig. 3 & 5 are partly covered with a red slip. Others (fig. 1 & 2) are painted with red in beautiful designs. No black painting was ever encountered on these vessels.

Fig. 1. Part of a vessel, the upper portion of which is painted in a complicated and beautiful design, consisting of horizontal lines, standing and hanging triangles, a row of angular figures, and another row of bird-figures.

Fig. 2. Pot-herd painted in concentric and vertical lines and a row of bird-figures.

Fig. 3. Jug with large and broad handle. The lower part of the vessel and the whole outside of the handle covered with a violet red slip.

Height 115 mm., width of body 90 mm., width of mouth 76 mm.

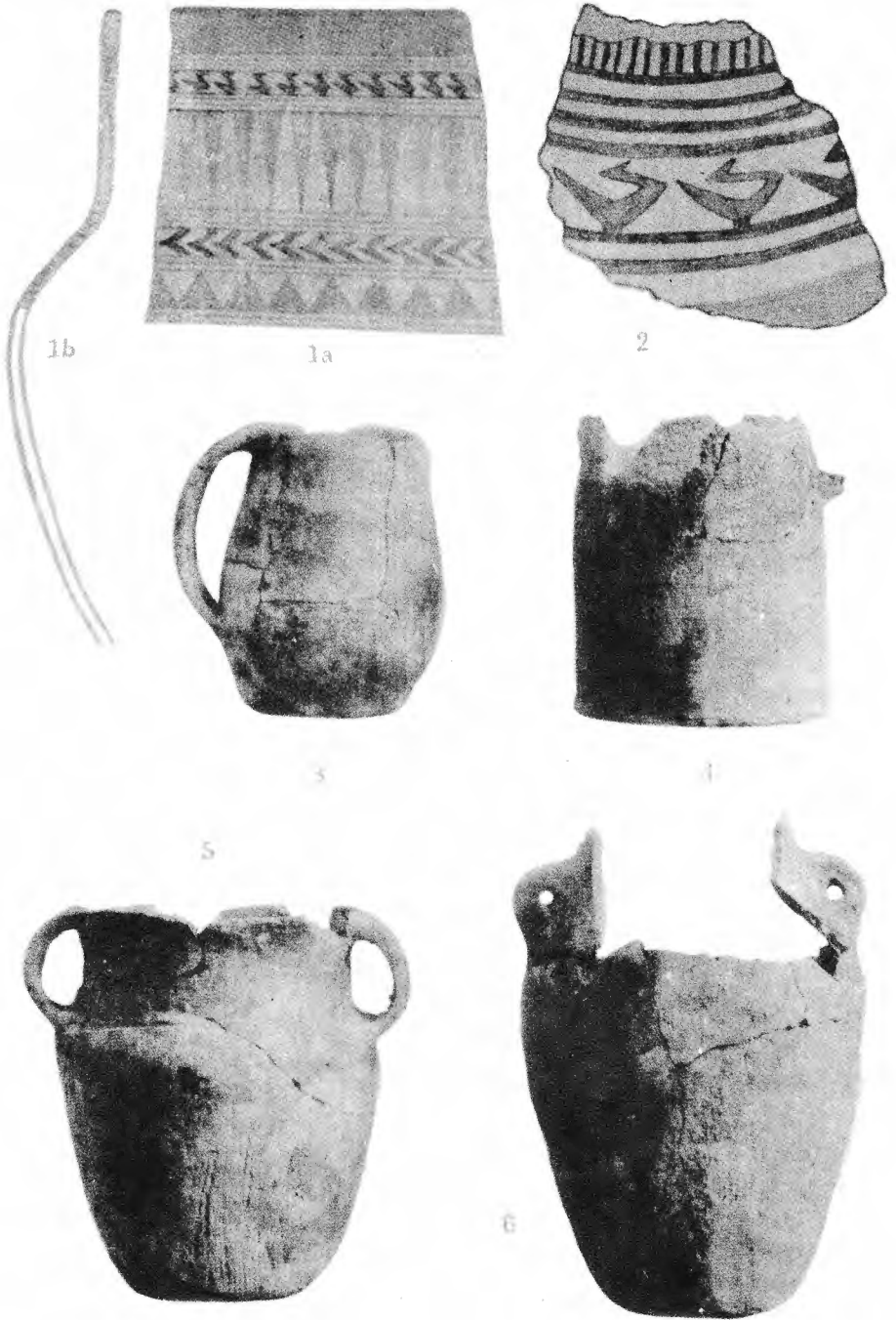
Fig. 4. Cylindrical vessel with trace of the lower part of a lug. Upper part unknown. Width 106 mm.

Fig. 5. Vessel with two high-seated lugs and between them, but somewhat lower, on the widest part of the body, two small protuberances. At the base of the lugs there runs round the vessel an irregular broad furrow. Upper part of vessel smooth, covered with red slip.

Lower part shows very distinct cloth impressions.

Height 162 mm., width of the body 139 mm., width of the mouth 125 mm.

Fig. 6. Very fragmentary vessel with lugs with very small perforations fit only for a string. Indication of red slip on the upper part, cloth-impression on the lower part.



甘肅考古記校正

葉 二 九 一一 一五 一九 二四 二四 三五 三五 三七 三七 三八 四〇 四三

行 一 六 第一第三圖說明 一二 三 四 四 九 一〇 一〇 一三 一三 一三 一三 一三 三

格 二六 一四 六 八 二 九 三 三 三 三 三 三 三 三 三 三

誤刊 積 藍 周 下 人由吾 夏 三 正 細 異 古 確 文 頤

校正 極 籃 朱 卡 吾人由 商 商 亞 符 方 繁 其 頤 此字應刪去

甘肅考古記

導言

安特生原著
樂森璠譯意

中國地質調查所對於中國遠古歷史之探考，於民國八年即著手進行。彼時已於華北各地，屢次發見石製器物。大略結果，著者已於次年仲春，在人類解剖學會及醫藥學會開會時有所論述。

當吾人調查之初，即於河南仰韶村發現遠古器物極夥。此當爲遠古人民居住之遺址。至一九二一之秋，著者始依法作統系之考查，及大規模之發掘。同年孟夏，又於奉天西南沙鍋屯小洞穴中，發見與仰韶相近之文化層。此洞穴層已經完全採掘。並於一九二三年，刊有專著，詳論此地形、地層及器物諸事。至於洞穴中所得之人類遺骸，則步賴克博士另有報告，現已付梓。此二著，皆印于地質調查所出版之古生物誌中。余於奉天及河南之所獲，略加評論，並著一文曰『中華遠古之文化』（見地質彙報第五號）。至仰韶村及河南其他各地所得之彩色陶器，阿恩博士又有專著論及之，現亦在刊印之中。

上述各文所論之遠古文化，統稱仰韶文化紀。蓋該村所獲器物，最爲顯著，而又可爲日後比較之標準也。仰韶諸器物，大抵屬於新石器時代之末期。蓋在余等大規模之羅掘中，從未發現金屬器物之跡。更有言者，內中之單色及彩色陶器，尤爲特徵，使余不能不信爲新石器時代末期所遺留。蓋適在新石器時代與金屬時代之過渡期也。

仰韶文化紀所遺器物中，如石斧、尖利骨器等，皆爲新石器時代所常見，並無何等地方特性。更有其他遺物，如半月式及長方式石鏃等，則于東亞及哀斯基馬民族所居之地，最爲普遍。致使學者視爲蒙古族之祖先所遺。

又單色陶器中，如陶鬲、陶鼎、瓦甗等，與中國商周之銅器，其關係積爲明瞭。謂爲此等銅器之雛形，亦未始不可也。

最能引人注目者，莫如仰韶器物中之彩色陶器。其形式製作，顯與新石器時代及金屬時代之過渡期中所遺留者，極爲相似。此等陶器，吾人自地中海東部、俄羅斯西南部，及近東諸部（如西西里梯薩利、脫里波留、蘇薩亞諾等）所獲，可得而徵也。拙著『中華遠古之文化』中，余不僅以仰韶所得彩色陶器，徵諸亞諾所出，並涉及其來自蘇薩者。蓋彼時已預得英倫諸大考古家如何僕生先生等之專家意見，補余見識之所未及也。

與國考古學者佛耶池博士，嘗論余著，而更考仰韶文化與近東諸遺址之淵源。又以亞諾及美索不達米亞採掘所得，兩相比較。遂得于仰韶文化之年代，有所考定。此問題余當於下章詳述之。

晚近阿恩博士，于其精心之論著中，對於仰韶遺址所出之彩色陶器，與近東諸地如伯魯奇斯坦之若布谷，及蘇薩附近之太僕茂宣所出者，詳勘其關連之處。此等區域，當余作『中華遠古之文化』時，猶未及知也。

但佛耶池及阿恩博士之論著，未出以前，吾人已覺近東與遠東遠古陶器關係甚密。河南古址與近東古址之間，必有其連接之跡。中國西部，如甘肅蘭州附近，其地形上之特點，往往有極肥沃之河谷。詳加搜尋，可望發見新石器末期文化遷移之證明。

此次甘肅考古，爲期二年（一九二三至一九二四）。足跡所涉，幾及甘省大半。所得結果，頗出意料所及。蓋不僅器物豐盈之仰韶紀遺址，爲吾人所獲，而多數前古未聞之重要葬地，亦竟發現。其中完整之彩色陶甕多件，類皆精美絕倫，可爲歐亞新石器時代末葉陶器之冠。

除於仰韶文化更爲闡明者外，又得一遺址於齊家坪。此中絕無彩色陶器之跡。但美麗之單色壓花陶器，極爲特別。余視此等遺物，似較仰韶者爲早。其理由容後說明之。仰韶時代以後，又有數文化時期，漸有紫銅及青銅之器物。並可以陶器種類之異同，以爲之別。就中以辛店期及沙井期，似最重要。

甘省考古之結果，共得遠古文化時期有六。雖各期先後不能完全無疑，其絕對年代，尤只能知其概略。然大致言之，甘肅所得古跡，其時代當在西歷紀元前一千七百年以前，乃至紀元前三千五百或三千年以後。此種結論，僅屬預測。蓋一九二三至一九二四年中，採集所得，目下尙未完全研究。而此初步調查之推測，尤必再有勘查，始能有所證明。惟前此所得資料，似當先行盡量發表。此篇其初步也。至凡實地觀察所得，當于中國古生物誌丁種中，附以圖表、照片及各期所得器物之說明發刊之。同時各種陶器及遺物，又當另有專著討論之。至余之旅行日記，當于地形記載中附載之。

余於此，不能不誌謝農商部歷任諸總長、鑛政司林大閻司長、地質調查所丁文江及翁文灝所長。准余作此純粹科學之事，並予以熱心之資助。甘肅陸洪濤省長及其屬僚，使余得旅行上之便利，尤覺銘感。又瑞典科學研究會及該會會長瑞典皇儲，給余經濟上充分之補助，至數年之久，尤使余深表謝忱。袁君復禮、任辛店測繪之勞，又嘗與余合作一部分考古之事，茲並誌謝。

住址與葬地

所謂住址者，乃古代村落之遺址。常例除陶器之破片或其他遺物之存在外，在地面全無何等標識可見。遺址地基，亦無踪跡可尋。想係此等古族，極喜奠居於黃土之中，以其性鬆易掘，而其後隨即消滅也。窖基古址，在貴德

縣之羅漢堂發見一處。想爲製陶器之用，但亦屬仰韶紀。

土壁之爲防禦用者，僅見于沙井期之遺址中。此種土壁存在之理由，蓋因居處地勢平坦，缺乏深谷爲其天然之保障。他如辛店期之會嘴遺址，則多見于河谷中階段式之土臺上。故無土壁之需要矣。

遠古村落之遺址，多爲厚薄無定之殘物層所構成。卽木炭之餘燼、陶器之破片，並其他遺物等。此等村落古址之特徵，在大多數之陶器與遺物，皆極不完整。其完整者，僅限於縫針、及飾珠等小件。蓋爲彼等所遺失而未及尋覓者也。其餘大件遺物，類多破壞不全。陶器則僅零星之碎片耳。此等器物，當完整時，自必加意愛護。一俟破壞，則投諸廢物堆中矣。

此等村落遺址所見陶器之殘破狀況，若與葬地遺址中完整之陶甕相較，則其差別，大可明瞭。余之所謂葬地者，蓋須以探掘所得者爲衡。尤須明瞭此中並無何種石質之裝置，亦無何種棺槨之痕跡。但僅有一人體遺骸，外附殉葬之陶甕一枚或數枚，石器骨器數件，而年代較晚，文化較高者，則稍附有金屬器皿若干耳。

葬地情形，大致相同。死者仰臥地中，頭均北向。有時身體亦有俯臥者。亦有頭都向西或他方者。最奇者，莫若寧定縣半山附近仰韶紀之葬地二處，其中人體蜷伏，向左側臥。其他與常例不符者，尙有辛店之葬地遺址。其中人骸作臥仰姿勢，但不成水平，自頭至足，約成二十度至二十七度之角度。

遺址地形

吾人由地形觀察所得，分遺址爲下列五項。

(一) 青海沿岸遺址。

(二) 河谷遺址。

(三) 四時定葬地之遺址。

(四) 半山區葬地之遺址。

(五) 鎮番西部沙漠中之遺址。

青海沿岸遺址。當吾人作此鹽湖之旅行，發見遠古陶器之破片多處，但具有村落遺址之特徵者，共得二處。其在湖之東端者，尤堪注意。湖之南岸，頗有多處，適於地形上之觀察。余曾見舊時之湖岸，高出近代湖面約三公尺。湖之東端，此舊岸高出今水面六公尺，此外更無其他湖面擴張之跡。此等舊時湖岸，構成一種極低平而明顯之山脊。山脊之頂，則文化層在焉。層中多陶器及石骨各器。是則青海水面，自文化層構成以後，其漲落固甚微也。可知青海四千年來，其舊時湖面高出現代者，至多僅六公尺而已。此種觀察，對於中亞細亞氣候變遷上之研究，實可爲一重要之參攷。

河谷遺址。吾人採掘古物之地，大都致力於以下三大肥沃之河谷中。即貴德盆地之黃河谷，西寧河谷，及洮河河谷是也。考遠古殖民，多喜就此佳麗之河谷，尤以仰韶時代及辛店時代爲甚。蓋彼時谷中林木暢茂，禽獸繁多，而牧蓄與種植等事，亦可得極良好之機會故也。但欲詳知河谷遺址之位置，須先明瞭甘肅河谷之生成。就中洮河河谷，則余知之最稔，因取爲例。（附圖第一版第一圖）洮河流域中，其舊時河岸，原較現代者頗高。可由其高出現成河面五百公尺之侵蝕平原判斷而知。但時日既久，此種侵蝕平原所受垂直之剝解愈深。今所見之山嘴及階段，即由河面次第降落所遺留也。階段之最古者，與侵蝕平原之距離，並不甚多。（階段最明

顯者，可于附圖第十二版第一圖中之切面見之。至較高之階段，則尙未詳測。其年代最近，而位置最低之階段，僅距現時河面約十公尺。此種新階段，有多處現尙正在生成之中。在蘭州附近之黃河河谷，此類位于十公尺左右之階段，亦頗發達。沿河見有木製水車多具，蓋即爲灌溉此十公尺階段之沃土而設者也。於最高階段，及最低階段之中，又有一階段，位於河面五十至一百公尺之處。此期階段，在洮河流域中，最稱顯著。河之東岸，此種階段，竟可延至數十里之長。此階段之下，爲肥沃之近代河床。（十公尺之階段，並在內）。水利甚豐，其上則地勢崎嶇，土壤乾燥。上下肥瘠，判別至爲清晰。就地文上論之，此五十公尺至一百公尺之階段，大致與較低之馬蘭階段相似。馬蘭階段者，（詳見北京西山地質誌）余認爲北京西山地文上之特點。而此洮河之重要階段，亦不憚以馬蘭名之。然北京與甘肅相距甚遠，則西山之馬蘭階段，與洮河五十公尺至一百公尺之階段，是否絕對同時，則亦不敢必也。於此飽受剝蝕之馬蘭階段，吾人多數之遺址，盡於此上得之。凡黃河河谷及西寧河谷所得，亦莫不皆然。附圖第十二版第二圖所示，爲貴德盆地仰韶期之遺址。第三圖所示，爲洮河河谷辛店期之遺址。此皆可爲遠古人民居住習慣之特例。此外遺址，亦有得自較馬蘭階段爲低之其他階段者。如貴德諸遺址中，亦有極近河流之處。由此吾人可推想現代地形之主要特點，與五千餘年以前仰韶期人民所住之地，其差異固不甚大也。雖馬蘭階段峭壁之成，爲時較晚，甚至其階段之前部，亦爲河流由側面所侵蝕。但全部地形，與仰韶時代者，實甚相似。至若會嘴遺址，在當時已被侵蝕，成一孤島。彼時所以被選爲居息之所者，蓋以其峭壁環立，形勢險峻，可資防禦也。余深願讀者注意此點，因河南仰韶村之情形，與此頗不相類。如仰韶村及不招寨之遺址，常建于傾斜極微之平原上。在此等文化層構成以後，始有垂直侵蝕之期。發生多數四十餘公

尺深之溝道。今者由甘肅考古所得之新經驗，始覺僅就仰韶村及不招寨之觀察，似不應遽作一般之結論。且吾人異日若更作河南考古上之研究，則仰韶期之遺址，與甘肅地形之相似者，未始無發現之可能也。

四時定之葬地遺址。在洮河西岸，與導河縣城隔岸相對者，見辛店期之葬地一處。於地形上顯有重大之意味。爲貴德紅色層所成之邱陵，在此處高出河面約三四百公尺。山旁有險峻之山嘴，突入河中。此險峻山嘴之脊，則所謂葬地者在焉。其高處超出河面約七十六公尺。此址崎嶇難行。東與懸壁爲界，西與陡坡相接。南北則深溝環繞，其地則風日侵凌，辛店期之民族，獨擇此荒僻之地，爲彼等埋骨之所者，蓋以其氣勢雄壯故也。四時定葬地之位置，適介於馬蘭階段之遺址，及山巔葬地之間。後者情形，即當於下項詳述之。

半山區之葬地遺址。寧定縣屬洮河河谷之西側，見仰韶期之葬地（附圖第十二版第二圖），位於侵蝕平原所成之山頂。此等葬地，多見於八羊溝深谷之北，而向洮河河谷。葬地全部，統名半山區，蓋從半山名也。除半山所見之葬地，此外如半山東一千七百五十公尺之邊家溝，半山北二千一百公尺之王家溝，及半山西南一千八百七十五公尺之瓦罐嘴等處，均於頂部發現葬地。但似皆以半山爲中點也。以上所舉四處葬地，大都自山頂得之，吾人前已言之矣。但此類山頭，皆古代侵蝕平原殘餘之所成。其頂部高出八羊溝者，計四百公尺，高出洮河河面者，計四百五十公尺。半山及邊家溝之葬地，皆位於小山頂部。但瓦罐嘴所見者，則在斜坡之上，其西南面則適當八羊溝之深谷矣。上述各處葬地古址，大有居高臨下之勢，舉目遙矚，周圍可及五十里之地。是則此種形勢雄闊之位置，採爲葬地，豈偶然哉。至與此相關之村落遺址，則吾人尙未發見。以理度之，當在洮河河谷中，馬蘭階段之上。誠然，則死者由其住處，以至葬處，至少須搬運十五里之遙，且須高升至彼等村落四百公

尺之上。

鎮番西部沙漠中之遺址。鎮番縣者，實一巨大繁盛之沙漠城也。有一河來自南山之麓，經涼州之東北，流入沙漠。鎮番西部之沙漠中，吾人所見之遠古遺址，爲數甚夥。據余個人研究所得，蓋爲遠古文化之最晚者，因名之曰沙井期。沙井者，爲鎮番西三十里之小村。吾人所見之村落遺址三處，葬地遺地二處，其地皆爲沙丘湮沒。但此等沙丘，當發生於古址之後，自無可疑。然於古址不遠之處，現代居民，亦有多所。故此種情形，亦不能認爲沙井期後，氣候變遷之證也。沙井遺址，皆在平地。住處周圍，常有土牆遺跡。

甘肅遠古器物各論

自阿思博士研究河南彩色陶器之結果，可見吾人所討論之遠古文化，其器物對於中國歷史之上古各代，關係較少，但與近東石銅器時代過渡期之遺物，則相似之點頗多。是以吾人在甘肅所採集者，殊覺有運赴歐洲研究之必要。蓋彼處既有圖書館及博物院之便利，且有多數考古家之指點襄助也。

此次甘肅考古之經費，統由瑞典科學研究委員會及該會會長瑞典皇太子熱心籌集。中國政府因欲酬其協助之雅，允將採集所得之一部份，分贈瑞典。瑞典國立考古博物院，將予著者以各種研究之便利，允許著者，於來年在該院詳細研究。或將所得資料，分配於多數專門家，分別考證。至甘肅所見之文化期，依其相承之跡，說明如次。

在未經運往瑞典之前，已先以可以代表各時代之標本，提出陳列於地質調查所之陳列館。俟運往瑞典者研究完畢，運寄回京後，更將充分展覽。本篇所述之大部份，係先就地質調查所現已陳列之器物，作爲根據，藉便

考覽。

齊家期、此期爲多數小件之器物所代表，例如洮沙縣新店丙址之所獲，及寧定縣齊家坪遺址巨大之文化層。所謂齊家期者，卽從該地名得名。但齊家期之遺址均爲村落古址，至葬地遺址，則尙未見焉。

此期所產石器，大致與仰韶期者相同，內中多研磨之石斧及石鏃等，亦有各式尖銳之骨器。齊家期之陶器，全屬單色，可別爲以下三大類。

(一) 灰色陶質上綴簾紋，或壓成藍紋之陶器，其表面與河南仰韶遺址中之數種陶器相似。(請比較『中華遠古之文化』第十六版第一圖及第七圖)

(二) 灰色陶質之陶器，大部與前類相似，但領及耳則滿綴壓成之美麗花紋，有時器之多部，亦復如是。(第五版第一圖及第二圖，此種壓花陶器，與出自西伯利亞及北歐所謂之康式陶器，(Kamm-Keramik) 卽一種陶器，其花紋頗似以梳齒所壓，而成多數行列之點。) 關係極爲切近，以其花紋製作酷似故也。(請參閱阿利俄氏之著作，*Aillo-Fragen der russischen Steinzeit*, *Zeitschrift der finnischen Altertumpsgesellschaft* 第二十九卷第一號第十四圖及十五圖)

(三) 形式秀麗之薄肉瓶 (第五版第三圖) 係淺灰黃色之陶質，此器領部頗高，表面光滑，有大耳二，就全體而論，頗與希臘及羅馬古代之安佛拉 (Amphora) 一種兩聯底瓶，有幾分相類之處。此種類似安佛拉之薄肉高領瓶，爲吾人採掘所得者，其數較少，但大件之標本，均係購買而得。

仰韶期、甘肅所見仰韶期之古址，爲數極夥，其中村落遺村及葬地遺址，吾人均有發現，

甘肅仰韶古址中之石骨各器，就全體而論，與河南者相似，但細察之則微有不同。最明顯者，如河南常見之矢鏃，其爲骨貝及板岩所製之品，則甘肅極爲稀少。

河南稀見之飾珠，在甘肅則甚夥，據此及其他情形，覺甘肅之仰韶與奉天沙鍋屯仰韶之關係，當較河南者爲近。

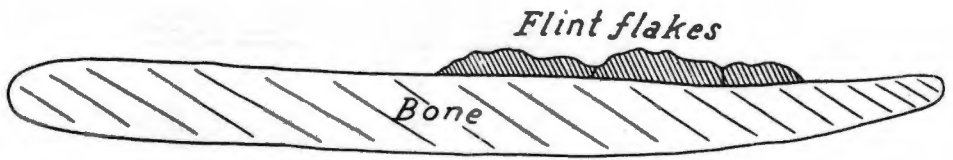
最足引人注意者，莫如仰韶期之墓地中，發現曾經琢磨之玉片及玉瑗數件，其形質吾人常認爲來自新疆和闐者也。解說者謂甘肅石銅器時代過渡期之民族，與新疆似有貿易上之連絡，但就吾人所知，仰韶期之民族，缺乏金屬，則彼等竟能製作脆薄如瑗，堅韌如玉之器物，寧不足怪耶。

甘肅之古址中有小族器物，爲河南所從未見及者，如多數之骨刀，其上切口，爲薄片之燧石鑲嵌而成。（第十頁插圖第一圖所示）

甘肅仰韶期之陶器，其與河南異者，爲單色之粗陶器，極不豐富，而陶鬲、陶鼎之屬，則幾付闕如，但無論如何，此種陶器實非常之稀少也。

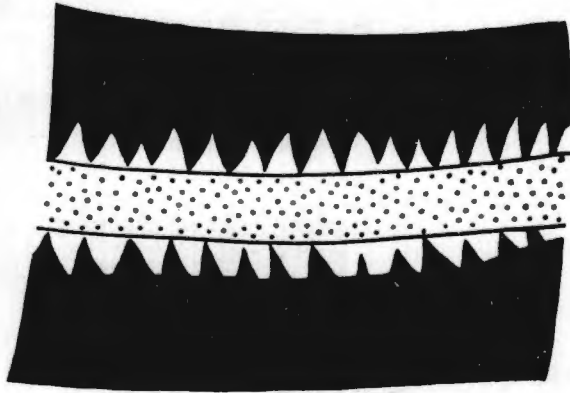
至村落遺址之彩色陶器，則與河南者之關係，極爲密切，雖其陶質之色，較模範址仰韶村所出暗紅之陶片稍淡，但其上之花紋，實多爲相同之圖案也。如河南之陶碗等，即可爲例。惟甘肅家用之陶器，其內部，則另有彩紋之特點。

吾人於仰韶村之葬地遺址中，見殉葬之器，頗不豐饒，而甘肅之墓地則異是，其中大件之殉葬陶器（第六版至第八版）類皆輝煌華麗，確可爲石銅器時代過渡期中，陶器之藝術，放一異彩也。至其表面之花紋，種類非

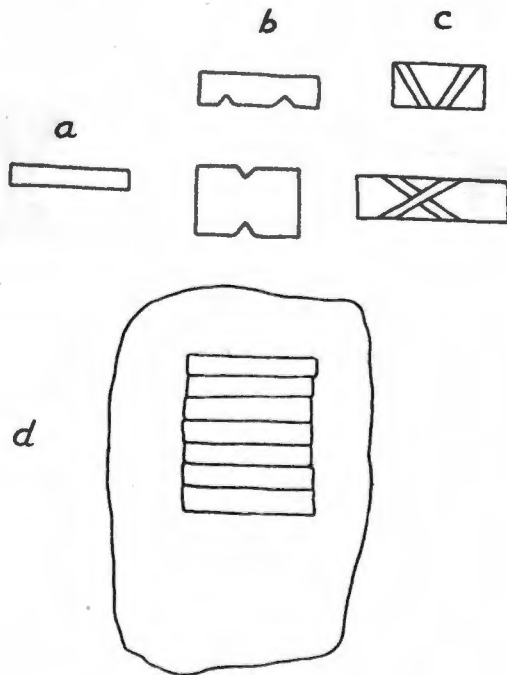


第一圖 仰韶期之骨刀，其切口乃燧石薄片所嵌成，(出西寧縣周家寨，照原式縮小二分之一)

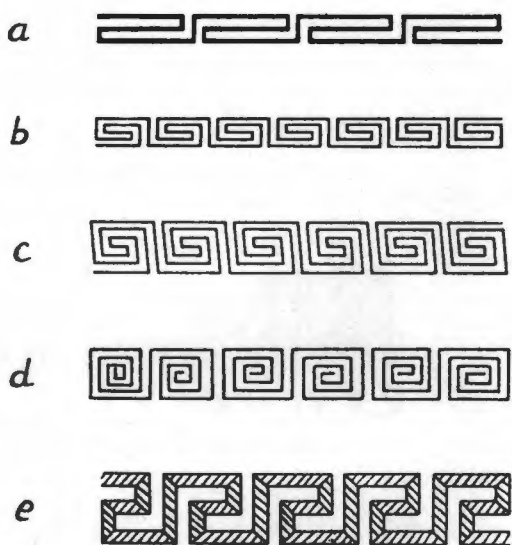
甘
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第二圖 仰韶期之喪紋，為殉葬陶甕上所常見之圖案，乃一種紅色條紋，外加夾黑色之鋸齒紋二道(原式)

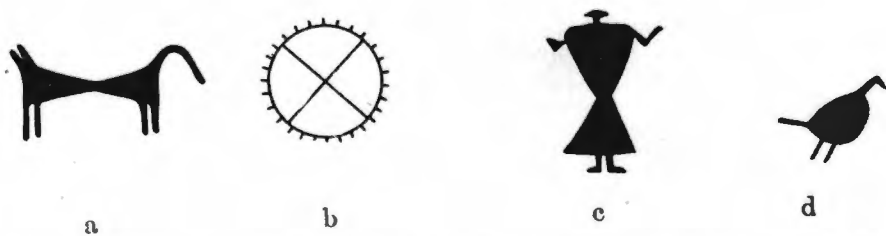


第三圖 仰韶期上有近似原始文字之骨板，(出西寧縣，周家寨，)(原式)

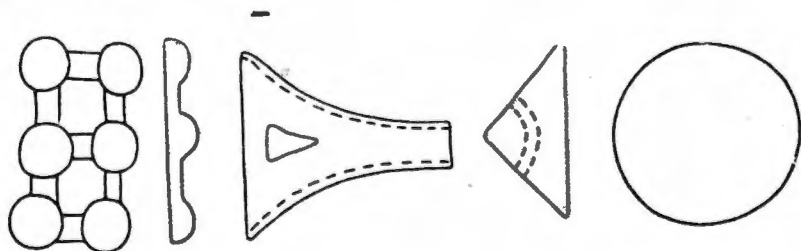


第四圖 中國與西方藝術之 meander 花紋，

- a: 甘肅辛店期梭狀陶瓶頸部之花紋(出甘肅洮沙縣辛店)
- b: 周代四足銅方鼎沿口之花紋(見西清古鑑卷五第三十三頁周饗鬯鼎十五)
- c: 周代三足銅鼎鼎面最上部之花紋(見西清古鑑卷三第九頁周扶鼎二)
- d: 商癸鼎上之雷紋(見西清古鑑卷一第三十五頁商癸鼎三)
- e: 雅典滴比龍式(Dipylon)高足瓶下部之花紋(見伏勃爾氏古物辭典第一百八十頁第五十版)



第五圖 辛店期彩色陶壺詳細之花紋，a及b 為原式，c及d 為照原式縮小二分之一，(a及b 出辛店，c及d 出四時定)，



第六圖 卡塞及下西河墓中所得之銅器(出西寧縣)

常繁複，吾人附圖所示，僅其中選出之一部耳。但圖案繁重之中，有一種花紋，爲吾人常見不爽者，乃一紅色條紋，上下夾以黑色條紋，紅紋與二黑紋之間，各留一縫，不施彩繪，並自黑紋之裏邊，向中心紅帶，伸出若干如鋸齒之紋，其詳細之圖案，可以插圖第二圖（見第十一頁）表之。然此種圖案，凡同期之殉葬陶甕，幾於無器無之。但同期之家用陶器，則絕無踪跡可尋，是以吾人視爲一種與葬禮有關之「喪紋」，固實有理由之依據也。在殉葬諸器物中，尙有數址（如西寧縣朱家寨之遺址等）之小件，吾人當於此處特爲表出者，卽長方之小骨板是也。插圖第三圖A爲平滑之骨板，B及C爲施有刻鏤之骨板，有時此種骨板，結成小羣，邊邊相依，如D所示者。（見第十一頁）著者因思及上刻之紋，或卽一種原始之文字，否則爲一種抽象之意義，蓋均與死者有少之關係也。

馬廠期 此期之存在，多由吾人購買所得之陶甕而知。

其爲吾人發掘之墓地，計有二處，在碾伯縣馬廠沿之第四址，吾人因得略知與陶甕相偕之其他陶器，而馬廠期者，卽由此地得名。

此期村落遺址之器物，至今尙無所獲。

此期陶甕計有二種，一爲較高大者，上繪之大圈中，常實以方格花紋，或實以之字條紋，之字紋之轉角處，並見有花紋，作手指之參差狀，就表面之全體圖案視之，可表一種流爲習俗之人形花紋。

陶甕之第二種爲小件之器物，其口甚大，其耳甚高，近口之全部，滿繪繁複之花式，上有橫紋，縱紋，斜紋，及斜長之橢圓形，並有三角紋中，實以多數之方格。

新店期、一九二四年多事之時、爲洮沙縣新店之奇異發現、卽一富厚之葬地（名曰新店甲址）中、藏殉葬之陶器、絕不與以上各期所得者相類。其後更於新店南十二里之會嘴地方、獲一完好之村落古址、而吾人夏季之光陰、全耗於採集此期器物之中。是以甘肅遠古各期、當以新店期、爲吾人知之最稔。

至於石骨各器、除牛馬胛骨所製之鶴嘴鋤外、其餘均爲他期廣布之品、故不多贅。

新店期遺址所獲之銅器極爲稀少、就中有形似刀劍之品。

陶器則不類仰韶者有葬地與住址之別、其來自村落遺址之陶器破片、與來自葬地遺址者之圖案、並無顯然相異之處。

此期陶質則較疎鬆、若與仰韶及馬廠二期所出緻密之陶質相較、當然大有遜色。且新店期陶甕之底、自下視之、多作凹形、故與早期平底之陶器、相異之處頗爲明瞭也。

吾人僅就第五版附圖所示、已足見新店期之圖案、與前期者根本不同、而新店期陶器之形式亦不相類、蓋陶甕則口甚大、高者甚多而矮者則較少也、（附圖第四版第一圖）

至彩繪之花紋、多爲橫行之黑色條紋、及細狹之波紋。此外並有顛倒列置之三角紋、其間致成之字之縫。

又有一種花紋、其上爲一橫線、下垂二相反之弧綫（附圖第四版第三圖A）、略與兀字相彷彿、吾人亦可自第四版第二第四兩圖圖案之中部見之。此等陶器尙有一種令人注意之花紋、于新店較大之陶甕上最爲普遍、卽連續之回紋（Meander）是也。

在中國早期之古銅器於獸形花紋之中、常實以類似回紋之圖案。此種雷紋、非吾人所謂之真正回紋、大都爲

成雙之方角螺旋紋所組合，如第三圖之D所示。雷紋之種類最繁，而中國銅器上之花式，亦以此爲最多。余友樂君森璠嘗示余以銅器上真正之連續回紋，插圖第三圖之B及C即其例也。至西方藝術上之連續回紋，吾人亦示於此（第三圖之C）以資比較。

此等陶器上之裝飾，除大要之圖案，爲吾人已經說明外，尙有小件花紋雜置其間，即如與N字相似之圖形是也。（第四版第二圖）又有小動物之圖形，如犬及羊者，點綴重要花紋之間。（第二版第二圖）有一得自新店之陶器，上見馬形之紋，更有得自新店期另一址之陶器，其領部發見人形之紋，至其上繪有鳥紋及車形之圖案者，尙不多觀。

寺窪期、 此期包含兩種古址，若細攷之，則時代微有不同。

寺窪期之模範址，在狄道縣之寺窪山。附近仰韶期之村落古址，有一葬地，其中馬鞍口之單色大陶甕，（附圖第十版第一圖及第二圖）及足部肥大之陶鬲，（附圖第十版第三圖）最爲特色。此外於同一之葬地中，又獲銅器若干件，因是爲甘肅文化較晚之期，可斷言也。

西寧縣屬之下窰及下西河，吾人採獲數單色陶器，及多數之銅器小件於葬地之中。（第六圖）陶器之形式與寺窪山者不同，是合併此等器物，暫爲一族，前已言之矣。

沙井期、 吾人於鎮番縣之附近，尋獲古址多處，爲沙丘所沒。古址之中，葬地住處均有發見，後者四側，圍以土壁，蓋地勢平坦之中，自當藉此以爲屏障也。

此等古址中之各種器物，頗相類似，故確可視爲一期所出，著者因名曰沙井期，蓋從距鎮番西三十里模範址

之名。

至葬地遺址及村落遺址之中，吾人探獲銅器之小件無數，內有帶翼之銅鏃，乃精工之作。職是之故，著者因視與沙井相同之文化，當爲甘肅各期之最晚者。葬地古址之中，除銅器外，尙有多數之貝貨，及綠松石之飾珠等。陶器則質較粗，其形頗雜，如附圖第十一版第三圖及第六圖所示。器之大半均無彩文，否則器之一部另加紅色之衣，於附圖第十一版第三第五兩圖，可得見其詳。更有少數陶器，上繪精緻彩文，其主要者，爲直立之三角形，及有鳥形之橫帶紋。（第十版第一圖及第二圖）此等彩色陶器，顯與蘇薩陶器之有鳥形花紋者，極爲相似。因使吾人視二者之文化，互有關連，但沙井期之文化，似又較蘇薩者爲晚。

甘肅文化之相對年代

前章吾人於甘肅之各文化期，已有論述。而各期之分布，當不僅限於著者所考查之處。但各期器物，差異頗爲顯著，就中尤以陶器爲特別之表徵。吾人茲就事實之可能，進而求各文化期之相對年代。

當吾人調查之發軔，獨取所謂仰韶期者，其名蓋原於河南澠池縣仰韶村之模範址。而甘肅文化亦以此名者，因與著者民國十年發見之河南古址之情形相同故也。

就事實論之，仰韶遺址之在河南及甘肅者，其相似之處，極爲明瞭。二者地理上之位置雖有不同，而時代則大致相近。試考一般所得之器物，及村落遺址中所得之彩色陶器，其花紋製作，則河南與甘肅者，幾無差別。至年代之區分，將來當有成立之日，但河南及甘肅之仰韶遺址，其地理上之差異，無論如何自較年代之差異爲多。至本地之特性，當論甘肅仰韶期之遺址時，已於前章述之。但此問題之全部，俟將來發刊器物各論之專著中，

再當詳細分析之也。

余據各種理由、頗信齊家坪之遺址、應較仰韶者爲早。試就齊家坪之遺址論之、其中陶器、盡爲單色。一部頗似仰韶之單色陶器、一部則爲色白肉薄之高領瓶、其一部則爲華麗之壓花陶器、使吾人憶及康克那米(Kernik, 詳前)在齊家坪採掘諸處、大都僅見單色陶器。惟在大道之深谷中、亦發見仰韶彩色陶器之破片少許。

當吾人測繪地形時、於麥田內偶見仰韶陶器之破片。半小時內余於田中步行所得、已足當余從人於大道之深谷中數日採集者而有餘。

吾人於此等事實、若欲有所攷釋、則必信齊家坪之文化較早於仰韶。故仰韶彩色陶器之碎片、當散見於齊家坪文化層之上。其後大道之深谷漸次造成、而兩壁之頂部、時有崩塌之處。是以仰韶陶器之破片、得與齊家坪者相混、蓋實可能之事也。

上述事實謂齊家坪之文化較古於仰韶、固不足爲地層新舊之證、但石斧之多見、銅器之絕跡、皆足表齊家坪爲遠古文化期中之較古者。

於齊家坪之遺址中、尙有一稀見及極堪注意之事、卽陶器領部破片之裏面、發見有彩繪是也。(附圖第五版第一圖)彩繪花紋作細長之三角形、頗類沙井期所得者。而齊家坪之彩繪爲紫紅色、此則尤與沙井期所獲者酷似。但於仰韶陶器中從未見有此等花紋、色彩。又沙井期中已多金屬器物、而齊家期則時代較古、相差甚遠。則上述陶器相近之點、似祇能視爲偶然之相符而已。吾人今日之所能印證者、爲于遠古之各期中、當推齊

家坪爲最古、而仰韶次之。

吾人至此、當論馬廠期所得、但不幸於甘肅遠古文化之各期中、以此爲最不明瞭。僅有葬地遺址數處、爲吾人所見、其餘則根據陶器數事、而詳細發掘、則只有付諸闕如。器物中多長大之土甕、（附圖第九版第二圖）上繪粗略之人形花紋。又有小鉢多件、（附圖第二版第二圖）其上部則滿繪幾何圖案。就此等陶器之質料、形式及花紋攷之、則頗與仰韶殉葬之土甕相近。但究足自成一族。馬廠之時代、實與仰韶期有相近之可能。但余以之置于仰韶之後者、蓋由齊家坪之遺址中、毫無此等陶器之跡。而其陶器上之裝飾似較成熟、而自成一派也。

上述之齊家、仰韶及馬廠三文化期、就吾人經驗之所及、有一共同之特點。即絕無金屬器物之存在是也。其次吾人當述附有銅器之辛店、寺窪及沙井三文化期。就其銅器之多寡、而定其年代之先後。最先者爲辛店期、以彼處遺址所得銅器、極爲稀少故也。至其遺址之衆多、彩色陶器圖案之豐富、則辛店期僅次於仰韶。又如辛店器物所示、此族陶器與齊家、仰韶、及馬廠三文化期者絕然不同、可于陶器之質料、形式及花紋等見之。而其中少許銅器之發見、則足證較上述之三期爲晚也。且辛店期後于仰韶期、有地層之次序可證。此爲最可靠而難得之證明也。

辛店期之模範址爲一葬地、名曰辛店甲址。其南三百公尺、即一深溝之南側、見有村落遺址一處、表面情形極爲混亂。於此遺址之區域中、同見仰韶及辛店彩色陶器之破片相混各半。吾人驟視之、覺二者之混合、似屬同時。余當時思之、以爲二者時代相同之物未嘗不可混入一址、但人民之文化當不同耳。余最後決計於遺址之

一部、擇其混淆較輕之處作地層上之發掘。掘處深約三十三公分。其中可得見者、計有四層之多。上部一層、陶器之情形與表面無異。其下一層、僅有近似辛店期之陶器破片一件、其餘皆屬仰韶。最下二層則盡仰韶陶器、而無辛店之跡矣。人由吾是始確知此址大半屬仰韶、其屬辛店者僅上部之一薄層耳。

由辛店甲址、而知辛店期爲獨立之文化期。但於洮河之西岸、又獲一葬地遺址於四時定。其中陶器多屬辛店式。但圖案則大相懸殊。細按之、則又與仰韶及馬廠者爲近。

至寺窪諸遺址、則吾人發見葬地多處。葬地可分爲二部、即寺窪本部及卡窰是也。二部除豐盈之素地陶甕、及次多之銅器外、其他絕少相類。將來二部截然分離、亦未可知。因器物既少相似、則吾人自當分別論之。如吾人前章所述、寺窪陶器、最爲特別。其中有巨大陶甕多件、作馬鞍形式之口、又有空足之陶鬲、而卡窰（及下西河）遺址之銅器則種類最多、以故吾人知之最稔也。

沙井遺址、爲甘肅文化期中之最晚者、蓋根據銅器如矢鏃等之較精備而言。其中陶器、大都單色。但此等單色陶器、與寺窪及卡窰者、有無淵源、至今尙未研究也。茲有一事爲吾人急當於此申述者、即沙井遺址中、未見寺窪有馬鞍口之大甕。

多數之沙井陶器、上繪清晰之紅色條紋、最特別者爲繪鳥形之橫行花紋、使吾人憶及蘇薩之圖案。今者、吾人以調查所得、共分甘肅之遠古時代、爲以下六期。

新石器時代之末期、與新石器時代及銅器時代之過渡期。（以後簡稱石銅器時代之過渡期）

齊家期

仰韶期

馬廠期

紫銅器時代及青銅器時代之初期。

辛店期

寺窪期

沙井期

於此六文化期、懷疑者、將謂時代之區分、既基於陶器之不同、則斯六期者、亦何嘗不可謂爲同時。其所異者、惟地理及人種之文化耳。

但如上所述、吾人於辛店及仰韶之文化、其初亦起同樣之懷疑、後經地層之證明、吾人乃確信新店時期當較仰韶爲晚。

又如寺窪及卡審之遺址、至今證據充分、始視二者爲同時。而統曰寺窪期。但異日更作較詳研求、則所謂寺窪期者、當有再分之可能。

至沙井遺址、吾人視爲各文化期中之最晚、其劃分之理由、於地理上頗有關連之處。蓋沙井所有遺址、其面積均甚狹小、且距其他各址亦遠。總之、沙井器物之豐盈、及其製作之進步、吾人實難信其與以上何期爲同時也。其餘各期如齊家、仰韶、馬廠、辛店、寺窪等、所佔之面積大都不甚廣闊。但各期均有特別顯著之陶器、爲其表徵。以吾人盡力研究所得、各期絕不相混。是則甘肅遠古之文化、分爲六期、不可謂無充分之理由也。至各期之先

後除一二種情形外，雖不能確切證明，但各期過渡之關鍵，當然可以次第發明，蓋此刻各期之相承，固甚突然也。

甘肅遠古文化之絕對年代

吾人前此僅就甘肅所有遺址，加以實地之研求，而定其相對之年代，茲更進攷其絕對之年代，則吾人探索之術不外二途。一爲就近東攷古上之智識與甘肅諸遺址較。一則據中國之史料有爲攷古之足徵者，與甘肅諸遺址較。

前者就近東諸遺址，與仰韶者兩相比較，則著者與佛郎池博士已各有所獲。尤以阿恩博士所啓發者爲最先。余著『中華遠古之文化』曾舉英倫諸大攷古家如何僕生先生等之意見，爲余攷證之根據。因得定仰韶文化期之陶器，爲新石器時代末期所遺。而與近東諸遺址有相似之陶器者爲同時。余更取河南之彩色陶器徵諸亞諾之第一紀及蘇薩之第二紀。彼時尚未敢定仰韶文化紀之確實年代。僅述韶文化期與中國上古史之初紀，並不甚遠云云。

奧國攷古學者佛郎池氏，博覽歐洲攷古之書，曾於維也納人類學會誌中，（第五十四卷，一九二四年出版）論及余著。以仰韶文化徵諸亞諾第二紀及第三紀，至爲精詳。余著則以之比於亞諾第一紀。故二者詳略各有不同。其內容俟後再當補誌。茲先述佛氏考證之大略。

佛氏之攷證，自亞諾第二紀及第三紀，而更進於美索不達米亞。後者以安篤里君亞述伊塔寺之發掘爲最要。亞述之H至G層，與巴比倫互有關係。G層之末，現視與紀元前二千六百年滅亡之阿卡王朝爲同時。若此種

考證可信，則仰韶文化期之時代，當在紀元前二千七百年也。

阿恩博士於其河南彩色陶器之專論中，對於近東及東南歐新石器時代末期之文化，莫不博攷羣藉以相印證。除著者及佛氏所臚舉諸遺址外，博士更徵引多數文化層之所在地，如伯魯奇斯坦之若布谷，蘇薩西百五十公里之太僕茂，宣伯薩拉比亞之伯屈倫尼，摩爾德維亞之扣扣敦里，加利西亞之加處魯夫及約柯維亞之西本尼池。

阿恩博士視仰韶文化期之彩色陶器與蘇薩之第一紀及第二紀，亞諾之第一紀及第二紀，頗有連絡之處，而計仰韶期之時代在紀元前約三千年之譜。

吾人於仰韶期之年代，似可暫定爲紀元前三千年。一俟甘肅豐美之仰韶器物多方研攷後，當可得最後結論也。

吾人考證年代既別無較優之法，只得就他處攷古相當記載中之已有確定年代者，與甘肅遠古之六文化期相較，作一種理想之推測。余今舉二處攷古年代之確可相信者，以供吾人之印證。卽斯坎狄拿維亞及克利特是。此實爲考定甘肅遠古文化各期年代惟一之途徑。

斯坎狄拿維亞之新石器時代及銅器時代，其剖分各期，以孟特留斯氏歷年所攷定者，最稱明晰。此地新石器時代，大約在紀元前四千年至千八百百年之間。孟氏就石斧之形式製作，及埋沒之情狀，分新石器時代爲四期。最早之期，歷年最久。其餘三期，似與甘肅較早三期之年代相當。大約在紀元前三千年至紀元前千八百百年之間。吾人由此可知每期平均之年代，約有四百年之譜。

至斯坎狄拿維亞之銅器時代，孟氏則據銅器如銅斧等分爲六期。其年代在紀元前千八百年至紀元前六百年之間。每期平均年代約爲二百年。孟氏此種嚴正精確之攷訂，使各期新舊之分判，至爲明瞭。（但第六期實爲鐵器時代之過渡期。）此種分類，甘肅尙未敢望，蓋正當着手研究也。吾人於此，只述斯坎狄拿維亞之新石器及銅器時代，統爲九期。前者每期之平均年代爲四百年，後者爲二百年足矣。

克利特新石器時代以後之遠古史，則伊文斯先生攷之最精。其記載之完備者，共有三紀，即上明羅安紀中明羅安紀，及下明羅安紀是也。但每紀復分三期。其年代之區分，則以陶器及銅器之異同，并可羅梭諸遺宮之建築及古跡爲衡。

明羅安之文化紀，約在紀元前三千年至千一百年之間。則伊氏所定各期，其平均之年代，當爲二百餘年。但費門氏又主張下明羅安紀至紀元前千二百五十年即已告終，而明羅安較早各期，其區分亦有未盡妥善之處。以上敘述雖略，然已足示斯坎狄拿維亞及克利特二地由紀元前三千年至紀元前一千年間文化之跡，爲考古者啟發無遺。而所定各期之年代，由二百年至四百年不等。

是則著者所論甘肅陶器各期其系統，頗與孟氏於斯坎狄拿維亞及伊氏於克利特所發明者相似。但於甘肅文化之遺物謂爲完全無缺，至今尙無明證。（大凡新異陶器之猝然發見，所以示他一文化期或數文化期之將發現也。）著者現假定甘肅各文化期之年代，平均爲三百年，則六期共爲千八百年。吾人若信阿恩博士所定仰韶期中部之年代，開始于紀元前三千年，則甘肅攷古所得各期，當起於紀元前三千五百年，而終於紀元前千七百年也。

著者自知此種推測，根據並不確當，但可視爲一種暫設之理想，使探攷及研究者，得有年代之大意。研究較進，此種年代當有較精確之攷定也。

前設甘肅文化期之末葉，當在紀元前千七百年。此種假定使吾人察及中國半神話之上古史，適與此際相值，蓋夏朝勃興時也。（三代起于紀元前千七百六十六年）但甘肅較新諸古址中，從未發見器物與三代者相吻合。且上古諸遺址中，亦未見有遠古彩色陶器之跡。而甘肅所獲小件之金屬器物，既甚單簡，又無花紋，故不能助吾人得遠古與上古文化之關鍵。吾人于此，缺乏明證，無已則由反證所得，實難信甘肅遠古文化最末之期，能超出紀文前千七百年之後。

夏居三代之首，其歷史至今，仍屬渺茫。攷古之資料，更難搜尋。是以夏代歷史，殊難徵信。商之初紀，亦復如是。但商之末，遷都河南，改國號曰殷，則吾人之攷證，較多把握矣。

今直隸河南交界處之安陽縣，即殷虛古址。當一千九百年之初，其中所得古物，極堪注意。外邦學者，如門惹斯氏、霍蒲金氏及查爾繁氏於殷虛古物，頗多評論。然關於殷虛之龜甲獸骨及他古遺器物之著述，當首推現代中國之攷古大家羅振玉氏。羅氏曾刊有殷虛書契之重要著作多種，此外殷虛古器物圖錄一卷，則詳攷殷虛所出之古器法物。

安陽古址所獲諸遺物中，其最多而最有價值者，莫如龜甲及獸骨二種。上有刻辭，蓋爲貞卜之用。與龜甲獸骨同出之物，爲骨鏃、貝貨、象牙彫器、銅器殘片及其他器物等。吾人於此，因稍得瞻仰殷商當代文物之梗概。并可知商人所用文字，多爲原始之象形文，但示當時文明，已達可驚之境。就此等龜甲獸骨刻辭上之所述，吾人又

可知當代社會之組織、當代所用之歷法、及他器物之使用、如兩馬所載之車等。

羅氏之殷虛古器物圖錄中、有彫鏤極精、花紋極細之品、此則吾人大有興趣者在。如原書第二圖爲彫犀殘器、第四圖爲彫象殘器、二者皆刻有方角之螺紋、即中國攷古家所稱之雲雷是也。此外雲雷之中、則見綴有饗饗之形。第五第六兩圖所示、爲骨器析柄、其上刻鏤、亦甚富麗。第三十九圖、爲彝器斷片、以銅製之、上綴雷紋、並嵌寶石、色綠如翠、想係綠松石。殷虛古器物圖錄中所述各器、既如此重要、則其與龜甲獸骨之關係、當爲吾人之急於確知者也。著者由丁文江博士之介紹、因得接近羅君、並蒙羅君以此等器物採集之情形相告、始知非羅君之代表、親身發掘所得、乃購自一村曰小屯者。據估者陳述、謂此等古物、均與附有刻辭之龜甲獸骨、同時採獲。羅君以殷虛古器物圖錄中所載各件、確均來自殷都、毫無疑義。

依羅君之見解、則殷虛古物、實予吾人最深之興會。凡歷史上相傳商代之銅器作富麗之花紋者、至今始確證爲真矣。蓋由滿綴寶石及雷文之彝器斷片、暨花紋繁複之象牙彫器、而知其與三代者相符。

據羅君殷虛遺物之研究、吾人得知二重要之事、即紀元前十四世紀至十二世紀之間、中國之象形文字早已完備。而花式繁復之銅器及象牙彫器、其藝術亦於同時發生也。

吾人當甘肅遠古遺址之發掘中、於陶器及他遺物之上、絕未見有文字之迹、此爲極堪留意之事。（仰韶期中雖有刻鏤之骨片一件、上有類似初人記載之文、但實無法、證與中國古代文字有關。）

又甘肅遺址中之小件銅器、亦未見有富麗之花紋、如殷虛古器物圖錄所載或他三代之銅器所示者。故吾人由此二種反證、知甘肅遠古文化期之最晚者、亦必較殷代爲早。（紀元前千四百零一年至紀元前千一百二十

二年)

但殷都與甘肅相距甚遠。則此等反證，頗覺不甚健全。又可謂吾人發掘之遺址，均屬小村落之古址，當無文字之可言。蓋此種文字之記載，應屬當代領袖者之所有也。

持此論者，實忽略甘肅乃亞中細亞至渭河河谷及黃河河谷下部之孔道。而此二河谷中，即爲中國孕育文明之所。吾人於甘肅發見仰韶文化之存在，已足使著者前謂彩陶東漸之說，完全確定。蓋中亞彩色陶器之達黃河河谷，要以甘肅北山與南山之間，及蘭州附近之黃河流域，爲其交通上自然之孔道也。而蘭州即爲著者於民國十二年，至十三年間攷查之中心。

至若查爾繁氏及巴爾氏等謂中國文字與近東象形文字同出一源之說，著者此刻雖不敢遽加評論。但當新石器時代之末，中亞文化流入黃河河谷之發明，自當不言而喻。蓋自仰韶陶器所示，前此哲理上之幻想，今以攷古學之眼光視之，固不爲異矣。

近年欲攷釋中國上古銅器花紋之系統，係導源於近東者，其呼聲日漸增高。著者因舉俄人羅斯道瑟夫之著述，『南俄之波斯人及希臘人』一書。書中一百九十八頁，先引中國古代銅器上之主要獸形花紋四種，並謂此四種花紋，非創自中國。蓋爲巴比倫及亞西里亞藝術中習見之圖式。而此種圖式，又乃索謀利蘭藝術之所遺傳者也。故吾人決不能謂索謀利蘭既獨立創作於前，而中國復獨立創作於後。

若於任何文化期之更替中，凡象形文，或以上所述之獸形花紋，或二者同自近東流入中國，則必直達蘭州附近之黃河流域。故此等文化之遷移，若發生於吾人所研究諸期之一，則吾人廣事採掘之中，斷不至全無踪跡。

可尋。是以吾人現定甘肅各文化期，較殷代爲古，實非偶然也。統上所述，吾人假定甘肅之六文化期，綿延約二千年之譜。即自紀元前三千五百年乃至紀元前一千五百年之間。

新石器時代之缺失

當一九二三年之夏，法國博物學者德日進氏及桑志華氏於鄂爾多斯發現舊石器時代之器物與多數洪積統之哺乳類化石同產於情形明瞭之地層中，此又不啻爲吾人攷證華北人類遺跡之新發軔點也。此種重要之發現，二氏雖僅將其大略公布於世，然已足爲吾人參攷之左證。

石器之爲石英岩及他種岩石所製者，多爲尖銳器物（爲穿孔之用）刮磨器物（爲刮磨石器之用）及扁杏狀武器（爲防禦及獵獸之用）三種。據二氏所述，當係莫斯特利式或早期之奧林拿西式。

與石器同得之物，爲哺乳類及鳥類之化石，前者如犀、象、馬、駱駝、野牛、水鹿、羚羊、鬣狗及獾之屬，後者則僅有駝鳥一種。

遺物之一部，似自黃土下層理分明之岩石中所得，其一部則來自黃土層之本身。

與石器相伴之生物羣，類皆洪積統之亡種。故諸器物爲舊石器時代所遺，却無疑義也。就查李二氏簡短之報告，此次所獲，大都得自黃土下之河成層，或黃土本身之底部。則由黃土層中之位置，證明此等器物之遠古，固不待言矣。

但其關係，尙不止此。蓋由此可以推知黃土層停積之後，華北地質史上，飽經繁復之變遷。即近期猛烈之垂直

侵蝕是也。惜學者尙少注意及此。德桑二氏於鄂爾多斯地質之論文中，載有位於黃土上之沙礫階段，視爲黃土發生以後重要侵蝕之證。

自一九一八年之後，著者於華北地文之研究，不餘遺力。其結果至今尙未付印。但於北京附近之齋堂地方，對於黃土後期之侵蝕，研究至爲詳盡。著者曾將其大要發表於葉君之『北京西山地質誌』中，茲將其重要之事實，簡述於後。

(一) 爲汝河期垂直侵蝕所成之河谷中，見有多數之沙礫層，厚約三四十公尺，位於現代河床之上，層中夾砂礫及黃土類似之物。有時沙礫層之上，常爲無層理之黃土所覆。此二者造成之時代統名馬蘭期。馬蘭期者，爲洪積統之中葉以黃土之中曾發現哺乳類如象等之化石故也。

(二) 繼馬蘭期階段之構成而起者，爲垂直侵蝕之復興期，以致馬蘭期之黃土層及砂礫層，有一部爲侵蝕所毀滅，而另建厚約三十公尺之階段。就地又鑿成多數之峽谷。同時更有黃土層之停積，中見野牛、水鹿、巨角羊等之化石。此垂直之侵蝕期，著者名曰板橋期，蓋當在洪積統之末葉也。

著者於甘肅地文上，曾作多數之觀察，其主要之事實，已於上章述及。洮河河谷及他數河谷中，舊有之侵蝕平原大都自高出河床五百公尺之處，爲衝刷作用所剝解。其垂直侵蝕之行程，可於舊平原下之各階段見之。此種垂直侵蝕之期，大部確較黃土爲早，蓋五十至一百公尺間之階段，爲黃土所覆故也。此較黃土爲早之侵蝕，可與中國東北部之汝河期相印證。

但此種垂直侵蝕之末期則發生於黃土之後。著者可自黃河河谷、渭水支流之清河河谷（附圖第三版第三

圖)等之觀察證之。又自靖遠縣附近之黃河河谷(附圖第十二版第四圖)使吾人於甘肅之地文更加明瞭。蓋當黃土之末期,其所成之草原,傾斜極微。但經黃土期後之侵蝕,復遭猛烈之分割。不僅深至黃土以下之沙礫層,且直達貴德層或他較古之地層。但黃土期後之侵蝕,其侵蝕舊有河床之程度如何,或竟另闢新道,凡此皆現時所不易言者也。吾人確信無疑者,為黃土期後,甘肅廣受侵蝕之摧殘,以致地文上起根本之變遷,若此處沙礫層與黃土之停積,與中國東北部之馬蘭期相當。則黃土期後之侵蝕似應列入北京附近之板橋期也。

華北之洪積統與近世期

地質記載	楊沙層泥炭層河積沙礫層	次生黃土層	風成黃土層 三門沙礫層
地文時期	近代江河沙礫之停積		馬蘭期沙礫層與黃土層之停積
攷古時期	歷史記述時代	仰韶期及其相連之各遠古期	鄂爾多斯舊石器時代遺址
			板橋期之垂直侵蝕
			汝河期之垂直侵蝕

據以上諸事實推之,舊石器時代之人類與毛犀古象及古駝鳥同居於鄂爾多斯。其後華北地文上發生二次重大之變遷。一則為黃土停積之最盛期,一則為垂直侵蝕之分割期。終至溝渠縱橫,峽谷交錯,而演或現代殘破之遺痕。

今於法人德桑二氏所發見之初人遺跡,及著者新時代末期與石銅器時代過渡期之所獲,兩相對照,則不僅器物之大相懸殊,即二時代相處之環境,亦絕不相類也。論器物,一則單純簡陋,一則豐富繁復。論環境,則舊石

器時代之人類，於鄂爾多斯獵取現代絕跡之巨大動物。但當時地形確實狀況，則非於黃土之下，加以耐心之搜求，不能得其詳盡。而新石器時代末期之人類，其環境除當時森林之密布外，與吾人今日者無大差異。例如河南之仰韶遺址，垂直之侵蝕期係發生於仰韶文化之後。而甘肅之遺址，大都建於與現代無殊之地形中。至於仰韶期之生物，則與現代者略異。即如向北分布之豪豬，現代於此區域中并未以產聞也。但仰韶期之生物，就全體觀之，則其大致固與今日者無何等之不同耳。

德桑二氏至今尙未刊有專著，想係多種難題仍未解決之故。據云所獲器物，當屬莫斯特利紀或奧林拿西紀之初期。但此等器物形式上之相類，於時代有無問題，此刻固難證明。然爲吾人研究之便利，未嘗不可視鄂爾多斯之所得，約當法蘭西舊石器時代之中部。

至舊石器時代之上部，據吾人所知，除桂葉式之石片外，毫無他物可尋。桂葉式之石片，余認爲梭盧川式。但拙著『中國北部之新生界』中，所述諸理由，則所謂桂葉式之石片，當較舊石器時代之上部爲晚。

上述鄂爾多斯所得，大都來自黃土下層理分明之岩石。亦有小部係獲自黃土之底部。則風成黃土之停積，彼時何以非華北原野枯燥之期。蓋其時大都無人類之跡。吾人思之，人類之蕃殖，當在黃土停積以後，總之板橋期中，雨量繁多，氣候與今日相似。而於此復興之河流，極適於人羣之居住，則毫無疑意也。

華北之板橋期，似與北歐緊接冰期之時代相當。而北歐新石器時代人類之歷史，今世最稱完備者也。

吾人因別無較佳之明證，而認黃土之停積，居舊石器時代上部之大半。則試問吾人何以未見新石器時代初期或全期之踪跡耶。蓋新石器時代者，乃研磨石器及幼稚陶器之發達期也。

欲論此事，則須就吾人於甘肅所發現之六文化期，加以攷訂。

吾人之各文化期，均有共同之特點，如石斧（後期則漸稀少）、長方式石鏃、尖銳骨器及陶鬲（早期頗少）等。且營葬之習，亦都相似。

至著者對於時代之區分，則根據前三期無金屬器物之存在，後三期有紫銅或青銅器物之發見。其餘小部之區別，則在多數顯明之陶器也。

此六文化期之互有關係，此刻大致可信。但各期代表之民族，容或不限一種，蓋此區之人種，既有混合之可能，則新文化之影響，決非僅一次之流傳也。可異者，自齊家期以至沙井期，似均有人羣繼續居住，保留其文化之特點，牢不可破。

甘肅文化期之石器，類多單簡，而屬新石器時代之製作。一至爲銅器所瓜代，不改舊觀。且決不如北歐新石器時代末期石器之完美可愛。此則甘肅遠古之居民，似均致力於陶器藝術上之創作，而於此等單簡之石斧及長方式石鏃等，已覺滿足，不欲有所改進也。

甘肅所得諸陶器中，類皆精美之作，而於原始之特點獨少。即其來自甘肅遠古文化之早期者，亦復如是。齊家期之壓花陶器與其來自北歐及西伯利亞者極爲相似，而薄肉大耳之高領瓶（附圖第五版第三圖）使吾人念及希臘典籍所載之安佛拉（即一種大耳之高領瓶）至仰韶遺址及馬廠葬地華貴之彩甕，則歐亞石銅器時代過渡期之陶器，實無有出其右者矣。

此等種類繁複，製作進步之陶器，即其最早之期，吾人亦不敢以新石器時代名之，而稱曰石銅器時代之過渡

期。甘肅遠古文化之前三期中，并無金屬器物可見。但其早期器物，似受一種文化使用金屬者之間接影響。如河南仰韶遺址所得之石鏃中，大半均屬新石器時代式。內有少數，似仿金屬矢鏃之製作。若斯說可信，則此種文化所創作之形式，其流傳遠較金屬之使用爲廣。上說僅著者箇人之暗示，能否成立，必待異日之研究，方能確定。但未經確定之先，著者以爲甘肅遠古之諸文化期，不如名曰新石器時代之末期及石銅器時代過渡期之爲愈也。

吾人於甘肅曾判別一較仰韶期爲早之文化曰齊家期者，前已述之矣。其中彩色陶器極少，但他式者則燦然大備。

與上情形相類者，如不招寨之少數古址，其中亦無彩色陶器可尋。所得者，極與仰韶村之單色陶器相近。吾人至今於二者時代之關係，尙未十分確定。但此等未經彩色陶器流入之文化期，似當較早。若此爲吾人所許，則河南與甘肅同有一較仰韶期爲早之古址。

甘肅齊家式之遺址及河南不招式之遺址，雖同早於仰韶者，但二者內容，不甚相類。齊家式之諸遺址，則以壓坯花式之陶器，及似安佛拉之高領瓶見稱，而不招式之遺址，則以類似商周鼎鬲之陶器爲其表徵也。吾人今者須知此二早期之遺址與仰韶期關連之處極多。尤以仰韶之單色陶器爲甚。由河南不招寨所見高細薄肉之陶鬲證之，則其文化之演進並不弱於甘肅齊家式之遺址也。

將上述之事實而歸納之，則吾人頗覺河南及甘肅早期之諸遺址中，如河南之仰韶村及不招寨，甘肅之齊家坪、馬廠沿及仰韶期之遺址等，其文化之演進，均甚可驚。其互有之關係，則異常繁複。各址器物，實不能謂爲幼

穉。換言之，即各地皆具特別之表徵，足以示文化之演進頗高。當位於新石器時代及銅器時代之過渡期。但石銅器時代過渡期之遺址，爲數既多，而新石器時代之初期及中葉者，則反渺然無聞，此爲極堪注目之事。石銅器時代過渡期之遺址，就吾人所知，居奉天者一（在沙鍋屯）、居山西者一（尙待攷究）、居河南者七、居陝西者一（尙待研究）、居甘肅者則不下二十七處。

著者當甘肅之採集中，每見有擊鑿作成之石器及幼穉陶器之存在，必以爲較古之址爲吾人所得。但一稍事發掘，則彩色陶器之碎片，又復湧現於吾人之前，足爲石銅器時代過渡期遺址之確證而無疑。如此情形，吾人屢見不鮮。其後著者始漸悟此種具有粗陶器之遺址，並非時代不同，乃此處之民族較貧，或居住之時間較短故也。

最初風成之黃土層其停積之期，大致與歐洲舊石器時代之末葉相當。此所以示華北之氣候乾燥，居民鮮少。由舊石器時代末期所獲之人類遺骸，可以知其然也。

又自黃土期後河流之侵蝕作用觀之，其衝刷之期，自少須數千年。然後有石銅器時代之文化發生。而河流侵蝕之作用，更可爲此處當新石器時代之初期及中葉，當有人民居住之證。吾人至今，既無新石器時代之踪跡可尋，此實爲吾人應即討論之事。

吾人於此所能解說者，只有歸諸攷古之研究方始着手，其範圍亦不甚大。故新石器時代之缺失，惟有期諸異日實地上之探攷，乃能補充。此外吾人又得新石器時代人類遺骸之間接暗示，則新石器時代存在之說，更覺信有徵矣。

中國北部之大半，吾人知有研磨之石器，嘗自近地面之處得之。此種遺物之採集，當首推勞佛氏自山東所獲者，最有趣味。標本有數百件，係來自奉天熱河直隸等處。現時均入吾人之手。將來當由中國古生物誌中發表之。其中石斧石鑿等，大都與石銅器時代之過渡期者相似，但其年代或竟較石銅器時代為晚。

（註一）日人鳥居龍藏氏於南滿及東蒙所發見之器物，內中不乏新石器時代之真品。但大半則屬仰韶期而無疑。其中陶器類多小件，而說明又復簡短。故實難與他處所得者互相印證。

（註二）同在鄂爾多斯為德桑二氏發現舊石器時代器物之處，亦得研磨之石斧及單色之陶器等，距地面并不甚遠。據二氏所述，此等器物亦似屬仰韶期。

但此類石器，有少數為吾人發掘中從所未及見者。即如勞氏所謂有溝紋之石錘，亦少發見。此外有吾人採集所未得者，僅聞於直隸北部見之，如三角形之石鋤是也。此等器物為石銅器時代過渡期之遺址中，始終未及見者，或當屬一種土著之民族所製作。其時代與仰韶期為同時，或與仰韶前後之期相近。亦有謂其一部屬新石器時代，當在仰韶等期之先。

吾人雖信有少數石器，為新石器時代之真品。但吾人所得石銅器時代過渡期二十七處遺址之中，而新石器時代之初期或中葉者，則無一發見。此固極顯著之事實也。雖然，華北新石器時代之真確遺址，附有幼穉之陶器者，當有發見之可能。而其初期及中葉，亦有成立之日。

石銅器時代之諸遺址，既多且大，而確可為新石器時代本部之代表者，則百不獲一。此誠有難言者矣。否則除仰韶及其相近之期，自成一人類遠古歷史之新發展，別無解說之道也。但就吾人地質上之觀察，黃土草原既

成之後，暨石銅器時代過渡期文化未來以前。此處之江河，自少亦有數千年之攸久。其氣候似專爲新石器時代之民族而設者。蓋石銅器時代過渡期民族繁殖之速，及其來勢之驟，則謂爲氣候變化所致，尙不如謂文化進步所致之爲愈也。

文化之遷移

前章吾人已述及舊石器時代之末世，新石器時代之中部及下部。但於此等時代確切之產物，究無所獲。然著者不能不勉述已見。惟目下所據之事實，則不甚充分耳。今欲攷石銅器時代過渡期器物之真意義，吾人處此，又當挺身入設想之險途。余之爲此，蓋實以研究之初，必須先有一種設論，然後始能有所創發也。

吾人研究石銅器時代過渡期結果之一，爲啓發近東與黃河河谷遠古文化上，互有關連之明證。著者蒙阿恩博士之助，惠以文獻上之攷證。著者因得於『中華遠古之文化』中，揭載近東與河南所出彩色陶器相似之特點。最近阿恩博士於其河南彩色陶器之專著中，取細洲西南隅之彩色陶器，與其來自亞洲之東部者，詳加比較。則博士所謂河南彩色陶器，其陶質形式花紋，與近東石銅器時代過渡期者，同爲一族之說，吾人應認爲已經攷證之事實也。

著者近年於甘肅所得大批仰韶期之彩色陶器，內有殉葬之陶甕多件，極爲完整。凡此皆足使近東與遠東陶器互有淵源之說，更加明瞭。此事當於異日最後之專著中，詳爲討論。而此刻所能假定者，爲當新石器時代及銅器時代之過渡期中，近東文化之影響，當以黃河河谷所感受者爲最強。

(註)當著者赴甘肅攷察之第一年，曾於瑞典之地學雜誌(Vimer)中刊有短文，略述鎮番縣沙井所出之

彩色陶器中具有鳥紋之花式者，與蘇薩所產，頗有關連。蓋在蘇薩之彩色陶器中，具有鳥紋之花式者，固極普遍也。而蘇薩之彩色陶器，與鎮番所出，其相似之點，極稱顯著。但當考察之第二年，覺沙井之時代，則較晚於蘇薩。

當著者攷察甘肅第一年之末，就所得之結果，作有報告，刊於瑞典地學雜誌（*Ymer*）中。頗覺甘肅陶器之豐富。著者因聯想李希霍芬氏之意見，謂中國人民乃遷自中國土爾基斯坦（即新疆）此即為中國文化之發源地。但受西方民族之影響。

中國民族，當仰韶文化期自新疆遷入黃河河谷，因載有石銅器時代過渡期之文化。但此過渡期之文化，則富有西方之特性者也。此說加爾格林氏已於 *Lithera* 雜誌中，細加評論。著者今將加氏之文略引於此。

『安特生博士因欲得歷史上之結論，先示吾人甘肅與河南仰韶期之遺址，各有若干相類之器物。且以彩色陶器為根據，而稱甘肅與河南之遺址，其年代與文化，則大致相同。但如安博士所云，吾人尚須明辨甘肅與河南之文化。前者之彩色陶器，發達較徵完備。其上則花紋豐富，與來自西方者，頗有完全相似之處。然甘肅諸遺址中，幾於全無河南鼎鬲之特徵。因在甘肅廣事羅掘之中，僅得陶鬲之破片一件。是則安博士之窺測，是否繼續有效，須視吾人採取歷史上一般之見解為何如也。』

『對於中華遠古之文化，其有可能之見解者，約有二說。其一為安博士之主張，茲特將其原文附引於此。（見一九二四年 *Ymer* 雜誌中第二十五頁）安氏之言曰，由地理環境上之分析，確示新疆為吾人最後決仰韶問題之地。因吾人於此，可以識別一種蒙古利亞民族（即黃色人種）當新器時代，曾受西方文化之影響，亦或

受西方人種之影響。生息繁衍。漸至務農。文明因而大進。是爲中國歷史上文化之始。然此種文化確實之發源地。非於新疆詳加研究。不能判定。但就河南採集所得。頗覺此種文化之行程。實可由中亞細亞經南山及北山間之孔道。東南而達於黃河河谷。以至現代甘肅之蘭州。』

『依安氏之主張。則中國文明之基礎。當此類民族奠居新疆之時。卽已建設。而其文化主要之特性。則因遷移而流入中國。安博士更總述其第一次之結果如下。（見一九二四年 Ymer 雜誌第三十四頁）數種事實。如遺址所示。爲農業民族所居。文化層中有豕骨之發見及雕鏤之法。與仰韶村及中國歷史上者相符。凡此皆所以示該文化（即在甘肅者）之主人翁。爲中國歷史以前之中國人種也。此種文化於中國本部之西北隅。特爲發達。其雜有西方文化之表徵。似更予吾人以想像之根據。即中國人種最早之進化。當在亞細亞之裏部。略如中國之新疆。或其鄰近之處。安氏此等結論。使吾人對於中國文化原始之窺測。發生根本之變遷。』

『此種見解。自余（加爾格林氏）視之。在現時研究情形之下。發生重大之難關。吾人相異之點。在上列之諸特徵。爲主要之理由。吾人視仰韶文化爲中國文化。及未有歷史以前中國文明之基礎。若中國文化係導源於新疆。則甘肅文化之發達。自當較勝於河南。故器物之來自甘肅者。當較豐於河南。但安氏於其短文中。（見一九四年之 Ymer 雜誌）申述極爲明瞭。謂長古式石鏃。甘肅亦有所獲。而鬲與鼎之陶器。則屬稀見。此外如爲中亞及東亞特有之瑗戈等物。則一無所述。想係從未尋獲此類標本也。』

『石鏃之外。如豕骨。葬地習慣。及非中國特有之新石器時代器物。無非西方之品。而甘肅所出較多之彩色陶器。吾人亦不敢認爲真正中華民族之品。』

『更有甘肅特別之遺物，爲河南所從未見及者，即數件骨刀之標本是也。（出自西寧縣、貴德縣及青海附近）刀緣有一凹口，上嵌燧石薄片，一若刀之鋒刃。其次爲小件之象牙板，上施刻鏤，想作一種原始文字之用。此外更有各種質料所製之飾珠多件。（均屬半寶石及大理石等）』

『設安特生博士之理論而真確者，其於此等事實，唯一之解釋，將諉諸西方文化之影響，繼續傳播。久而在中亞細亞純正之中國文化，漸臻屈服。以地理上之理由，其趨勢則在西部者較東部爲烈。但此種解釋，似覺過於牽強。其他吾人視爲較當之見解，茲述如次。』

『河南文化，支脉四出。例如奉天當新石器時代，嫡派之中國文化，曾經繁盛之期。器物有鼎鬲琖戈半月式及長方式石鏃之屬。人民有養豕之事，有葬埋之法。至新石器時代末期，文化界中，受西方之影響頗烈。其交通之孔道，當爲極便利之處，於此因流入製作精美彩陶之術。除土產者外，更有單色較粗之陶器。（多自仰韶所得）而仰韶村彩色陶器之少於甘肅者，實原於此。但此種旅居甘肅之民族，其製陶之術，河南人民從而習之者，想非中華民族之祖先，而爲一種土爾基族。因彼等缺少數種重要之表徵，吾人實確認爲真正之中華民族。即以甘肅長方式石鏃之存在，家豕之蓄養及葬埋之習慣等事，此種文化上之遷移實由河南而至甘肅。與安博士所述者，恰相反也。但河南之中華民族，與甘肅民族之貿易，當爲必有之事。（安博士曾獲貝貨於甘肅之墓中，此明示與東部沿海諸處之關係）是以吾人實可冀及日後純正中國器物之發見，其數雖少，吾人只能認爲貿易上或攫奪之結果也。』

『此刻甘肅文化於河南之影響，可置勿論矣。但當時遠征及政治上之統治，亦爲其原因之一。設有紅黑彩紋

陶器之民族，其支派於紀元前三千年，果自其舊居之新疆，及甘肅，侵入東方，遠達河南。未必即能殖民於此。但携有中國遠古之文化與俱耳。但彼等已見黃河河套之地，中國文化，早經孕育。不久遂爲真純之中國民族所同化。使彼等製作精美彩色陶器之術，更加進步。』

『其他關於仰韶文化與近東及歐洲新石器時代暨石銅器過渡期淵源上之討論，阿思博士更有貢獻。茲特附引於此。』

『余（阿恩）莫由而知中國採掘所得之器物，與吾人之時代相近。因就陶鬲陶鼎之發見，而與中國古代之銅器相似故也。攷三足陶器之出現，最古之突羅邑市即已有之。（第一市）相傳此等三足器，形狀如釜，有高足三，寬大之直耳一。依其形式，常使吾人憶及中國之鼎。因此則中國之鼎，或係脫胎於西方流入之三足器，亦未可知。仰韶村所獲之雙凸瓶，其底部有空洞者，亦與最古突羅邑市之文化有關。而埃及與太僕茂宜者，亦復如是。此種陶器之存於高麗者，爲時極久。安博士所稱長大之尖底陶器（*Pailon*）不僅與埃及者相似，且與來自赫沙利克、突羅邑及印度者相類。如魏爾克氏所稱，本書之徵引，亦不下一次矣。與西方相關之事，尚有石環及貝環二種。在法蘭西、義大利、西班牙新石器時代之早期，埃及之古墓（遠至第三期）及印度之較晚期，前者多爲燧石所製。至於翡翠與軟玉者，則少有聞。此等石環，通常呈三角形之剖面。貝環曾自梯薩利之村落遺址得之，爲石器時代末期所出。（例如在 *Dimini* 及 *Rdkmani* 一地發見者，參閱 *Wace and Thompson, Prehistoric Thessaly, 1921, p. 84*）魏爾克氏亦自南歐之數邦知之。上述伯路奇斯坦若布谷之發掘中，亦復遇之。但爲何時所遺，則不甚確定耳。』

『今就此不甚充分之攷古資料而論。河南之文化中，即令外來特質，久存於中國文明長成之期，其顯然屬於中國者，僅限極小部分。雖然，此種新見之文化，當在人類未有歷史以前，約爲紀元前三千年至二千年之間。似屬中國民族祖先之所有。但石器時代末期，其有彩色陶器及幼穉銅器之民族，吾人並未忽略其特別之標識。此種民族，近稱曰南印度日爾曼民族（South Indo Germanic）而視爲一種短臚人種。查蒙古利亞人種（即黃色人種）其身體構造上之特點，極爲明顯。是以欲得人種問題圓滿之解答，只須將安博士採集之人類遺骸，加以研究，固非不可能之事也。』

加爾格林及阿恩之貢獻，顯然爲吾人研究此等問題之大助。加氏遂於中國之學，故以中國之論點論之。阿氏爲歐洲之攷古家，則偏重於東西文化關係之明證。阿恩博士因俟人類遺骸攷驗之結果，故於人種遷移之問題，暫守緘默。今僅就文化特性之分布，加以攷究而已。

在甘肅各種古物未經詳細攷證之先，此種重大繁複之問題，當然不能有全部之論斷。目今吾人之急待討論者，爲一族重要之遺物。此等遺物，吾人知之最稔，而又似爲構成中國原有文化之一部。即鼎鬲是也。茲分述如次。

阿恩博士前述三足器文來自古突羅邑第一市者，對於著者，係屬創聞。且爲一大有意味之事。而劍橋敏斯氏即『西西亞人與希臘人』（Scythians and Greek）名著之作者，使余注意南俄脫里波留鼎形三足器之發見。

當古突羅邑市及脫里波留之鼎形三足器未經著者徹底明瞭以前，則著者於西方及中國鼎器之關係，當然

不能有所論述。但鼎器之原始形狀，似爲一粘土之碗，下附極短之足三。此種簡單器物，想於人類之歷史中，發明必非一次。蓋粘土之碗，其初本以三石平支其下，而爲烹飪之用。其後以泥易石，因有三泥塊附加其下。此種假定，想不致有大謬之處也。

著者常以爲鬲之來源，與鼎大不相似。上述鼎乃一有三實心足之碗，鬲則足空且大，而上部則有三孔可以相通。著者因竊思鬲之爲物，乃專爲尖底器而作。蓋此等尖底器，可以插入鬲之空足，而鬲又可隨處安放。且烹飪時，與火接觸之處甚大，故能成爲便利之家具。吾人知粗糙之尖底器，於歐洲石器時代最古之陶器中，即有所聞。而河南仰韶層中所得數種形式不同之尖底陶器，所以示此等尖底陶器之先進者，已於新石器時代之初期爲東亞採用。但所謂新石器時代之初期，此刻絕未發現也。

此處所述鬲之來源，勿非著者一種幻想。俟甘肅及河南之資料，全經攷證之後，再當重論。

據著者所知，鬲原爲一種陶製之器物，屬於中國遠古及歷史上之文化。依勞佛之記述，吾人知一粘土鬲，據稱爲來自周代者。其他三種形式，曾於著者『中華遠古之文化』中附圖說明。其第五種則自甘肅之寺窪期所得，茲記述於此。（第十版第三圖）吾人之採集中，此類鬲族之陶器，尙有多種。再加中國金石家所攷定之銅鬲，遠自三代近至今日，而鬲之爲物，仍不失爲中國製銅器者之良好規模也。俟資料充分之時，則鬲之型儀，將爲日後繁重之研究。而當此種研究之初，吾人似可認鬲爲中國文化上之一種表徵。此種足當敬愛之器，其相承之跡，可以溯至仰韶之民族，而未中斷也。故對於早期鬲族之攷求，實可以闡明華北文化起源之疑問。河南仰韶遺址中，如不招寨及其未產彩色陶器之遺址，鬲屬之器物，極爲普遍。而河南陶鬲最完整之品，均自

此等遺址得之。但似較仰韶村之遺址爲古。

甘肅之情形與河南異。於齊家、仰韶、馬廠三早期中，鬲之踪跡究無所見。同時鼎器亦極稀少，或竟不遇。蓋著者查甘肅旅行之手簿中，僅載仰韶遺址之陶鬲殘足一件耳。惟至甘肅遠古文化之第四期（即辛店期）鬲之發見，則漸豐富。而第五第六二期（即寺窪期與沙井期）則特式之鬲，極爲尋常矣。

以上各事，似表鬲器發源之中心，即爲中國孕育文明之所。亦即相傳山西陝西河南交界處之黃河河谷是也。但甘肅無金屬之文化期中，是否有鬲之存在，尙不敢定。無論如何，即使存在，亦非常之稀少也。惟其後數期，則鬲族陶器，漸爲甘肅特式之種類所代表。

是則鬲器自山西河南交界處之發源地，向西北緩緩傳播，而流入甘肅之中部。蓋實可信之事也。

彩色陶器之故鄉，乃近東諸部。爲一般學者所承認者也。著者深覺精美陶器之有彩紋者，其製作之術，首抵甘肅。次及河南。此說固屬無疑。但西方藝術之傳播，必較他者爲速。蓋目前尙未實有攷古上充分之證據，而定彩色陶器之來甘肅者，當較河南者爲早。

齊家期中僅見陶片一件，爲陶器領部裏面之有彩紋者。（附圖第四版第一圖）但於齊家期之康氏陶器中，此爲例外。且覺不甚重要。蓋齊家是否早於仰韶，此刻尙難確證無疑也。

甘肅及河南首先所發現之彩色陶器，均自仰韶遺址所得。但目下無術可以證甘肅之仰韶遺址，較河南者爲古。河南仰韶之彩色陶器，不僅附有新石器時代之石骨各器，且無金屬之存在，適與甘肅相符。但河南之彩色陶器，雖與甘肅所出者，有密切之關係。然仍自各成一族。蓋其質料則較勝甘肅數量驚人之陶器故也。甘肅仰

韶遺址之彩色陶器較河南者大爲豐饒。此外完整之陶器亦自甘肅得之。尤以其葬地遺址所獲者爲甚。且甘肅彩繪之圖案則較河南者頗爲富麗。有時且有過多之病。但河南陶片其陶質之硬度、深紅之彩色、面部之打磨、設色之種類、圖案之優美、及陶肉之薄、均可與甘肅仰韶期之彩色陶器相頡頏。但此外尙須加有數種特質、而使河南之多色陶器自成一族。

自西方遠來之新文化、當其直達黃河流域（現代甘肅中部）之際、影響傳播極爲迅速、傾刻逐流而下、以至黃河之支流。遂與原有土著之文化相混合。更成爲石銅器時代過渡期廣布之族類。

著者此際之討論、僅及文化之遷移。而人種之遷移則未敢過問。步賴克博士於其人種問題淵博之考證、此刻之能爲吾人告者、將於本篇之末略述之。

著者現時重論上述之假定。即數千年前、當復興江河之泛濫及其侵蝕黃土草原之際、而在石銅器時代過渡期之文化未來以前。有一時期、華北之氣候極宜新石器時代人民之棲止。以故著者認爲異日攷古繼續之研究、於新石器時代真確之遺址、必有所得。

但華北石銅器時代過渡期之古址、爲吾人所知者、共有三十七處之多。大都廣闊富厚。而新石器時代下部或中部之文化層、則無一所獲。此種顯著之事實、行將證明新石器時代原有之民族、其生活之狀況、與石銅器時代之過渡期者、截然不同。然當此過渡期之初、於氣候或自然環境根本之變遷、又無左證。吾人於此、似可假定當石銅器時代過渡期之開始、以導入新來優越之文化爲多也。

新石器時代原有之民族、及類似蒙古之民族。其着手模仿中國遠古幼稚之文化者、大部爲漁獵民族。當時亦

於適宜之區域、推行其有石鋤之原始文化。設此種假定不謬。則彼等之團結必不甚大。生聚之所、亦無一定。蓋因漁獵之供給、若有變更、則彼等不得不隨之而遷移也。

石銅器時代過渡期民族繁殖之地。自其位置之廣村落之大。可以判斷彼等居留之時間、必不甚短。其實此等多數之古址、往往與現代之村落、同一區域、就全體而論、可謂當日繁殖之地、大致與現代社會者無殊。所異者為過渡期之人民、多喜奠居於階段懸壁之上。而現代之村落、則下遷於河成平原耳。但此種河成平原、想當過渡期之時代、或係林木太密、澤沼過多、故不宜永久之居住。

綜合上述數種特點。可知過渡期之民族、其生存之道、大都仰給農業。村落遺址之廣闊、文化層之深厚、凡此皆示其居住之攸久。設非務農為本、則殊難以自存。且陶器上之繩紋及格紋、則示當日有紡織植物之培養。村落遺址豕骨之多、則示當日蓄豕之繁。此等施設、若非農業之社會、當不克維持者也。

上述之理想、乃以實地研求所得為依據。著者蓋欲以解釋石銅器時代過渡期遺址計有三十七處之多、而新石器時代之中部、則古址一無所得之故。

華北原有新石器時代早期之民族、乃以游獵網罟為生。而其文化則以石鋤為特別之表徵。其團結之組合極小、遷徙亦無一定。此等民族有遺物之古址、較不顯著。且地形之位置、與石銅器時代過渡期之大村落者、復不相類。

過渡期之彩色陶器、及數種特式之品（如身長之尖底陶器）為西方文化流入東亞惟一之表徵。其影響則尙存於今日者也。當東亞此等陶器藝術革新之際、而亞細亞南部文化較進之技能、似亦多有流傳。蓋認定近東

最早之主要文化，爲屬優長於農業者。但不敢貿然謂遠東人民特有之技能，爲農業圓滿發達之先進也。但農業之進步，是否自新種植品之導入，或係耕耨法之改良，或二者兼而有之。此則非吾人現時所能猜想者也。設仰韶期之人民，已有犁鋤之使用，則大都爲木所製。因此種輕便之器具，頗宜於黃土之耕種。車輪之制，亦恐得見於遠古之期。蓋以陶器之磨輪，當仰韶之時，確已使用。且新店期之陶器，其上綴以輪形之花紋者，時有所見。（插圖第五圖b。）

設散有彩色陶器之黃河河谷，同時復有他種高等文化之導入。其當先者，必爲方法改進之農業。由是可知民族繁殖之速，能於較短之時期，即建設此多數永久之殖民地，幾如今日之村落者，固不足怪也。此爲吾人實際之探攷，以求解釋仰韶及其相連各期文化來勢之驟，及其散布之速。設果能引起世人對於此等惆恍迷離之問題，加以討究，則吾人探攷之目的亦云足矣。

甘肅史前人種說略

步達生著
李濟譯

安特生博士及地質調查所所長翁文灝博士，前地質調查所所長丁文江博士把他們在甘肅所搜集很宏富的人類的骨骸給我研究敘述；對於他們這種厚意，我能得這一個早機會在公衆面前申謝一番是我很快愉的一件事。

安特生博士寵約了我，要我對於這骨骸的體質及爲這材料所代表的人民之種類說幾句話。我却是帶一點躊躇應他的約；因爲我現在對於這個問題，只能發表一個初步的，暫行的意見。這幾箱子材料是去年十二月中半月的時候，在我的實驗室打開的。自從那時以後，我對於這些材料所忙的就是洗刷，上號目，排列。但是在作這些事的時候，及在初步的有統系的考察這頭骨及長骨的時候，我得了一點關於這材料所代表的人民之體質及其族類普通的印象。以下所說的與我五月十五安特生博士在北京地質調查所講演甘肅歷史以前的遺址以後所說的話實質是一樣的；我雖信將來的詳細報告中大端是同於此的，但是這些話只能代表暫行的意見。

這一個搜集包括一百二十多個個人的骨骸，大多數是成人的，男女都有。一切的頭骨及易脆的材料都在裝運的時候用皮紙糊緊，塞好；所以到了實驗室的時候，沒有一件是爲運輸碰壞的。有三十多件頭骨，牠們保存的狀況甚好，曾經詳細考驗。其餘的頭骨有許多可以完全或大半恢復原狀；但是亦有一部份因爲埋的土質含酸太多已經霉壞不能復原了。

在代表第一文化期的遺址（齊家）內却沒有得着人類骨骸。從朱家寨及馬廠沿的地方發現了五十副以

上的骨骸，牠們都是第二（仰韶）及第三（馬廠）文化期的，其餘的骨骸皆由代表第四期至第六期的文化遺址得來。

統論這搜集所代表的各組，那成人平均的體高似在中平。兩性的筋肉發展均好；在許多骨骸中並甚顯著。距骨、脛骨、膝蓋骨及股骨之具體勢節區以及中平的扁幹股骨中平的扁幹脛骨佔此搜集全數骨骸之百分數甚高；真正的平派薦推，在這搜集集中亦曾見過。（參閱古生物誌丁種第一號第三冊十四年）

大多數經過考驗的成人的頭骨都呈獻一種具興趣及引人尋索的品質之集合；這個集合可分兩題括叙出來：

（一）測驗 中圓顛，（平均的長寬指數在七五及七九之間，小者至六九大者至九十）高頂顛（平均的長高指數在七六及八一之間；最小者為六五，最多者至八一）寬高至寬平（寬高指數平均在九五及一〇一之間；最小者為八八最多者至一〇六）長臉（上臉指數平均在五六及六十之間）長形至中形鼻（鼻指數在四三及四九之間）寬大的眶間寬（眶間指數平均在二四及二七之間，最小者為二三最多者至三十）

（二）觀察 鼻下溝常見，微著或恰著；額部極稱其形，但眉上脊及額下中點僅微著，或恰著而已；額中縫合之見於朱家寨成人頭骨者居百分之十五以上（第二文化期）見於辛店（第四文化期）甲組之成人頭骨者約百分之十一，但在其餘各組不如此之多；鼻骨長，但在鼻額界點下一大部極狹而低；顴骨甚著而大；額眶差別角比較的小；男枕骨之外凸甚著時作鈎形。

故此搜集中大多數之頭骨及骨骸呈列的品質確而無疑的屬於蒙古種。比別於其他的黃色亞洲人，此種最似久復衣大及路格尼所謂亞州嫡派人種。

在我關於沙鍋屯及仰韶遺骸之報告中，我曾證明爲那兩組骨骸所代表的人民之體質與現在同地的居民（即我之所謂北支那人）之體質同屬一派。假如所證是實，則仰韶、沙鍋屯居民之體質與歷史前甘肅居民之體質亦相似；因爲三組人之體質均似現代北支那人即所謂亞州嫡派人種也。

以上結論適用於甘肅搜集中大多數的骨骸。但是這裏邊也有與衆不同的頭骨。因爲這些頭骨上不同的品質，他們可以自成一支派。有三個頭骨可以說是屬於這一支派的；其中有兩個得自朱家寨（第二期），一個得自馬廠沿（第三期）。

這三個頭骨與大多數頭骨不同的地方如下：（一）鼻額界點之下部不如大多之窄及低；（二）眶外面斜交正前面；換言之，即額眶差別角較大。要是從正旁面看這幾個頭骨，牠們的鼻根較之大多數爲顯，眼眶內牆大部份較之大多數爲可見。但是要從正前面看這幾個頭骨，牠們卻沒有與大多數顯然不同的地方；因爲牠們的高的顴骨及面部各比積與原形的中國派有根本相同的地方；所以我們很難確定這三個頭骨的地位及其所代表之人種與他種人之關係；現在我暫名此派爲X派。

一個甚具興味的觀察就是這X派的頭骨只見於銅器以前文化期的遺址而未見之於以後各期；其次，別這X派頭骨恰著的特點也就是在現代西方民族甚顯著的特點。因此我們可以建議一個解釋：說X派頭骨之見於甘肅是由於西方民族與原形支那種混合的結果。假如這個解釋是對的，我們却很難看得出爲什麼這

一派的頭骨不多見於中期及晚期而獨多見於前期。又有一個替代的解釋可說，就是說這X派與原形支那種之所出爲同宗，因爲這平式面孔的亞州嫡派人很像由舊石器時代第二期歐州人式的宗派蛻化出來的。詳細研究這材料的時候或能對於這個設想多給一點光明；但是真正的答案還靠着在中央亞細亞發現比甘肅仰韶期更早的人類骨骸。

關於歷史以前的甘肅居民爲死人儲紅顏料的習慣我也應該提一下。他們是否光去軟部，再儲顏料，我們不得而知，但是從每一個大的遺址總有一兩座墳墓的骨骸是帶鮮紅顏色的。爲死人儲紅顏料（常爲紅赭石及過酸化鐵）亦爲舊新兩石器時代歐州各地墳墓所常有；在中國內地的墳墓亦有同樣的發現（此處指與新鄭銅器同時發現之人骨言。譯者識）。所以甘肅發現的這種習慣又爲聯絡東西風俗一件有趣的事實。甘肅紅顏料的化合物尙不知。

再說一句以作結束。初步測驗這材料所得的印象使我相信爲這骨骸所代表的歷史以前的甘肅居民大多數是原形支那派的，不是加爾格倫教授所擬議的土耳其種；但是在最早期的居民骨骸之中却有幾個頭骨與大多數同宗而不同派，或較之原形支那人更爲原形。

地質專報甲種第五號

安特生著
乐森璿譯

附甘肅史前人種說略

李步达
济生著
譯

甘肅考古記

中華民國十四年六月
農商部地質調查所印行