"Ch‘ü-chia-ling" and the Early Cultures of the Hanshui Valley, China

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INTRODUCTION

The purpose of this review is to provide anthropologists interested in the culture history of Asia with a preliminary definition of prehistoric–early historic developments in the Hanshui Valley, China. The review’s most significant theoretical aspect is that it presents but one example of the kind of localized experimentation, adaptation, and elaboration that has produced the cultural mosaic of historic Asia.

The archaeological importance of the Hanshui Valley and the middle Yangtze Plain (central Hupei and northern Hunan provinces) has only recently been recognized. The first indications of significant agricultural settlement were discovered in 1954 in the Chingshan district (see Fig. 1). Attention was directed to these sites because of the certain identification of paddy-rice farming, and even in 1954 the intensely local nature of the Neolithic–Early Historic culture was evident.

By 1960, excavation and survey had extended eastward into the Huangp‘ei and Ch‘i-ch‘un districts (east of Hankow) where bronze age continuation of related neolithic materials was found. In 1961, extensive archaeological work was reported from the districts of Yun and Kun, near the Hupei-Honan-Shensi border along the upper and middle course of the Hanshui. Several rich sites, apparently stratified, and adequately reported, can now be described.

The importance of the Hanshui Valley Neolithic–Early Historic culture is established on two counts: (1) it represents the first appearance of an intensive rice-growing economy, and (2) it is an original, localized cultural development in relationship to both the lower Yangtze and Chungyüan “spheres of influence.” [Chungyüan is considered to include the middle Huangho drainage and plains.] Although the exclusively “neolithic” quality of the Hanshui Valley culture is questionable in chronological terms, it may possibly be evaluated in terms of ethnohistorical development.

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As we come to recognize the many foci of prehistoric and early historic cultural development in China, any extrapolation from culture sequences particular to the Chungyüan to other regions—especially regions of dramatically different ecological opportunities—should be seriously questioned. Inasmuch as this extension has now been stretched so thin as to embrace Southeast Asia as well, the chronological implications of the sequence also requires reevaluation. In dealing with a literate tradition such as China’s, the tendency to make cultural assessments on the basis of dynastic history alone is as prejudicial and inaccurate as any “great man” theory of history. Just as the dynastic succession of Shang and Chou masks the previous history and contemporaneity of both cultures (and probably dozens more) the Chungyüan sequence of Yangshao, Lungshan, Shang disguises the dynamics of the historic process.

If the stratigraphy described below is reliable, then a rough chronology can be suggested. The major implication of this chronology is to point to the difficulties involved in using the “Lungshanoid” horizon concept—a horizon without clearly defined temporal beginnings—that ends in some areas as Shang takes over, in others with the civilizing forces of Western Chou, and in yet others probably persists for centuries as the “little tradition” in the classic peasant-village context. The basic materials will be presented before any further conclusions are drawn.

Fig. 1 Sketch map of Hanshui Valley showing districts in which sites are located.
The information presented is taken only from reported sites where stratigraphical relationships are securely demonstrated; the terminology of the Chinese reporters will be retained in this presentation although there are serious questions that involve the criteria used in establishing typological categories. The "culture" itself is often referred to as "Ch‘ü-chia-ling" after the type site first discovered in the Chingshan district.

**Chingshan**

Eighty sites were discovered in the Chingshan district during the preliminary survey (KKTH 1956, 3; WW 1955, 4:41-46). The site of Ch‘ü-chia-ling was located in the southwestern part of the district along the eastern bank of the Chingmu River.

At the beginning of the investigations, previously exposed (and disturbed) sections were studied, and during the 1956-1957 excavations, a total area of 858 sq. m was uncovered (Science Press, Ch‘ü Chia Ling, Chingshan 1965). Several related levels were observed; among them, the excavators have distinguished two clear stratigraphical-cultural components. The excavators called these levels early and late and, on typological grounds, have further subdivided the late period into late I and late II. Ch‘ü-chia-ling is a very rich site with stone, bone, and pottery refuse in a cultural deposit that is 3 m in thickness.

The stone tools found at Ch‘ü-chia-ling show some chronologically significant variation that is most apparent in the addition of new types, rather than new techniques, of manufacture. In the late period, there is a continuing tradition of chipping and pecking in the manufacture of axes and adzes, while polishing techniques are generally reserved for the use-edges of these tools. However, there is a trend towards smaller tools, and some of these do show allover surface polish. Some very finely worked pieces of mottled stone are in the latter group. Also in the later periods, the frequency of flat, perforated axes increases, and stone and bone arrowpoints appear to be more plentiful (see Figs. 2-6).

Five classes of pottery are recognized in the report:

*Fine-tempered grayware* is made of relatively soft paste. The pots are undecorated except for perforations (oval, round, crescentic, triangular, and rectangular) that surround the base, the shoulder, pedestal, or mouth section. A few pieces had fine cord-marking as well. Vessel shapes included ring-footed *tou*, small *ting* tripods, *kuan*, and little flat-based bowls. There were also spindle whorls in this pottery category, and one incised "ball."

*Fine blackware* is made of paste free of particles, and the surface is burnished. This ware is unmistakable, as surface and core are completely black, and the wall thickness is only 0.2-0.3 cm. These pots were all wheelmade, and are generally small. Vessel shapes included small *yu*, round-based bowls, and tripods. There were some tapered jars and one tubular-shaped piece of 1.5 cm in length that may have been a decorating tool. A single black sherd was slipped in white and painted in red and black.

*Redware* is divided into categories according to kind and size of temper. The coarser ware had walls averaging 0.5 cm in thickness, usually cord-marked or decorated with geometric stamped designs. Pottery shapes in the coarse ware included ring-footed vessels and wide-mouthed *kuan*, flat-based pots, and tripods. The fine-tempered redwares had thinner walls (0.19-0.2 cm) and generally had black slip on the exterior surface. These pots are relatively rare and are decorated with incised patterns. There is also a very gritty red pottery with cord-
Fig. 2 Stone axes, early period (from Science Press, Ch’ü Chia Ling, Chingshan 1965: p. 13, Fig. 7).
Fig. 3 Stone axes, late period I (from Science Press, Ch'ü Chia Ling, Chingshan 1965: p. 26, Fig. 17).
Fig. 4 Stone adzes, knives and points, late period I (from Science Press, Ch'ü Chia Ling, Chingshan 1965: p. 28, Fig. 19).
Fig. 5 Small ground stone tools, late period II (from Science Press, Ch'ü Chia Ling, Chingshan 1965: p. 45, Fig. 33); numbers 2 and 4 are ceramic objects.
marking, appliqué and geometric stamped decorations. In this ware, the tapered p'ing was a favorite shape.

Painted “egg-shell” pottery is the most unusual type, and is later identified as a “horizon marker” for Ch'ü-chia-ling culture. These vessels are made of a pure, washed clay of gray or gray-white color (although some fire orange-red) and the walls are very thin (ca. .05 cm). The only vessel shape in this ware seems to be the small open bowl. It is wheelmade, the surface is slipped in black or red, and it is sometimes burnished.

Stratigraphically, the pottery of the early period is dominated by the grayware, while everyday utensils continue to be made in the coarser redware; the painted pottery and fine black pottery is limited in frequency, but there is a wide variety of shapes represented in these
more delicate wares. The later period extends this range even further, including vessel shapes that are not known in any other regional context (see Figs. 7–10). The period is additionally marked by the appearance of the painted-pottery spindle whorls (see Fig. 11).

**Tienmen**

In the district of Tienmen the very important site of Shih-chia-ho has been excavated (KKTH 1956, 3:11–24). Although reported only in preliminary fashion, the earlier phase of the occupation at Shih-chia-ho has been correlated with Ch'ü-chia-ling. In fact, this “site” is a complex of four locations on a sloping hill which rises 2–4 m above a river-cut ravine. The site occupied 3,000 sq. m, of which 1,400 were excavated.

The following three cultural periods were differentiated on the basis of stratigraphy:

A. Artifacts found in this late period deposit included jades, bronzes, and clay figurines of animals and birds. The jades—tubes, bracelets, and rings, anthropomorphic and dragon forms, cicada and phoenix—are clearly of Chou style and can be dated 1027–770 B.C. Bronze objects included one whole chien sword and several fragments. There was an assorted burned red earth area that was supposedly a metal-working area (smelting or molding).

Fig. 7 Pottery vessels, late period II (from Science Press, Ch‘ü Chia Ling, Chingshan 1965: p. 49, Fig. 39).
Fig. 8  Pottery tripod vessels (*ting*), late period II (from Science Press, *Ch'ū Chia Ling, Chingshan* 1965: p. 50, Fig. 40).
Fig. 9 Pottery, late period II (from Science Press, Ch'ü Chia Ling, Chingshan 1965: p. 61, Fig. 48).
B. It was in this period that a kiln was constructed. Although without any bronze association, the kiln was used in later periods as well (one cicada jade was found in the kiln). Also associated with this period are the many figurines of red, buff, and gray pottery. There are many unidentifiable forms among the figurines, but numerous types of wild birds and animals, turtles, and fish can be discerned. There are also realistically modelled dogs, ducks, geese, and sheep with curled horns; these are all presumed to have been domesticated by the inhabitants. The haziness surrounding the chronological interpretation of the kiln is most unfortunate, since it is from impressions in the kiln walls and carbonized fuels found inside that grasses of several varieties, including tao paddy-rice, have been identified.

C. Painted pottery was found in this deposit in addition to red, yellow, black, and grayware; of these, the gray predominated, and painted pottery was scarce. This period is archaeologically distinguished by the painted pottery spindle whorls. These are not numerous,
TREISTMAN: “Ch‘ü-chia-ling” 81

but display a very careful technique of painting (Fig. 13b). The spindle whorls were made of fine buff-colored high-fired pottery; some of a glossy red were also found.

The pottery of Shih-chia-ho does not appear to have a chronologically significant variation; grayware is plentiful, but painted pottery is scarce, and in construction is unlike that found at Ch‘ü-chia-ling. Broad bands or straight lines and angles are painted in black on red or buff pottery. Pei is most plentiful, kuan is scarce. Gray vessels often have spherical covers; ring-footed vessels often have very high (13 cm) pedestals that are perforated in random patterns. Hu also is made in the grayware. Black pottery includes round-based kuan; vessels in buff and red ware include wide-mouthed pei, cylindrically shaped pots, high ring-feet, and flat-based kuan. The pottery is frequently cord-marked.

Small tsuo chisels and winged points are made of stone; there are also tools of bone and teeth that have disintegrated beyond identification.

Ch‘i-ch‘un

In the Hankow area (lower Hanshui Valley and lake region) of the Ch‘i-ch‘un district, there are several important sites. Again representing localized farming cultures, these settlements indicate a depth and continuity of development which was independent of basic Chungyüan influence.

I-chia-shan (KK 1960, 5; 1956, 3:21–24), 2 km from the district capital of Ch‘i-ch‘un, can be considered in a preliminary fashion. It is surrounded on the northwest, west, and southeast by small hills or mounds. The river valley is interrupted by many such hillocks, some rising 4 or 5 m above sea level. Other small sites were discovered in the vicinity, all with assemblages reportedly similar to I-chia-shan. In a nearby town, a cemetery of 20 or more graves that may be related to the dwelling sites was discovered. The gravas contained jades and bronzes.

In 1956, nine test trenches were run at the site of I-chia-shan, exposing 13 dwelling pits and several soil strata.

Broken bricks and Ch’in tiles were found on the surface of much of the site (an area of about 6,500 sq. ft.). Excavations in the north, west, and eastern quadrants went down to sterile soil, while the southern section continued to an unknown depth. I-chia-shan does not represent a single occupation, but rather an early stage into which later burials were intruded. The present interpretation of stratigraphy is based on the published materials:

Upper level 0.64–0.8 m from surface. Ch’in tile fragments, fine redware, sandy redware and grayware, stone tools, and a few pieces of stamped pottery;
Lower level to 1.25 m from surface. This level appears to have two culturally determined periods:

a) The upper portion of the level was noted to contain burnt red earth and limestone pebbles. The materials included sand-tempered black and red pottery, usually string marked but sometimes incised, grooved, or perforated. Shouldered stone tools occur in addition to bone.

b) Materials excavated from the lower portion are essentially the same as above, but occur in gradually decreasing frequencies. In Trench 4, a sherd of black painted pottery was found, and in Trench 3, a fine clay-tempered black tou and a shouldered axe were discovered.

A round house pit which seems to be correlated with b above is described in the report: the burned red earth (floor?) contained undecorated fine redware, grayware, and a few bone

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Fig. 11 Painted ceramic spindle whorls (from Science Press, Ch'ü Chia Ling, Chingshan 1965: p. 47, Fig. 37).
tools. There were animal bones and teeth, charcoal, stone tools, and some fine-tempered, gray pottery in refuse deposits.

Altogether, 231 stone tools were found in the area of the site; of these, 183 were excavated, and 48 were collected from the surface. The stone materials included slate, shale, nephrite, and “green-stone” (jadeite?). Axes, adzes, points, knives, chisels, hoe-spades, rings, and tubular-shaped implements were found; the so-called refined and primitive types obviously belong to the same culture period. The axes all had polished edges but were otherwise “crudely shaped.” The hoes or spades were perforated. Chisels were small and very finely ground. The adzes were large tools made on pebbles. There were also ornaments of white and black polished stone. Unfortunately, the tools were not segregated according to stratigraphical position, but were presented as a total collection.

From three trenches alone, over 14,000 potsherds were collected. These were classified according to color of paste and size of temper. The coarse-tempered ware (red, black, and gray) constituted 90 percent of the total, the remaining 10 percent was fine-tempered pottery, which only occasionally had inclusions of fibre or crushed stone. In this group, there were some polished pieces. Cord-marking was the most common feature of ornamentation, but there were also basket patterns (these possibly may be check-stamped) and some with grooving on the surfaces. There were 23 pieces of geometric impressed pottery and 2 sherds of painted ware. Ting, li, and kuei tripods occur as well as hu, kuan, pei and p’en shapes. Covers and handles were found. Spindle whorls, net-sinkers, and bracelets were fashioned in pottery. There were human and bird representations modelled in fine redware. Lack of sufficient evidence makes it difficult to date the hard-geometric-stamped or the painted pottery. They may, in fact, have been imports.

Ting were the most common tripod in use; they were usually of red sand-tempered pottery, cord-marked, and incised on the feet. Only 14 pieces of li type were found; these are all small and are made of fine clay-tempered redware. There were 2 kuei also of this ware, and 5 gray-ware tou were wheelmade and grooved. Hu were also wheelmade of coarser grayware and grooved; kuan were of finer paste. Many of the ring-footed vessels were perforated. In general, cord-making appears on the coarser pottery. Several multi-footed pan are identical with those found at Shih-chia-ho. There was 1 incised tripod and many ring-footed vessels with grooved bases. Several examples of handles and lugs were found. Some of the ting forms have protuberances imitating those on bronze vessels.

The numerous netsinkers made of fine redware give evidence of great reliance on fishing. Rings and bracelets of grayware and 19 pottery discs were found, all with perforations and imprints on the surface.

A great quantity of animal bones and teeth were found at the site. These were mainly of dog and pig. Only 10 tools (awls and points) were made of bone. There were 11 bronze pieces, including 2 axes and several points found on the surface and in the disturbed fill of one trench. Several areas of burned red-clay were discovered. Several pits were opened, all containing charcoal and refuse.

Yunhsien and Chunhsien

In 1961, an extensive report was made of excavations undertaken in the districts of Yun and Chun in the upper Hanshui Valley. More than eighty sites were discovered, spanning neolithic, Spring and Autumn, Warring States, Han, and T'ang periods (KK 1961, 10:519–530).
In northwestern Hupei, the Hanshui Valley extends to the mountain region. The topography of the area is dominated by precipitous gorges, some with a sheer rise of 200 m. In the broad river valleys, the land often becomes basin-like and is largely cultivated.

Archaeological sites are found on the slopes rising from both banks of the river. They represent rather large settlements of rice farmers. The sites show persisting cultural continuity which seems to be largely independent of Chungyian civilizations. None show strong Shang or early Chou influences. They are superseded by the occupations and burials of Warring States, Han, and Ch'in times. The intensely local nature of the culture is emphasized by the extensive urn burials and the general absence of many typological features considered typical of Chungyian neolithic ceramics. The excavators have made an attempt at isolating cultural "components" which are given pottery-type names and then placed on a time-scale. Thus, the sequence Yangshao—Ch'ü-chia-ling—Lungshan is put forward and the material is arranged accordingly.

The site of Ta-szu is in Yunhsien, 10 km west of the district city and on the north bank of the Hanshui. It is in a triangular-shaped valley. The occupation area of the site spreads over about 5,000 sq. m, and there is a cultural accumulation of about 2 m in depth. A total area of 100 sq. m was excavated. Three test trenches were dug in obviously disturbed agricultural areas where "Yangshao" sherds appeared in the upper levels. Warring States and Han burials also occurred.

The "Yangshao" component has an accumulation of 0.8 m in depth that merges with Ch'ü-chia-ling. The remains are said to be similar to Pan-p'o and Miao-ti-kuo. There were 4 round ash-pits found, all under 1 m in diameter. These were filled with sherds, river pebbles, and shell remains of river molluscs. There were 7 graves discovered in which there were solitary burials, but 1 grave contained 8 skeletons.

The pottery was mostly unrestorable, but some shapes could be determined: ting, wen, kuan, tapered ping, round and flat-based bowls, pei, and high-necked jars with covers. The ting and the painted red ware with black or red decorations, or both, were all similar to pottery found in Shensi at the site of Miao-ti-kuo. Only a few of these were slipped in white before painting. The fine-tempered redware kuan had the high necks that are similarly found in the "Yangshao" of Ch'ü-chia-t'ai and Ching-lung-chuan (see below).

Stone adzes, axes, chisels, points, and net-sinkers were found. Knives, which were rare, were either chipped or polished. Bone was made into needles, awls, and points. Again, there are equivalent artifacts among the Pan-p'o (Shensi) materials.

The "Ch'ü-chia-ling" component is a deposit of 0.5 m that merges into the "Lungshan." It is similar to Ch'ü-chia-ling of Ching-lung-chuan. Four pits, each less than 2 m wide, were found with accumulations of pottery, bone, and shell.

The most important pottery shapes included ting, kuan, tou pen, and high-footed cups; there was also 1 small pottery pei of black eggshell paste and 1 yu.

The site Ch'ü-chia-t'ai is situated between the southern bank of the Hanshui and the north bank of the Tseng River, 1 km south of Chunhsien City. The site is ca. 10,000 sq. m in area; the cultural deposit does not exceed 2.5 m in depth. In 1958 and in 1960, a total of 1,000 sq. m was excavated, revealing two components, designated by the authors of the report as "Yangshao" and Spring and Autumn.

The earlier deposit is 1–1.5 m thick. Ceramic remains included unadorned and polished pottery, both sand and clay-tempered redware. Painted pottery was absent; shapes were not varied. The technique of manufacture was rather refined and controlled. In this respect,
TREISTMAN: "Ch'ü-chia-ling"

it is similar to the pottery found at the sites of Ching-lung-ch'uan and Luan-shih-t'an, but it also shares some elements with Ta-szu. There were 5 dwellings reported, including single-roomed rectangular (7.5 x 5 m) houses and two-roomed houses. Walls of red burned earth and clay were rubbed smooth inside. This site possibly may have been abandoned because of fire. Ash pits with scarcely any pottery were excavated. Burials included 3 adult interments and 1 mortuary urn containing a child's skeleton and deer antlers.

Conglomerate stone was chipped and roughly polished to form axes (rectangular with oval cross sections), adzes, chisels, points, and spindle whorls. Some of these tools were partially pecked, but only the cutting edges were ground. A few stepped flat axes and perforated celts occurred: These have allover polish and fine workmanship.

Coarse sand-tempered and clay-tempered redware predominated in the pottery collection. There were also analogous types in grayware, but black pottery was scarce. All of the ceramics were handmade, and a very few had basket- or string-markings. Appliqué-rope-banding appeared, although rarely. Most surfaces were plain, some simply burnished. A few kuan were slipped in red. Covers and handles were found. The ting were usually made of coarse red paste, the kuan of gray. There were many clay-tempered high-necked kuan.

The site of Ching-lung-ch'uan is about 3 km east of Yunhsien Capital City and on the northern bank of the Hanshui. It is located on a slope of the southern foothills of the Yuchien mountains. It is a large site, conforming to the shape of the river plain and on the surface measures ca. 40,000 sq. m. The site had a cultural depth of between 3.5—5.5 m. It was an unusually rich site of pre-bronze remains. The western section of the site was occupied during spring and autumn periods, and there were also some Warring States burials. The cultural relationships suggested by the excavators are in part stratigraphic: Yangshao—Ch'ü-chia-ling—Lungshan. Excavations of over 1,000 sq. m in the central and eastern sections included house remains, ash-pits, and 40 burials. A kiln was found. There were large quantities of pottery, stone, and bone artifacts. The terminology of the report will be followed in the following description:

Yangshao Cultural Component.

Yangshao cultural component is considered 1.5 m thickness of accumulation underlying the "Ch'u-chia-ling" component. These remains were basically the same as Ch'ü-chia-t'ai but showed certain unusual features of construction and a scarcity of pottery types (see Fig. 12).

Of 5 houses, 3 were found in good condition. These were round in shape and of earthen construction. There was 1 house about 2.4 m wide with a trench or drain about 0.34 m wide and 0.32 m deep surrounding it. Boulders found in this trench may have been the remains of a foundation. Lumps of burnt clay and twigs suggest wattle and daub construction. In another trench, 3 house-posts were traced, and indications of a doorway were found.

There were 4 mortuary urns placed near the dwelling places. These were probably child burials, and all were accompanied by grave goods.

Most of the stone tools were both chipped and polished, and relatively few showed allover polishing. They included axes, adzes, chisels, knives, and points. Rectangular axes were fashioned out of conglomerates. There were also stepped and perforated axes, hammerstones, and scrapers. Adzes and chisels were generally polished. Perforated knives appeared only rarely. Only a few points and awls of bone were found.

Vessel shapes included among others deep-bowled ting, deep kuan, small-mouthed kuan
with high-necks. A few of these have knob-like protuberances around the shoulder. There are painted designs (post-fired) of simple circles, parallel lines, and hatching. Handles, lugs, and covers occurred. Pottery and stone bracelets and rings were plentiful.

Animal bones in this component included dog, pig, and deer; of these, pig was most numerous.

Fig. 12 "Yangshao" style pottery from the sites of Ta-szu, Ch'ü-chia-t'ai and Ching-lung-chan (from KK 1961, 10).

Ch'ü-chia-ling Cultural Component

The Ch'ü-chia-ling cultural component is about 2 m of cultural deposit underlying the component called "Lungshan." Coarse, unadorned pottery and burnished gray-black ware were most important and included ring-footed vessels with angular walls and some eggshell painted pottery.
There were 4 house-sites found. These were of two types, the first being large rectangular-shaped houses of two rooms each. Of this type, 1 measured $14 \times 5.6$ m and faced the north-east. The walls rise from ground level and were constructed of burned clay. Impressions of many stalks and kernels of tao rice were discovered in the clays. The inner surface of the walls were plastered. Smaller houses were found that had only one room each. There were also several pits, none more than 4 m across, containing stone, pottery, bone tools, and animal refuse. Reportedly, 1 kiln was found, but the contents were not described.

There were 6 burials excavated. Near the house area, 2 adult skeletons were interred in extended positions. The skeletal remains in 4 mortuary urns were of children. All had grave goods accompanying them.

Many stone tools were collected, but very few tools of bone or pottery were found. Stone working techniques were the same as those seen in the "Yangshao" culture level, but there was an increase in the number of polished tools that had been pecked and finished over the entire surface. The categories of Ch'ü-chia-ling tools were the same as "Yangshao" categories, although there were some changes in style. Axes were thin, flat, rectangular, or oval in section. One stepped axe, polished and perforated, was found. Adzes and chisels were numerous. The report states (KK 1961, 10:524) but does not illustrate that many chipped, waisted hoes were present as well as some shouldered hoes. All of these show use-polish at the cutting edge. There were a few rectangular polished knives with one or two perforations, and quantities of stone and bone points.

Gray pottery was dominant in the ceramic materials and included both coarse sand-tempered and fine-tempered wares. Redware of the same types were important. There was very little black pottery. Pottery was made by hand; surfaces were generally plain although sometimes they were burnished. Perforated, grooved, and incised decorations do occur, but only a few can be called "basket-marked." Painted decoration of geometric designs in red and black, or only black, were found on kuan, pei interiors, and yu.

In the eggshell pei, a purple color was added. Shapes included ting, kuan, pen, tou, yu, hu and pei covers and handles. Li were not present, nor kuei or chia. Ting-feet made up the largest part of the collection. There were several types of tou, the most numerous being the high-footed style; these were generally perforated (See Fig. 13c–e).

"Lungshan" Cultural Component

The "Lungshan" cultural component is the 1.5 m accumulation lying above the Ch'ü-chia-ling materials. Basket-impressed pottery was most prevalent. There was some thin blackware, but never a li tripod. There were ting, chia, kuei, and a few painted pots. In these aspects the site was similar to Ta-szu (above). The basket-marked pottery was identical with that of the Honan Lungshan; however, there was sufficient material of "local color" to clearly differentiate the total collection from the Honan-Shensi Lungshan.

Among the 30 burials associated with this component, 24 were adult interments and 6 were urn-burials of children. Only 9 of the shallow rectangular graves had grave goods. These included pottery kuan, pei, and pen; stone points and rings; jade tubes; pottery spindle whorls; and pig bones. Two graves were rather different. The burial numbered 27 contained a human skeleton with 14 pig mandibles (?) and pottery kuan and pei. These latter were punctured, presumably for "spirit release." In number 31, the corpse had been buried with a heap of pig bones, and wore a stone bracelet on the right arm.

Tools were mostly of pecked and ground stone, many showing allover polish. Chipped stone
tools gradually diminished in frequency when compared to the earlier occupation. In addition to axes, adzes, chisels, knives, points, and spindle whorls, there were disc-shaped hammerstones and shouldered hoes. There were many perforated ground-stone knives of rectangular shape. Pottery spindle whorls were frequent, some being painted and engraved in the fashion of Shih-chia-ho and Ch'ii-chia-ling.

Grayware, both coarse and fine, dominated the pottery collection; however, there was also related redware. Black pottery was rare. All pottery was handmade; and a large proportion was basket-marked, check-stamped, grooved, string-marked, perforated, and incised, although plain and burnished surfaces did occur. Painted decorations appeared but in small quantity. It was restricted in kuan, kuei, pei, and spindle whorls. Some purple slip was used. Vessel shapes included ting, chia, kuei, tseng, pen, kuan, yu, pei, tou, pan. Several had covers and handles. The li was never present, and the ting was frequent; chia were rather scarce and usually had appliqué-rope-banding on the shoulders in addition to surface basket-marking. In general, the pottery at this time showed great variation in shape and decoration.

Jade ornaments, stone bracelets, and rings were also found. Animal remains consisted mostly of pig bones, with some dog and deer, as well as sheep.

Conclusions

The culture history of Hanshui Valley involves many difficult problems. It is well recognized as an area of culture blend and creativity: having received primary neolithic influences from the Chungyüan, the area was prepared for agricultural innovations. In a naturally favored region, experimentation with new ideas and materials was both feasible and productive. It may be suggested that the sites discussed here actually manifest two major components: the earlier was neolithic, the later, historic. The so-called Yangshao culture of the upper Hanshui Valley does seem to be comparable with the Shensi Pan-p'o-Miao-ti-kuo sequence. It therefore represents a reasonable extension southward along a major communications corridor. However, the “Lungshan” component is probably entirely historic, showing late Shang-Chou stylistic affinities. The intermediary Ch'ii-chia-ling is basically historic in time, although there may be continuity with late persisting local neolithic cultures.

The fact that the painted Ch'ii-chia-ling pottery is all wheel-produced, the appearance of geometric stamped decoration at the type site, at I-chia-shan and Yang-chia-wan, and the presence of bronze implements or apparent imitation of bronze vessels all argue for late dating, at least post-1000 B.C. At the same time, the absence of typical Honan-Shensi Lungshan pottery emphasizes the independent nature of this regional development. When Lungshan influences do appear, they are of the late eastern, or bronze-age type (see also Tung 1960:63–64).

In this respect, the sequence of development at the Ching-lung-ch'uan site is perhaps most typical. The earliest levels reveal a well-developed small village complex with an all-purpose stone tool kit adapted to simple farming (millet) and hunting; the dog and pig are domesticated. This culture is derived from the Chungyüan (Shensi) and persists for a long time as a moderately successful and suitable adaptation to the riverine valley conditions. In the first millennium B.C., a new way of life emerges, based on rice agriculture.

A parenthetical remark on the origin of rice is required. The positive identification of Ch'ii-chia-ling tao rice as Oryza Sativa indica (KK 1951, 4:31–34) causes us to pause in evaluating prehistoric Sino-Indian contacts. In India, the earliest appearance of domesticated
Fig 13  

a. Painted pottery from Ch’ü-chia-ling (from WW 1955, 4).

b. Painted ceramic spindle whorls from Shih-chia-ho (from KKTH 1956, 3).

c–e. Pottery from Ching-lung-chuan (middle period) (from KK 1961, 10).
rice is now found at Navdatoli, in Malwa, and may date ca. 2000 B.C. This may, in fact, be earlier than its first appearance in China, since its association with "Lungshan" blurs the actual dating. Perhaps it is not too speculative to suggest an early interchange between rice agriculturalists of eastern India and the inhabitants of Szechwan's Yangtze Valley, from whence new ideas filtered along the river course to the Hanshui region (see, for comparison, Chang 1963, Dani 1960, Sankalia 1962, and Treistman 1968). Lacking critical materials from mainland Southeast Asia, this would appear to be the only possible derivation. Once established in the Hanshui-middle Yangtze region, intensive wet-rice cultivation spreads very rapidly onto the lower Yangtze delta plain and along the coast of southeast China. The mound-dwelling terrace-builders subsumed under the rubric "hard-geometric stamped pottery culture" are likely candidates for historically known Yueh peoples who brought this new way of life to fruition. They may even have been responsible for its transmission to Japan (Yayoi) and southeastern Asian centers.

An updated chronology for this Ching-lung-ch'uan sequence immediately opens the possibility of cultural identification in the Chungyüan histories. While traditional records simply refer to the populations of this region as Miao-man (barbarian tribes) they may in fact represent the cultural crystallization only somewhat later to be known as the kingdom of Ch'u (740–330 B.C.). Early Shang oracle sentences utilize the tao-rice character, although there is no archaeological evidence for rice cultivation in the Chungyüan during this period. However, if relations with the Ch'ü-chia-ling culture are now proven, rice may already have been an important "commodity." The relative lack of metallurgical knowledge need not disprove contemporaneity. The development of bronze technology may never have been utilized for agricultural exploitation, but may have remained peculiarly ritualistic. Its distributions seem to have had a hierarchical restriction. In fact, the Ch'u, intensive rice cultivators, are possibly among the first to apply iron technology effectively to agriculture (KKHP 1960, 1:73–87). Prior to this, wooden tools probably sufficed. This was certainly the case in the Yayoi cultures of Japan, which parallel the Hupei development to a surprising degree. Lacking quantitative data, it can only be suggested that the frequently reported waisted or perforated axe-hoe is the favored stone implement of the local rice cultivator, and the typical sickle, or reaping knife (perforated rectangular or semi-lunar shape) of the Chungyüan is scarce.

Lacking a full Bronze Age in the urban-civilized sense, Ch'u culture may have achieved its remarkable florescence during the first millennium B.C. on the basis of an iron technology. It even may be that iron was a necessary innovation before rice-agriculturists could successfully exploit the Yangtze valley region (see also Hsia 1960:2–3). When the Ch'u kingdom first appears in the south (as early as Spring and Autumn period) at Hunan Ch'ang-sha, it maintained an intensity of unique development which was outstanding. Not only did it have a pictorial script which is largely unrelated to the script developed by Chungyüan civilization, but unusual styles of decoration demonstrate continuity with earlier traditions. An example of this is the exuberantly ornamented pottery, painted after firing (KKHP 1959, 1:41–60).

If, by 681 B.C., the Ch'u expansion had gained such momentum as to call into being a "league" of resisting states from the Chungyüan, it is fitting to look backward in time for clues to the origins of this culture. While positive identification is not yet possible, Ch'ü-chia-ling does make a good ethno-historical candidate. Once conceptually separated from major Chungyüan derivation, it remains the task of archaeologists to assess Ch'ü-chia-ling in relationship to other cultural manifestations in the south: Szechwan-Yunnan and the southeastern coastal belt.
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