

FRANCIS D.K. CHING

MARK JARZOMBEK · VIKRAMADITYA PRAKASH

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A GLOBAL HISTORY  
OF  
ARCHITECTURE

THIRD EDITION



WILEY



# **A Global History of Architecture**



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*Third Edition*



**Francis D.K. Ching**  
**Mark Jarzombek**  
**Vikramditya Prakash**

**WILEY**

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# Preface

What is a global history of architecture? There is, of course, no single answer, just as there is no single way to define words like *global*, *history*, and *architecture*. Nonetheless, these words are not completely open-ended, and they serve here as the vectors that have helped us construct the narratives of this volume. With this book, we hope to provoke discussion about these terms and at the same time furnish a framework students can use to begin discussion in the classroom.

This book transcends the necessary restrictions of the classroom, where in a semester or even two, the teacher has to limit what is taught based on any number of factors. The reader should understand that there is always something over the horizon. Whereas any such book must inevitably be selective about what it can include, we have attempted to represent a wide swath of the globe, in all its diversity. At the same time, however, the book does not aspire to be an encyclopedia of everything that has been built; nor does it assume a universal principle that governs everything architectural. The buildings included are for us more than just monuments of achievement; we see them as set pieces allowing us to better appreciate the complex intertwining of social, political, religious, and economic contexts in which they are positioned. As much as possible, we emphasize urban contexts as well as materials and surfaces. We have also tried to emphasize quality as much as quantity. From that point of view, the word *global* in the title is not so much a geographic construct as an eruditional horizon. In that sense, this book is not about the sum of all local histories. Its mission is bound to the discipline of architecture, which requires us to see connections, tensions, and associations that transcend so-called local perspectives. In that respect, ours is only one of many possible narratives.

Synchrony has served as a powerful frame for our discussion. For instance, as much as Seoul's Gyeongbok Palace is today heralded in Korea as an example of traditional Korean architecture, we note that it also belongs to a Eurasian building campaign that stretched from Japan (the Katsura Imperial Villa), through China (Beijing and the Ming Tombs), to Persia (Isfahan), India (the Taj Mahal), Turkey (the Suleymaniye Complex), Italy (St. Peter's Basilica and the Villa Rotonda), France (Chambord), and Russia (Cathedral of the Assumption). In some cases, one can assume that information flowed from place to place, but such movement is not itself a requirement for the architecture to qualify as "global." It is enough for us to know, first, that these structures are contemporaneous and that each has a specific history. If there are additional connections that come as a result of trade, war, or other forms of contact, these are for us subsidiary to contemporaneity.

This is not to say that our story is exclusively the story of individual buildings and sites, only that there is a give and take between explaining how a building works and how it is positioned in the world of its influences and connections. We have, therefore, tried to be faithful to the specificities of each individual building while acknowledging that every architectural project is always embedded in a larger world—and even a worldview—that affects it directly and indirectly.

Our post-19th-century penchant for seeing history through the lens of the nation-state often makes it difficult to apprehend such global pictures. Furthermore, in the face of today's increasingly hegemonic global economy, the tendency by historians, and often architects, to nationalize, localize, regionalize, and even micro-regionalize history—perhaps as meaningful acts of resistance—can blind us to the historical synchronicity and interconnectivity of global realities that existed long before our present moment of globalization. What would the Turks be today if they had stayed in East Asia? The movement of people, ideas, food, and wealth has bound us to each other since the beginning of history. And so without denying the reality of nation-states and their claims to unique histories and identities, we have resisted the temptation to streamline our narratives to fit nationalistic parameters. Indian architecture, for instance, may have some consistent traits from its beginnings to the present day, but there is less certainty about what those traits might be than one may think. The flow of Indian Buddhism to China, the opening of trade to Southeast Asia, the settling of Mongolians in the north, the arrival of Islam from the east, and the colonization by the English are just some of the more obvious links that bind India, for better or worse, to global events. It is these links, and the resultant architecture, more than the presumed "Indianness" of Indian architecture, that interests us. Furthermore, India has historically been divided into numerous kingdoms that, like Europe, could easily have evolved (and in some cases did evolve) into their own nations. The 10th-century Chola dynasty of peninsular India, for example, was not only an empire but possessed a unique worldview of its own. In writing its history, we have attempted to preserve its distinct identity while marking the ways in which it maps its own global imagination.

Broadly speaking, our goal is to help students of architecture develop an understanding of the manner in which architectural production is always triangulated by the exigencies of time and location. More specifically, we have narrated these interdependencies to underscore what we consider to be the inevitable modernity of each period. We often think of the distant past as moving slowly from age to age, dynasty to

## PREFACE

dynasty, or king to king, and only of our recent history as moving at a faster pace. In such a teleological view, the present is the apex of civilization, and history becomes a narrative of progress that is measured against the values of the present. By contrast, we have tried to present every historical period in terms of its own challenges, and the history of architecture as the history of successive and often dramatic changes spurred on by new materials, new technologies, changing political situations, and changing aesthetic and religious ideals. These changes, spelled out differently in different times, have always challenged the norm in a way that we, in our age, would call modernity.

The Sumerian urbanization of the Euphrates River delta made the earlier village-centered economy of the Zagros Mountains obsolete. The introduction of iron in the 9th century BCE spelled the demise of the Egyptians and allowed societies such as the Dorians, the Etruscans, and the Nubians, who were once relatively marginal in the global perspective, to suddenly dominate the cultural and architectural landscape. The Mongolian invasion of the 13th century may have destroyed much, but in its wake came unprecedented developments. The Bantu expansion into southern Africa and the Polynesian expansion into the Pacific were just as dramatic in their own time as the admittedly more effective and rapid colonialization of the planet by the Europeans. By concentrating on the modernity of each historical example, we have used the global perspective to highlight the drama of historical change, rather than viewing the history of architecture as driven by traditions and essences.

Turning now to the term *architecture*, few would have any difficulty in differentiating it from the other arts, such as painting or sculpture. But what architecture itself constitutes is always the subject of great debate, particularly among architects, architectural historians, and critics. Some have argued that architecture arises out of an urge to protect oneself from the elements, others that it is an expression of symbolic desires, or that it is at its best only when it is embedded in local traditions. In this book, without foreclosing the discussion, we hope that the reader begins to see architecture as

a type of cultural production. In that sense, this book is a companion to *Architecture of First Societies* (Wiley, 2013), which looks in depth at the history of pre-agricultural worlds and the transition to agriculture.

Here, we have emphasized issues of patronage, use, meaning, and symbolism where appropriate, and have attempted to paint a broad historical picture of time and context while, at the same time, making sure we have covered the salient formal features of a structure. Of course, words like *culture* and *civilization* are, like the word *architecture*, open to contestation and will have different meanings in different contexts. Yet, despite such ambiguities, we believe that civilization is unthinkable without those buildings that are given special status, whether for religion, governance, industry, or living. Just like the processes of agricultural domestication, architecture emerged in our prehistory and will remain an integral part of human expression to the very end.

Because we have dealt primarily with buildings of quality, we do not have the space to paint a picture of the historical development of vernacular and domestic spaces. This is not because we do not recognize their importance, but because we wanted to remain consistent to a line of reasoning that allows us to see architectural history as connected to the history of ideas, technologies, theories, religions, and politics. Each chapter introduces the set of terms that shape the architectural production and meaning of that age. Changes in some places are perhaps more dramatic than in others, but in all cases we try to explain the causes. The ancient Egyptian pharaohs, for instance, during a period of time commissioned pyramids; but then they stopped and instead built huge temples. The reader needs to come to understand the political reasoning that necessitated this change. Not only did Buddhism morph as it filtered its way into East and Southeast Asia; so, too, did Buddhist architecture. The rock-cut temples of Ellora did not appear out of a vacuum, but the technology of rock-cutting had never been attempted at that scale and would die out by the 13th century. In that sense we ask readers to compare architecture not only across space, but also across time.

### Organization of the Book

Rather than preparing chapters on individual countries or regions, such as India, Japan, or France, we have organized the book by “time-cuts.” Eighteen chronological slices of time, beginning with 3500 BCE and ending with 1950 CE, comprise the armature of the book. Each time-cut marks not the beginning of a time period, but roughly the middle of the period with which each chapter is concerned. The 800 CE time-cut, for instance, covers the period from 700 to 900 CE. Yet we have not been strict about the scope of a particular time-cut. Whenever necessary for coherence, we have not hesitated to include material from before and after its prescribed limits. Each time-cut should, therefore, be seen more as a marker amid the complexity of the flowing river of history, rather than a strict chronological measuring rod.

We have begun each time-cut with an introductory essay addressing the historical forces graphing that period of time, followed by a map and a timeline locating all of the major buildings we discuss. Discussions of individual buildings and groups of buildings are in a series of small subsections marked by relevant subcontinental location—East Asia, Southeast Asia, South Asia, West Asia, Europe, Africa, North America, Central America, or South America.

Rather than arrange all the time-cuts in the same order, we have arranged each according to its own internal logic. Despite the difficulties this may pose, we have chosen this strategy to remind readers that the globe does not really begin in the East or the West but can indeed start and end anywhere. We have arranged the sequence of the subsections as needed to maintain continuity in the narrative of a particular chapter. Often this continuity is provided simply by geographical adjacency; in other cases, we have linked subsections to make a point about historiographical issues such as the influence and movement of ideas, or contrasts between kingdoms.

The individual subsections, which may be a single page or as long as four or five pages, are conceived as mini case studies, coherent in themselves. These can be assigned as independent readings. Besides ensuring that the relevant facts and descriptions of each significant project we address are

adequately covered, we have emphasized the cultural and global investments of its creator. For instance, a discussion of the Italian High Renaissance consists of pages on the Piazza del Campidoglio, il Gesù, the Villa Farnese, Il Redentore, Palladian villas, and the Uffizi. The number of case studies accompanying each civilizational discussion is not uniform. Sometimes there are six; at other times, just one or two. The differences are largely a measure of our judgment of the importance of the material and the availability of literature on a topic. Indeed, there exists a great disparity in the availability of information. While we know much about the early civilizations of Mesopotamia; we know startlingly little about pre-Columbian civilizations. An archaeologist we spoke with estimated that only 15 percent of pre-Columbian sites have been excavated. And there are also many inaccessible archaeological sites in war-torn countries around the world, and even sites that cannot be excavated because of lack of funding or awareness. A fully fleshed-out picture of architecture's history is, therefore, still a dream that we can only aspire to.

The book's drawings are intended to be integral to the narrative. They not only illustrate the text, but also help tell a story of their own. Not everything in the text is illustrated by drawings, just as the drawings can be used to communicate things that are not referenced in the text. We have tried to make a virtue out of this fact by sharing the physical and epistemological space on each page as evenly as we could between text and image. The drawings also speak to the diminishing art of drawing in an age of photography and computer-enhanced plans. Though faculty may not want to organize

their syllabi by the time-cuts, they may find it useful to cut and paste selectively chosen subsections together to suit their historical narrative. Such selections could be made geographically or by other means. Once again, the fact that the individual subsections are conceived as case studies allows them to be read coherently, even out of sequence.

A book like this faces almost insurmountable problems in trying to establish a single standard for names, terms, and spellings, particularly those of non-Western origin. A particular mosque, for instance, might have different English, Arabic, Persian, and Hindu names. Which does one use? Should one say Nijo-jo or Nijo Castle (the suffix *-jo* in Japanese means castle)? Should one call a pagoda a *ta*, as it is called in Chinese, or should we persist with its conventional English name? Generally speaking, we have tried to use the names that are most common in current scholarship in English. It would be foolish to dispense with the Greek word for those Egyptian buildings that we call pyramids, named after the Greek bread called *pyramidos*, but, on the other hand, we would like to suggest that Angkor Wat be called by its real name, Vrah Vishnulok, to cite one counterexample. Once we have made a choice regarding the spelling of a particular proper noun, we have tried to remain consistent in our use of it. However, at several places, we have intentionally used non-English terms, even when there is a common English usage. This we have done whenever we have felt that the English is misleading (the English *pagoda*, for instance, has nothing to do with the *ta*) or when discussion of local linguistic practice is in some way illuminating. Our aspiration is to initiate movement toward a more diverse and appropriate vocabulary for the world's architecture. Language, like architecture, is a living thing with indistinct boundaries and, as such, reflects architecture's status as a multifaceted cultural signifier.

In conclusion, we would like to acknowledge that in preparing and writing this book, a process that we have enjoyed at every turn, we were continually reminded of our ignorance on many matters. Conversations with colleagues were particularly valuable, as were trips to some of the sites we cover. But in the end, a work like this can only be the beginning of a long process of refinement. So we ask all readers who wish to do so to contact us, to point out inaccuracies, to tell us about things that should be included in subsequent editions, or to open a conversation about history, the world, and our place within it.





# 3500 BCE



1.1 !Kung hut

## INTRODUCTION

For a million years, humans lived off hunting, food gathering, and fishing. From the perspective of our advanced world today we tend to look back at this and wonder how we could even have survived given all the difficulties. We once labeled these people savages or barbarians, and then we called them primitives. More recently we call them hunter-gatherers, as if all they do is obsess about food acquisition. But the !Kung, who have lived in the Kalahari Desert in Botswana for hundreds of thousands of years, spend only about 40 percent of their time hunting and gathering. The rest of the time, they do what most of us might do: they socialize, dance, cook, and rest.

In the Kalahari, mongongo trees, which produce tasty and nutritious nuts by the thousands, proliferate in mile-long groves. Tubers can be dug from the ground, and animal herds migrate through the territory, easy prey for a canny hunter and his poison-tipped arrows. The !Kung live in camps that are rebuilt every year near seasonal water holes. Women make the huts around a common campfire, usually under the shade of a large tree. The huts are not really to live in, since people tend to live mainly outdoors, but serve as storage areas for tools and as shade on a hot day. The modern world has little respect for its venerable ancestors. Because of forced relocations, mining on their territory, and fences cutting across their land, the !Kung people's survival into the next decades is much in doubt. It is not the natural world that endangers them, but our civilized world.

## 3500 BCE

As populations expanded, groups would bud off to form new communities in the next valley or further along the shores. In this way, the first groups of people left Africa some 1.5 million years ago with a second group, our human ancestors, following around 60,000 BCE to slowly yet persistently colonize the globe, reaching the southern tip of South America around 13,000 BCE. First Society people, however, were not nomads as is so mistakenly assumed. Instead they tended to live within prescribed and familiar territories, moving seasonally between winter camps near rivers and upland summer camps for hunting and fishing. The ancient people of Australia, for example, moved in predictable cycles: in some parts of the year they lived in relative isolation, and in other parts they would get together for large annual ceremonial and social events.

During the Ice Age (ca. 25,000 BCE–ca. 15,000 BCE), humans faced a global phenomenon the likes of which we have never seen since. The extreme cold, which sent massive, mile-deep ice sheets far to the south of the polar regions, impacted Europe in particular. But the people there did not leave. This was not because they were trapped. It was because those areas had become a hunter's paradise, with bears, lions, and, above all, huge herds of horses, reindeer, and mammoth moving across the grassy landscape. The Gravettian Culture was the first to master the cold. They developed leather-making and the needle to create fur-lined clothing, boots, and jackets. In great festivals, they congregated near caves where artists had painted brilliant images of animals on the walls and ceilings. What form of magic these places produced is still unknown, but the quality of the art staggers the imagination even today. The animals were painted not as carcasses but as living creatures moving and breathing, and were made by artists who had practiced their skills over a lifetime. As the weather warmed, the hunters moved to the east, crossed Siberia, and around 13,000 BCE crossed Alaska to enter the open plains of North America. Called the Clovis People, they hunted mammoth and then, when the mammoth were all hunted out, they switched to bison. Their sacred landscapes include Seminole Canyon in Texas, with its ancient rock art depicting shamans and sacred animal spirits.



1.2 Haida settlement, Canada

The warming of the weather raised the levels of the oceans, separating Japan from China, and England from mainland Europe. It created vast rivers, swamps, and forests teeming with animals and plants, drawing humans to the river shores. It was, one might say, an age of affluence. At Lepenski Vir along the Danube River, a settlement of triangular huts emerged. The people there caught sturgeon, a fish that averaged some 3 meters long. Why go hunting when catching one fish would feed an entire community? The nearby forests provided a wide assortment of berries, mushrooms, and nuts to complement the diet. Nor was this village a solitary community. Similar villages lined the shores, and their inhabitants traveled by boat to connect with each other for ceremonial events.

Half a world away, another affluent society emerged along the northwest coast of Canada. It was a favorable site for many reasons. It was in a pocket of relatively mild weather, the result of cross-Pacific winds; it was also sited along the migration path of whales, and salmon came in the thousands to swim upstream to spawn. Huge cedar trees, sacred to the Haida, provided material for houses and boats. The tree was not just "wood." Its red color and sweet smell were indicators of its connection to the world of the spirits. Linear settlements sprang up along the shore, composed of large, clan-based community houses facing the water. Each house was a sacred diagram designed in relation to the cosmos, which for the

Haida was divided into three shamanistic zones: the sky world, the earth, and the oceanic underworld. The building's frame system consisted of massive roof beams, often more than half a meter in diameter and spanning the width of the house, which ranged from 7.5 to 15 meters. These beams were supported by posts carved to represent important family ancestors or supernatural beings associated with the family's history. Walls were clad with split-cedar planks tied horizontally between paired upright poles.

It was not just rivers and shores that attracted human habitation to make the first settled communities, but also the emerging great rain forests. The Bambuti in Congo still today pay homage to a forest spirit, Jengi, whose power is thought to emanate through the world. Jengi is seen as a parental figure and guardian. Society is organized around individual households consisting of a husband, a wife, and their children, forming settlements that can number up to about fifty residents. The women build the huts that, in the shape of upside-down baskets, are made out of a frame of saplings and clad with leaves. Other rain forest cultures developed in Brazil, Central America, and Southeast Asia.

Beginning around 10,000 BCE in some places, the great First Society traditions that had sustained human life for so long began to change. Instead of hunting animals, humans began to herd them, and instead of gathering and tending plants, they began to domesticate a few chosen plants and grow them in organized fields. These changes altered



1.3 Village scene

the imaginaries of the spirit world. Cattle in particular were seen as living gods, requiring daily attendance and a culture of respect. They were not killed for food but were sacrificed to mark special events in the life of the community. Among the Dinka in the Sudan, a man knows his cattle by special names, sings songs to them, and sleeps next to them for long periods of time. Cattle are sacrificed only on special occasions, such as at weddings or funerals. Although only a few cattle-centric societies remain today, the impact of this worldview can be felt even in modern religions.

Just as important was the shift from gathering plants to farming. Rice in southern China and eastern India, millet in Africa and northern China, wheat and barley in the Levant, and corn in Guatemala—all rose from being just one of thousands of plants that humans tended to the precious focus of effort and devotion. The combined transformation of our relationship to animals and plants produced a new way of life: agropastoralism. While today we call this period the birth of agriculture, we have to remember that crops like rice and barley were not raised as food. They were gods. We have so secularized food production today that we forget that the birth of what we call agriculture coincided with profound transformations that deified certain foods and thus, it might be said, guaranteed the proper and complex work ethic needed for their production. The impact on women was particularly profound; harvesting, grinding, storing, and cooking were all largely women's work, as was pottery making, basket weaving, and, of course, the raising of children.

The emergence of pastoral and agropastoral cultures produced village societies organized around chiefs with more or less power depending on circumstances. Villages were well calibrated to meet the needs of the animals, to deal with the calendar of planting and harvesting, and to produce the necessary equipment for life, such as the bowls and containers that stored grain and water and that allowed fermentation and cooking to take place. These activities were all governed by ritual practices and unwritten rules of behavior that shaped the destiny of all. But village society could not spread just anywhere. It needed the right combination of good soil for farms, grasslands for cattle, forests for firewood, and upland areas for hunting—and, of course, water and salt.

The Mesopotamian highlands were perfect for such agropastoral societies, and beginning around 9000 BCE compact villages began to spread along the slopes above the great rivers

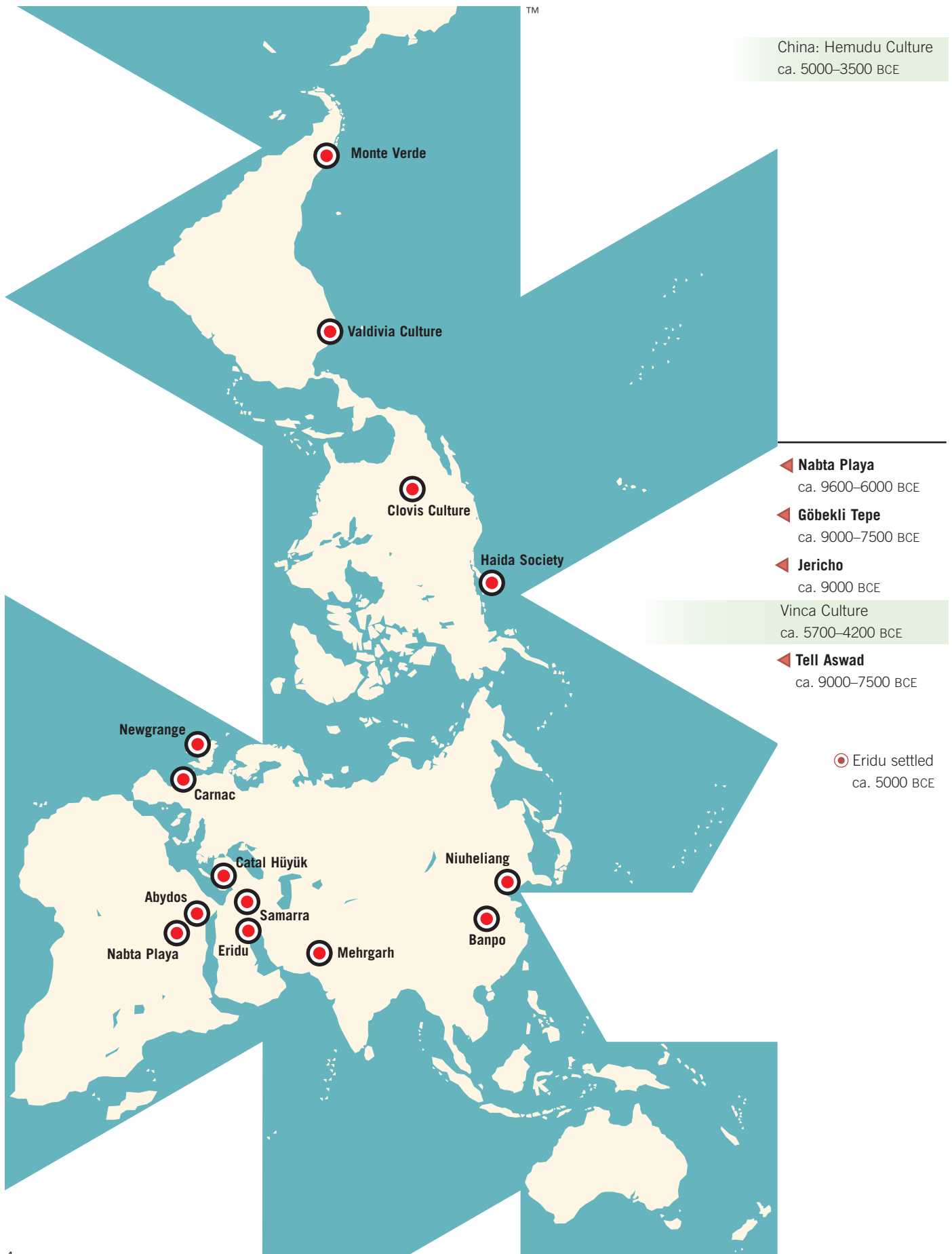


1.4 Pottery making

in the plains. A similar expansion took place along the Sahel in Africa, where sorghum was the main plant, as well as in the foothills of the Baluchistan Mountains (barley), in northern China (millet), and along the Yangtze River (rice). By 5000 BCE these places had also established themselves as profoundly different from the First Society worlds that neighbored them, even if they maintained some aspects of the older traditions. Whereas the agropastoral tradition in Mesopotamia, the Indus Valley, China, and Egypt remained confined by their ecological niches, a remarkable transformation took place in Europe, where between 9000 and 4000 BCE, agropastoral cultures moved slowly along rivers and shores to reach even northern Ireland. There the newcomers thrived and built one of the greatest structures of the time, Newgrange, a vast artificial mound with a sacred chamber in its interior that was designed to mark the first rays of the winter solstice.



1.5 Herding



China: Yangshao Culture 5000–3000 BCE	Hongshan Culture 4700–2900 BCE	Longshan Culture 3000–2000 BCE
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▲ **Banpo**  
ca. 4500 BCE

▲ **Niuheliang Ritual Center**  
ca. 3500–3000 BCE

▲ **Yaoshan Ritual Altar**  
ca. 3300–2000 BCE

Indus Valley: Early Harappan Period  
ca. 5000–2600 BCE

▲ **Mehrgarh**  
ca. 6500–2800 BCE

▲ **Harappa**  
ca. 3000–1900 BCE

▲ **Dholavira**  
ca. 2650–2100 BCE

## 4500 BCE

## 3500 BCE

## 2500 BCE

**Late Neolithic Period**  
ca. 5000–2000 BCE

**Early Bronze Age**  
ca. 3000–2000 BCE

◀ **Catal Hüyük**  
flourishes ca. 7400–5500 BCE

⦿ Bronze casting begins in the Near East.  
ca. 3600 BCE

Mesopotamia: Ubaid (Eridu) Culture  
ca. 5300–4300 BCE

Uruk Period  
ca. 4000–3100 BCE

◀ **Tell es-Sawwan**  
6000–3500 BCE

▲ **White Temple**  
Begun ca. 4000 BCE

▲ **Temple at Uruk**  
ca. 3400 BCE

▲ **Temple at Eridu**  
4500–3800 BCE

⦿ Invention of the wheel  
ca. 3600 BCE

⦿ Earliest readable documents in Mesopotamia  
ca. 3200 BCE

Egypt: Pre-Dynastic Period  
ca. 4500–3100 BCE

Early Dynastic Period  
ca. 3100–2649 BCE

▲ **Tombs of Hor Aba**  
ca. 3100 BCE

▲ **Royal Tombs at Umm el-Qaab**  
3100–2890 BCE

▲ **Tombs of Hor Aba**  
ca. 3100 BCE

Earliest tumulus tombs in Portugal  
ca. 5000 BCE

Europe: Passage Tombs and Dolmens of Megaliths  
ca. 3500–2500 BCE

▲ **Newgrange**  
ca. 4000 BCE

▲ **Stonehenge**  
Begun ca. 3000 BCE

▲ **Passage grave: Île Longue**  
ca. 4100 BCE

⦿ Saracen Ring added at Stonehenge  
2500 BCE

▲ **Carnac Stones**  
ca. 3500 BCE

⦿ Cursus tradition in England  
ca. 3500 BCE

## RITUAL CENTERS

In the agropastoral environment, humans began to think and act differently than their First Society ancestors had. Forests had to be chopped down, clay had to be gathered for pots that then had to be fired in kilns, granaries had to be established, animals tended to, wool harvested and made into cloth; plants that were once considered food were now thought of as weeds that had to be culled from gardens and farm plots. Decisions had to be made about priorities; children had to learn their respective roles as adults; and priests had to secure the privilege of the divine. Customs had to be followed about social ranking, finding a mate, and building a house. Herds could die because of disease or predators, and crops could be lost to pests or carelessness. Grains could rot, and neighboring tribes could attack. The marshaling of energies that the village required, the stratification of gender activities along with the creation of a new set of powerful gods in privileged communication with the elites, produced a type of cognitive revolution. The cohesiveness that this required is impressive, and in many parts of the globe the village world is still the glue that holds society together.

One of the first sites where we see the transformation is Nabta Playa in what is today southern Egypt, some 80 kilometers west of Abu Simbel. It is now an inhospitable desert, but in 9000 BCE it was next to a large lake with pastured shores. The site featured a circle of slender upright stones, the main stones being four pairs set close together. Compared to Stonehenge, built 6,000 years later, the circle is small, measuring roughly 4 meters in diameter, but its purpose was similar: to organize time according to the seasons. Two of the stone pairs are aligned north–south, the other two pairs northeast–southwest. They aided in the observation of the motion of the sun and probably of the constellation Orion. Priests and their associated clans probably came to live at Nabta Playa permanently, with the population swelling periodically with the seasonal arrival of herder tribes who would have come from far afield with their cattle for large celebratory

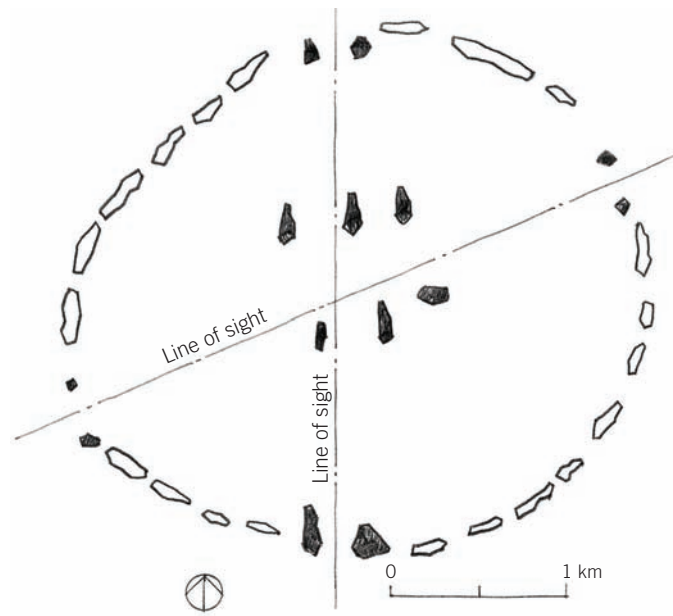
events. By 3500 BCE, however, Nabta Playa had become increasingly arid: the lake dried up, and the site was abandoned. The exodus from the Nubian Desert to the Nile River played a large role in the development of social differentiation in the pre-dynastic cultures of the Nile Valley. One important link between Egypt and the ancient cattle cult of Nabta Playa was Hathor, the goddess of fertility.

Another ritual site was on top of a hill near the village of Urfa in southeastern Turkey. Here, too, the now arid site was once a lush forest. The oldest layer of the site appears to date back to around 9000 BCE. The structures, called Göbekli Tepe, consist of several circular dry-stone walls, each of which contains monolithic pillars of limestone up to 3 meters tall. Since there is no indication of any roof covering, it seems that the circles were open-air ritual chambers. They are now called temples, but it is unlikely that they were temples in the sense of being used by a priesthood with organized devotional practices. What went on in these spaces is not known, but they most certainly had links to ancestor cults and might have been used in conjunction with mortuary rituals. The floors consisted of a concrete-like substance made of burnished lime. A low bench runs around the inside of the circle walls. The pillars show detailed reliefs of foxes, lions,

cattle, wild boars, herons, ducks, scorpions, ants, and snakes, all executed with great skill, demonstrating that precision work—even without metalworking tools—was possible even at this early time.

If we add to these two sites the Niuheiliang Ritual Center (ca. 3500–3000 BCE) in northern China, with its numerous platforms and structures, and, of course, Stonehenge (ca. 3000 BCE), we have four ritual centers—and there are certainly countless more—that served as gathering places and eventually as religious centers for newly settled communities. Niuheiliang will be discussed in this chapter; Stonehenge, perhaps the last of the great early ritual centers, will be discussed in the next.

Around 3500 BCE something quite remarkable happened in four places on the earth: groups of people developed something that we today call cities. This transformation was not as natural as one might assume, even though it was dependent on several thousand years of village life and the necessary cohesion that came with it. In Mesopotamia, the farmers in the hills at first stayed away from the vast, overgrown, flood-prone swamps of the Tigris and Euphrates Rivers. But an intrepid group must have set out one day to try their luck. Finding a knoll, they dug up the reeds, planted barley, and carved out canals, activities that were hugely



1.6 Plan: Nabta Playa, Egypt



1.7 Göbekli Tepe, near Urfa, Turkey

labor-intensive. It was a success, built on the simple premise that by doing one thing well—growing barley—the inhabitants of an isolated place could trade for everything that they did not have. They created the wheel to speed up travel; they created writing to document trade transactions; they created city-scaled gods to protect them; they laid the foundation for laws and regulations; and they created walls to defend their precious grain surpluses on which the entire operation depended. The first cities of Mesopotamia were thus experiments in an extreme landscape. They were governed by an elite, with most of the work done by slaves from nearby conquered regions. Some cities thrived, some did not, but over time, the power and wealth that they created for themselves pushed their destiny forward. In Egypt, the story is similar, but here the rise of cities—more like sprawling villages—was the consequence of the rapid influx of refugees from the expanding Sahara Desert. Prior to about 5000 BCE the Nile was an unruly, lightly populated, swampy river, but with the drier climate that created the desert, thousands of people came with their animals and agricultural skills. Over time they refashioned the Nile into a fertile paradise. The intensity of this foreshadowed the rise of a controlling elite who became first chiefs, then gods.

In India along the Indus River, cities also emerged, spectacular in nature, because unlike in Mesopotamia and Egypt where the building material was largely mud-dried brick, here the inhabitants made kiln-fired bricks that could not only withstand the test of time but also allowed them to build close to the river, and to build pools, drainage systems, and multistory houses. Ships from these cities traded with the Mesopotamians to the north.

In China, the development of cities had a slightly different cast. Village communities had formed in the south in the swampy regions around Hangzhou Bay and the Yangtze River estuary, where rice could be planted. Villages were also forming in the north where people had long since discovered the value of millet, a hardy plant that grows on hillsides. Here people used a form of architecture well-known in the north since 25,000 BCE, the pit house. Dug partially into the ground with a superstructure of thatch held in place by posts and beams, these communal buildings were dry and warm and the focus of a range of ritual activities. Unlike the Mesopotamian cities, which were import-export centers, these dense villages were more self-sustaining as they attained the scale of cities. There were areas for the manufacturing of pottery and bronze, just as there were areas reserved for the elites.



1.8 Elam, a typical Mesopotamian city with walls and towers, as depicted in this bas-relief commemorating Assyrian king Ashurbanipal's conquest and destruction of the city in 647 BCE.

These first cities produced a concentration of wealth and power that was to have significant implications for the destiny of humans and indeed for their definition of themselves as “civilized.” But as much magic as they worked on the human imagination, these cities’ experimental nature should not be forgotten. Cities were made; they were also made to be destroyed. The Chinese, in fact, would continuously destroy their cities; with a new dynasty, the old capital was often burned or leveled and the inhabitants forced to relocate. The Mesopotamians and Egyptians glorified their destruction of enemy cities, and so it went on—until even today.

Although urban densities were able to pull a large amount of resources into their orbits, around 3500 BCE they constituted only a tiny percentage of the world population, maybe as small as .001 percent. Most people lived in spread-out village societies, and many more lived in a world with no agriculture at all, as humans had for hundreds of thousands of years.

**BEGINNINGS OF CHINA'S CIVILIZATIONS**

In China, the shift to an agricultural/village world took place around 9000 BCE. There was, however, no single "origin" of Chinese civilization. Instead, there was a gradual multinucleated development taking place somewhat independently at first, with the emphasis to the south on rice and to the north on millet and pigs. Rice grew wild and was then domesticated on the swampy shores and in the delta of the Yangtze River. Millet, which prefers a cooler climate, grows wild on hillsides, where it over time was also domesticated. Pigs played a role in village life from early times and, along with sheep, were introduced to northern cultures by 5000 BCE, if not earlier. By 4000 BCE, especially in the north, small but well-organized regional communities emerged. These included the Hongshan Culture (4700–2900 BCE) to the north of Bohai Bay in Inner Mongolia and Hebei Province, and the Yangshao Culture (5000–3000 BCE) in Henan Province. Geographically between the two, and developing later, was the Longshan Culture (3000–2000 BCE) in the central and lower areas of the Yellow River. The emergence of walls around communities is a clear indication that the political landscape was very much in flux. To the north, villages were generally composed of pit houses that, whether large or small, trace their ancestry back to 20,000 BCE and possibly earlier. Pit houses were used throughout Inner Asia by steppe hunters. People to the south developed houses on stilts, a natural response to the swampy soil of the rice paddies.

**Niuheliang Ritual Center**

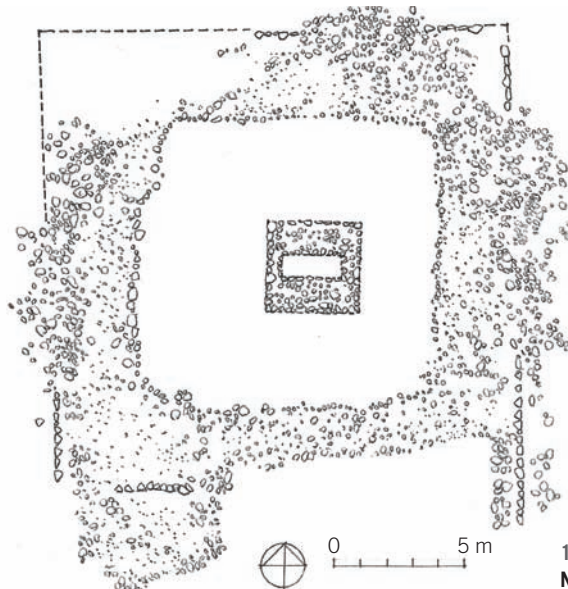
The Hongshan Culture, with its villages focusing on millet and sheep and pig grazing, was located along the Laoha, Yingjin, and Daling Rivers, which empty into Bohai Bay. Though scattered over a large area, the community's ritual life focused on a sacred landscape in which a mountain known locally as Pig Mountain must have played a part, as its silhouette is visible to the south. The ritual center consisted of at least fourteen burial mounds and altars over several hill ridges. It dates from around 3500 BCE, but its importance could well have been established earlier.



1.9 China's early agriculture

Though rituals would have been performed here for the elites, the large area of this sacred landscape implies that audiences for the ritual would have encompassed all the villages of the Hongshan Culture. The site might even have attracted supplicants from further afield. A key building was a structure that is called a goddess temple, though its purpose is not known. The walls, made of interwoven branches and covered with packed mud, leaned inward to form a tunnel-like space. Its main body was 25

meters from south to north, with secondary spaces projecting from that. On the outside, its surviving footings show that its surface was covered with geometric designs in high relief that were painted yellow, red, and white, all of which certainly suggests that it stood out in the landscape in a colorful way. To its north was a single detached room where excavations have uncovered clay body parts, including a head, a torso, and arms, belonging to an image of a protectress or goddess (from which the site got its name).



1.10 Plan: Cairn with stone tomb, Niuheliang Ritual Center, tomb site II



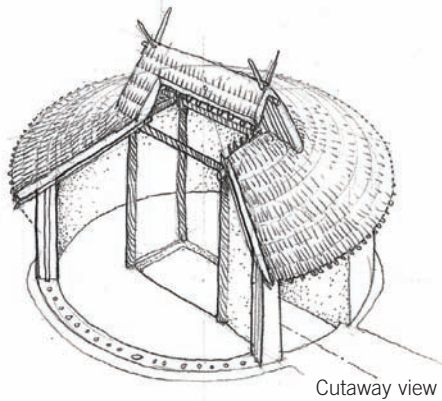
Another structure of interest to archaeologists is an artificial hill at the entrance to the valley. On the ground level, the mound is encircled by a ring of squared white stones. Another ring of white stones is embedded at the middle height of the mound; a third was placed near the top. Artifacts found near the top of the mound include crude clay crucibles used for smelting copper. Since the top of a hill is a surprising place to melt copper, the structure seems to have been meant for ritual events. Burial grounds on hills seem to mark the north and south extremes of the moonrise in the east. All in all, this center contains the essential elements of Chinese ancestor worship—burial cairns, platforms, and a ritual temple—as evidenced, for example, by the Ming tombs built five thousand years later.



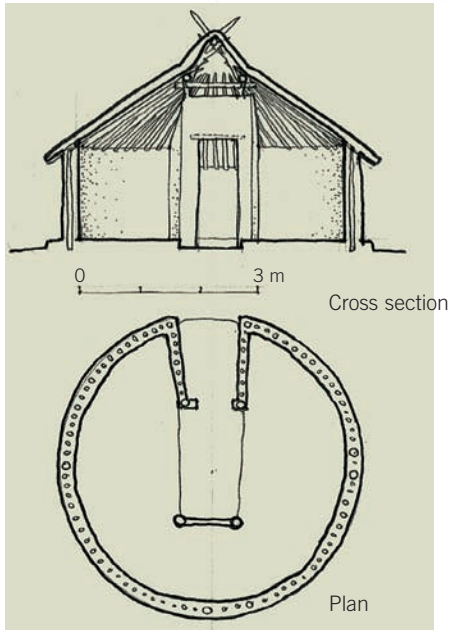
1.11 Reconstruction of Banpo village, China

In the valleys of the Yellow River we see the emergence of several compact villages, such as Banpo (near the modern-day city of Xi'an), which dates to about 4500 BCE and was part of the Yangshao Culture. It was surrounded by a ditch or moat 5 to 6 meters wide, probably for drainage and defense. The homes were circular structures of mud and wood with overhanging thatched roofs, all raised on shallow foundations with fire pits at the center. Entrance ramps sloped down into the dwelling. Such pit houses, with furs lying on the floors and hanging from the inner walls for insulation, were comfortable places to live. If the timber beams could be kept dry and the

thatch was properly maintained, a pit house could last twenty years. The dead were buried in the back of nearby sacred caves or in simple pits outside the village in a communal burial area. The remains of children, it seems, were interred in urns just outside their homes. Within the town there were large open plazas and storage holes, and at the center of the village was a large house, presumed a clan or community center, which was built of a heavy timber construction. One area of the village was dedicated to the production of pottery, indicating the emergence of craft specialization. Pottery was used not only in daily life but also in mortuary rituals.



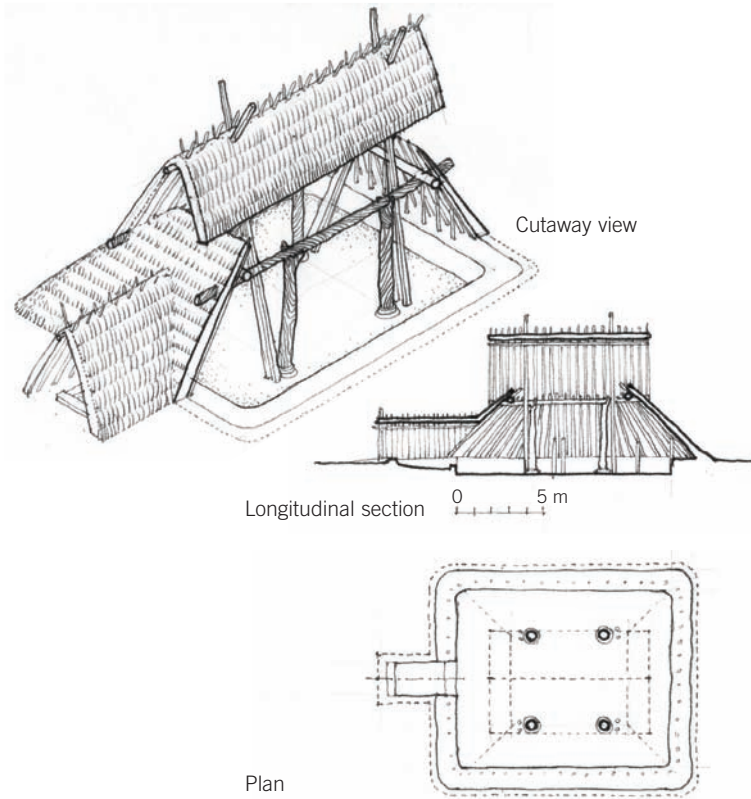
Cutaway view



Cross section

Plan

1.12 Reconstruction of circular dwelling at Banpo



Cutaway view

Longitudinal section

Plan

1.13 Reconstruction of meeting hall at Banpo