

The Lajia Site in Minhe County, Qinghai in 2000

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The Lajia 喇家 Site, named after the Lajia Village of Guanting 官亭 Township in Minhe 民和 County, Qinghai 青海, is situated at the Guanting Basin in the upper valley of the Yellow River. In this area, affluent ecological resources and warm and moist climate have been well suitable for human beings' growth since prehistoric times.

Since 1999, archaeologists and scientists from the Institute of Archaeology, CASS, and the Qinghai Provincial Institute of Antiquity and Archaeology have carried out a series of joint research projects aiming at study of ancient settlements in the region, one of which is the investigation of the Lajia Site. Following the 1999 test excavation at the site, the 2000 session excavation exposed a 500 sq m area and yielded a number of features including house remains, pits, ditches, and burials, as well as a total of 225 artifacts. The investigation at the site reveals previously unknown ruins of prehistoric catastrophes such as earthquakes, mountain torrents, or river flood.

I. House Remains and Artifacts

The houses recovered from the Lajia Site are cave-dwelling types. The upper part of cave dwelling was destroyed by human activities or eroded by natural causes in later period. As a result, in previous studies, remaining lower walls and house floors in this region were mistakenly identified as subterranean structures. Built into accumulated-loess deposits on the second terrace of the Yellow River valley, the Lajia cave structures were consisted of a chamber room, a doorway, and front courtyard, varying in sizes, shapes, and facilities in rooms. The followings are description of house

remains F3 and F4 as the examples of such structures.

1. The F3 cave house, built into secondary loess deposit, displays a chamber room floor with 3.65 m in length and 3.35 m in width. The floor shows clearly repair marks and undulate surface due to extensive human trampling. The floor was constructed with layers of straw-mud covered with white plaster; same method was applied to walls where most of layers were fallen off. The straw-mud layer is about 2 cm thick, while the white plaster layer is 0.1–0.5 cm thick. All walls are up inwards with slightly arch surfaces and no post-moulds were found around the walls, indicating clearly features of cave structures. In the center of the chamber room is a hearth, dug into ground in concave shape, which retains fired-red-clay surfaces, charcoal, and ashes. At eastern side of floors a conical hole on the ground, presumably a posthole, were found.

The doorway is at the north side of the house. The doorway has a length of 0.83 m from the north to the south, while the width from the east to the west is about 0.84–1.18 m so as to its front wider than the rear. The surface is inclined from northern to southern sides, and displays trampled loess layer. At the northern end of doorway is a door step built with loess clay, whose dimension is about 0.6 m long by 0.17 m wide by 0.06–0.13 m high.

The front courtyard extends to the north side of the house, remaining floor surface with trampling marks are about 1.7 by 1.7 m in size. The surface is also inclined from north to south, consistent in same sloping angle connecting the doorway to the doorstep. There is a rough-built hearth at the eastern side of the courtyard.

Artifacts indicative of daily-utensils and tools were

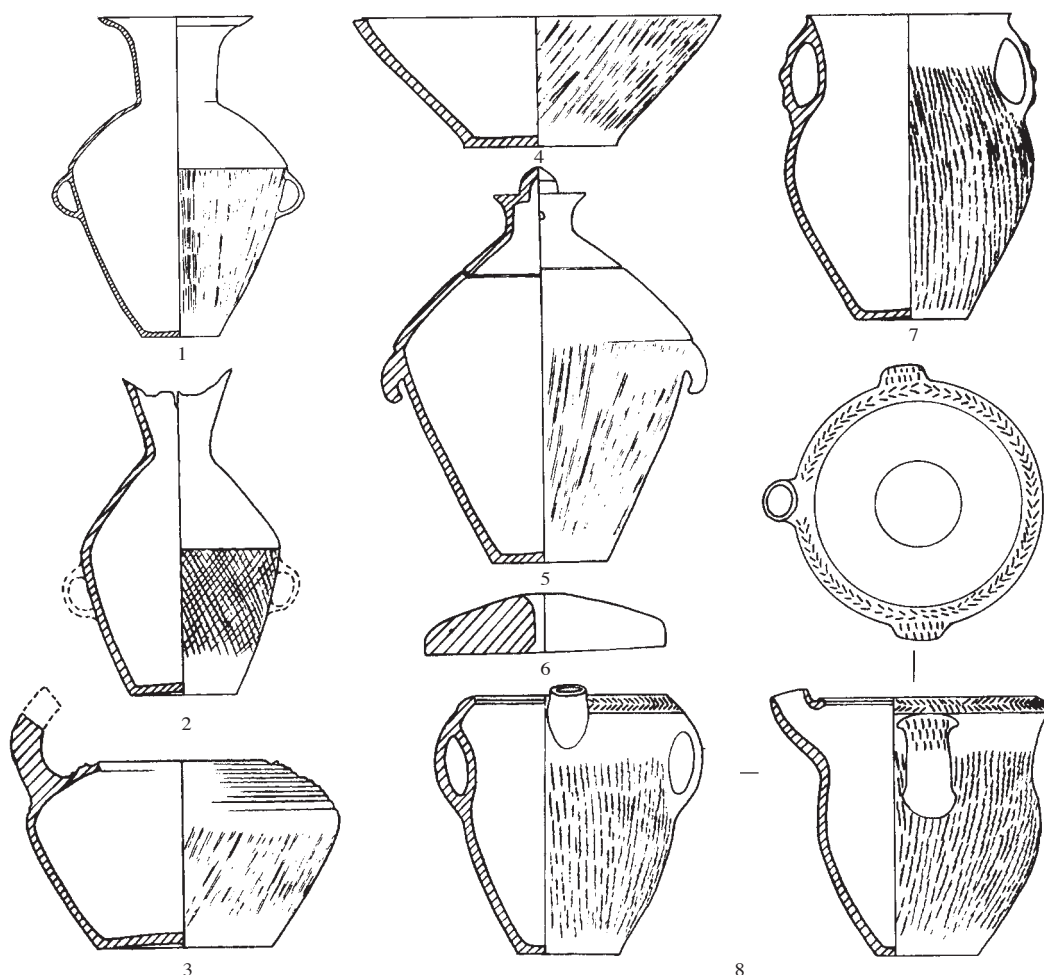


Fig. 1 Unearthed pottery wares

1. style I *guan*-jar (F3:28) 2. style II *guan*-jar (F4:1) 3. *guan*-jar with inverted rim (F4:15) 4. *ben*-basin (F4:10) 5. style II *weng*-urn (F4:14) 6. spindle whorl (F3:16) 7. style I *guan*-jar (F3:27) 8. *guan*-jar with spout (F3:3) (Scales: 1. c. 1/13; 3. 1/3; 6. 3/5; others 1/3)

found along the eastern, southern, and western sides of the chamber. A total of 36 objects were identified, including pottery *guan*-jars in different types such as *guan*-jars with single handle, *guan*-jars with double small handles, *guan*-jars with double large handles, *guan*-jars with a spout, *guan*-jars with high collar and two handles, *guan*-jars with flared mouth, *bei*-cups, *weng*-urn wares with inward rim, ceramic utensil cover, *dou*-pedestal stands, *zeng*-steamers, ceramic spindle-whorls, stone axes, adzes, knives, drills, scrapers, bone drills and knives. Most of earthenware pottery wares were found in fragments, and they can be divided into two categories according to tempering techniques: wares were made with fine clay, and those with sand-tempers. The main pottery decorations are basket pattern, cord-marks, and poking and stamping marks (Figs. 1 and 2).

2. The F4 house remain was recovered about 2.5 m

east of the F3 house. This house, facing north, was also built into loess deposit as a cave form, whose upper part was destroyed (Figs. 3 and 4).

The chamber room has a wider northern wall than southern wall, with a length of 3.81 m along the north-south axis and a width of 2.95 m at southern wall and 3.55 m at northern wall. The living floor appears also in trapezoid shape, having the length 3.91 m along north-south axis, and a width range of 3.15–3.6 m, and its area 14 sq m. The floor surface appears to be a slope of 5 degrees, inclined from north towards south. The distance from the center point at floor's northern edge to ground surface is 0.37 m, while the distance at the southern edge is 0.72 m. The eastern side of floor surface is relatively higher than the western side.

The building technique of this house is similar to that of F3 as described above, but more orderly built

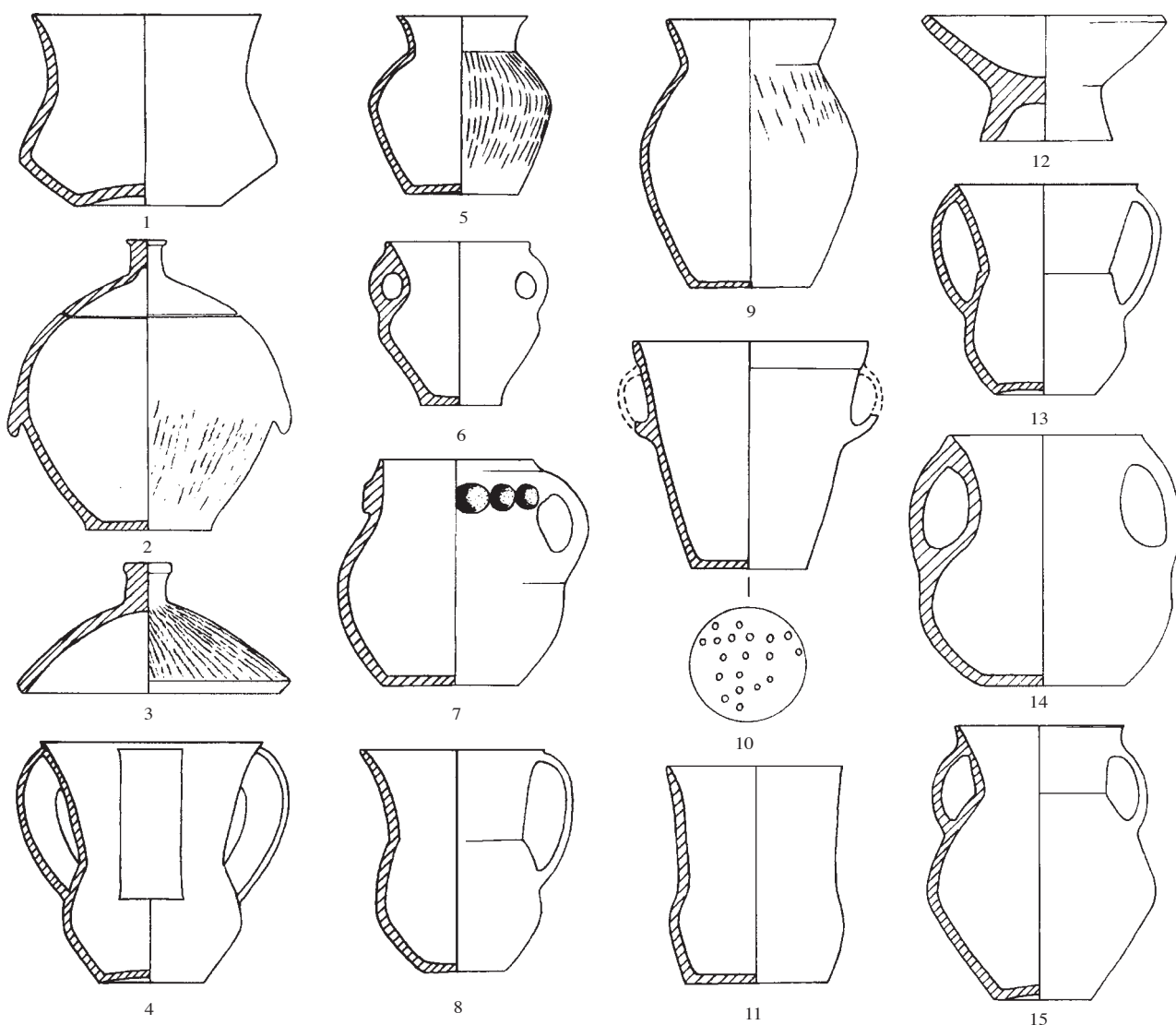


Fig. 2 Unearthed pottery wares

1. *zun*-vessel (F4:2) 2. style I *weng*-urn(F3:14) 3. vessel lid (F3:21) 4. three handled *guan*-jar (F4:16) 5. style I *guan*-jar with flared mouth (F3:6) 6. style II *guan*-jar with two handles (F4:13) 7. *guan*-jar with one handle (F3:34) 8. *bei*-cup with one handle (F3:1) 9. style II *guan*-with flared mouth 10. *zeng*-steamer (F3:35) 11. *bei*-cup (F4:11) 12. *dou*-pedestal stand (F3:24) 13. style II *guan*-jar (F4:19) 14. style I *guan*-jar (F3:33) 15. style I *guan*-jar with two handles (F3:25) (Scales: 2, 9, 10, 15. 1/6; others 1/3)

than F3, evident in that the straw-mud surface is very smooth and flat. The thickness of straw-mud layer is about 3 cm, while white plaster layer is about 0.3–0.7 cm thick. The white plaster layer of this house is well preserved, remained intact on all sides of the wall except a few cracks. Only at the northwest corners the white plaster layers were found fallen onto ground from the wall, and as a result of impacts a den was formed on the ground. The shape of walls is regularly angled.

A round-shaped hearth was recovered at the center of the chamber, built with great care. The hearth has a

very smooth surface, with a diameter 1.1 m. The surface appears to be reddish dark-brown colored hard clay as a result of firing, which is very distinct from that of white plaster surface of the living floor.

The doorway was built on northern side of the house, along the central axis, and its width at the outer end is wider than at the inner end. The doorway is 0.35 m long and 0.58–0.78 m wide, sloping from the outer end towards the inner end. The surface appears to be formed as a result of extensive trampling. Near the southern (inner) end of the doorway there is a raised

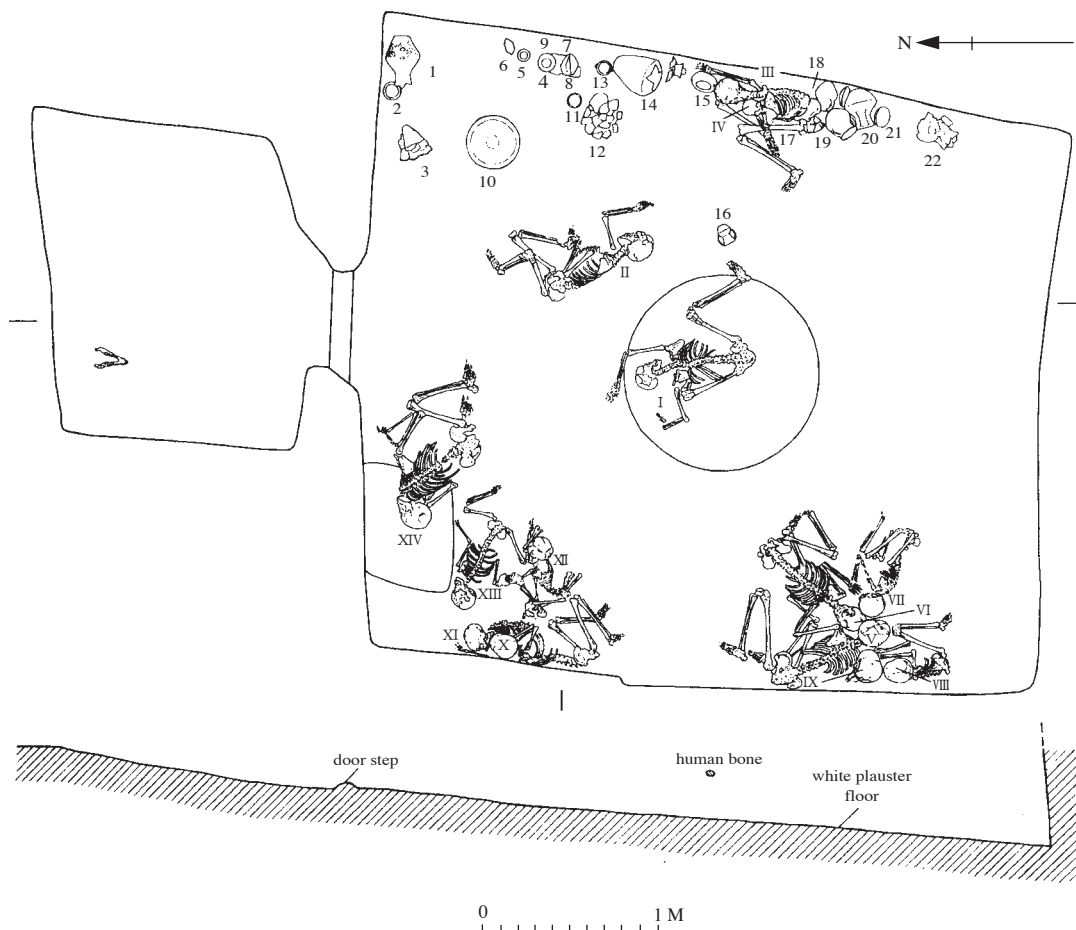


Fig. 3 Plan and elevation of F4

1, 3, 12, 13, 16–22. pottery *guan*-jars 2. pottery *zun*-vessel 4, 5, 23. jade *bi*-discs 6, 7. jade raw material 8. stone spearhead 9. stone scraper 10. pottery *pen*-basin 11. pottery *bei*-cup 14, 15. pottery *weng*-urns 24. bone artifact I–XIV. human skeletons (23, 24. in *weng*-urns)

doorstep, 0.54 m long by 0.13 m wide by 0.06 m high.

In the front of the house F4 there is also an open courtyard. Its sloping surface inclines at an angle of 10 degrees to connect to its doorway. The preserved courtyard surface is about 1.46 m long along north-south axis and 1.7–1.86 m wide along east-west axis. Parts of the surface, whose clay remained very hard, seemed to have been trampled extensively by human populations. A pig mandible was recovered in place of the northwestern corner.

24 pieces of artifacts were recovered inside the house F4, including pottery *guan*-jars with high-collar and two handles, *guan*-jars with double small handles, *guan*-jars with double large handles, *guan*-jars with three large handles, *zun*-vessel, *guan*-jars with a spout, *pen*-basin, *bei*-cup, *weng*-urn with inward rim, *guan*-jars with flared mouth, jade *bi*-discs, jade raw material,

stone spear, scraper, and fragments of bone objects (Figs. 1 and 2). Different from the distribution of artifacts found from F3, these artifacts inside house F4 were placed along only eastern wall.

II. Human Skeletons and Possible Explanations for the Causes of Death

Human skeletons were found from a number of houses from the Lajia Site. From the 2000 excavation session, a total of 16 human skeletons were recovered inside both houses F3 and F4 (two from F3 and 14 from F4). What is significant is that these skeletons were in various poses *in situ* when they were unearthed: some squatting and looking upward, some crawling on the ground, some embracing each other, and some seemingly struggling in the mud. According to the distribution and positions of the skeletons within the houses, we



Fig. 4 House F4 of the Lajia Site in Minhe County, Qinghai

believe that their deaths were caused by sudden incidences.

1. Within F3, two human skeletons (Nos. I and II) were found close to the center of eastern wall. Having been anatomically examined, the No. 1 body, displaying in squatting position, was identified as a 35-year-old female. The other one belongs to a 3–4-year-old baby whose sex is unidentified, found in this woman's arms, seemingly being embraced. The arms of the baby were around the adult's waist. These evidences indicate their relation could be a mother and a son/daughter. The head of the mother is upwards, facing to the sky. In gaps between the two skeletons were filled with reddish mud clay *in situ*.

2. In F4, 14 human skeletons (Nos. I–XIV) were found at different places and can be divided into six groups. The first group has only skeleton belonging to one body (No. I), who was found on the surface of the hearth and determined to be a 15–17 years old teenage boy. When unearthed, the body was found lying on his chest, and his right leg seems to be forcefully against the floor. Most skeletons of the human were detached from the house floor surface; the maximum distance is about

42 cm at the position of left limb bone. Underneath the body was a layer of reddish mud clay, indicating the boy was struggling in mud before his sudden death.

The second group of skeleton is also consisted of only one body (No. II), belonging to an 8–10 years old child, who were found northeast of the above No. I body. The body was lying on the ground on his/her side. The right leg bones were in abnormal positions, as his/her tibia and fibula bones were crashed and placed in reverse positions in front of his/her chest. Some parts of the skeletons are also attached from floor surface; in between filled with reddish mud clay.

The third group of skeletons is consisted of two bodies (Nos. III–IV) near eastern wall. The No. III body is determined to be a 28–30 years old female, and the No. IV is a 1–2 years old baby. The baby was found in the arm of the female adult while the female's face was against the head of the baby. The female was found in kneeling position; her hipbones were *in situ* against two earthenware *guan-jars*, while her right arm was holding the baby and her left arm reaching downward against the floor. The embraced baby, facing the female, has his/her arms around the female adult's waist. The evidence

revealed vividly a likely scene of a mother rescuing her beloved baby.

The fourth group of skeletons is consisted of five bodies (Nos. V–IX) near southwestern corner of the chamber room. The No. V body is identified to be a 14–18 years old male. The No. VI is probably a boy (?), at age of 11–14 years old, while the No. VII is determined to be a 7–9 years old child whose sex is not identified. The No. VIII is a 10–13 years old boy, and the No. IX is a female adult, at age of 30–35 years old. The group of bodies were in various positions when unearthed: some lying on the ground with a flex position, some lying on one's side with a flex position, some on one's knees leaning forward.

The fifth group of skeletons is consisted of four bodies (Nos. X–XIII), found close to the northwestern corner of the house. The No. X's sex is probably a male (?), likely a 10–13 years old boy. The ages of No. XI–XIII bodies are about 6–8, 4–5, and 3–4 years old respectively, and their sex are not determined. Noticeably, No. XII child's skeleton was crashed a great deal and in abnormal positions.

The last group of skeleton within the house F4 has only one body (No. XIV), whose bones were found loosely on both sides of the door, as the skull and left shoulder bones were found at the concave den on the floor near northwestern corner. The anatomical analysis suggest that the body belongs to a male aging 40–45 years old, the oldest adult among all bodies recovered from the site so far. From placements of this body's skeleton, it was likely that this person might have tried to rescue women and children inside the house by holding the door against the flood.

3. Almost all of these skeleton bones recovered from the two houses described above were surrounded by layers of reddish mud clay, which has distinct features from that of floor surface. Evidence suggests that there were major geological disasters in this region around 4,000 years ago. Such well-preserved catastrophic ruins are rarely recovered from archaeological sites so far. The phenomena of such sudden-dead site have caught great attentions of scholarship. Based on

analyses of site formation and deposition as well as site landscape and environment, specialists from the Urban and Environment Study Department of Peking University address geological variations such as land fold, falling, fissure, as well as formation of sand deposit and pebble layers, especially the reddish mud, and then suggest that natural disasters probably included earthquake, mountain torrents, and river floods. Therefore, according to the distributions and placements of skeletons within the two houses, we believe that the grant flood from the Yellow River was more likely the direct cause for the sudden-death of people and for frozen-burial of houses at the Lajia Site.

III. Conclusion

The cave dwellings at the Lajia Site are so far one of the most sophisticated structures recovered from the Qijia 齐家 Culture. The recognition of this structure has shed new lights on loess settlements and origins of cave dwelling in the study region.

The 2000 excavation of the houses F3 and F4 clearly indicates such structures built into loess deposit were determined the orientation of the dwelling. The basic components of this structure are consisted of three parts: a chamber room, a doorway, and an open front courtyard. The houses were facilitated with well-built hearth in the center, and floor surfaces were extensively trampled and repaired. The common building technique was to apply straw-mud layers that were covered with white plaster surface. The floor surface, extended from courtyard to doorway then to chamber room, tended to be sloping.

According to preliminary observations, specialists of palaeo-environmental study have suggested that a series of natural disasters including earthquakes, mountain torrents, and river floods might have taken place during the Qijia Culture period in the region. River flood may be the direct cause for the burial of houses F3 and F4 and the sudden death of these people within. We have collected the DNA samples and expect the analytic results will provide direct scientific evidence on relationships among these adults and children.

Note: The original report is published in *Kaogu* 考古 2002.12: 12–28, 8 illustrations and 3 pages of plate, and written by Ren Xiaoyan 任晓燕, Wang Guodao 王国道, Cai Linhai 蔡林海 and others. The present version, an abridgment from the original, is prepared by the original authors and English-translated by Shen Chen 沈辰.