Heaven is a Circle, Earth is a Square: Historical Analysis of Chinese Neolithic Jade Disks

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Abstract
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Ultimately, this thesis tackles the usage of each object individually and from a historical perspective, then looks towards a more scientific approach to understand what happens when all three objects are used together.

Nichole Bryant

Keywords
china, neolithic, xuanji, bi, early astronomy

Disciplines
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Heaven is a Circle, Earth is a Square:

Historical Analysis of Chinese Neolithic Jade Disks

Nichole Bryant

Submitted in partial fulfillment of the requirements for the degree of Bachelor of Arts in the College of Arts and Sciences

Program in General Anthropology
Department of Anthropology

UNIVERSITY OF PENNSYLVANIA

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NEOLITHIC JADE DISKS

ABSTRACT

The main goal of this senior thesis is not only to investigate the origins of the *xuánjī*, *bì*, and *cóng* artifacts of the Chinese Neolithic, but also to understand the ways in which these three classes of stone artifacts were used in relation to one another. Details found within the historical texts of the Chinese Neolithic are used to piece together the fragmented history of these three objects, while observable analysis of the nighttime sky and flood patterns of the eastern Chinese coast are later brought in to explain the usage of all three objects in tandem.

Ultimately, this thesis tackles the usage of each object individually and from a historical perspective, then looks towards a more scientific approach to understand what happens when all three objects are used together.

Nichole Bryant
For Mom and Dad,
who brought me on my first trip to the Penn Museum when I was four
and saw me throw a tantrum in the Egyptian Galleries
because I was afraid of the mummies.

You were here for a good time, not a long time.
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For a visitor wandering around the China Gallery within the Museum of the University of Pennsylvania, the objects known as the "xuánjī" (璇玑) and the "bì" (璧) are both mysterious and unassuming. Tucked into a glass case alongside artifacts such as bronze belt hooks of the Warring States period and jade pendants of the Shang dynasty, the "xuánjī" and the "bì" are displayed side-by-side and without the important context which might have otherwise connected them to each other – or even to the objects surrounding them on shelves within the display case.

In the brief descriptions, not much information is given on the disk-like objects other than the most basic of biographical facts, such as their material, location, dating, and collection numbers. Despite their unobtrusive nature, these artifacts are puzzling – not just in their form, but in their function as well. It is this unassuming nature that draws the viewer deeper into the story of the disks, questioning exactly what they are for and why they were both important enough to be displayed in a museum and simultaneously, of such low-profile that they warrant their inconspicuous display.

Within grand museums such as the Smithsonian’s Charles Freer Gallery and prestigious auction houses on par with Christie’s and Sotheby’s, hundreds of these Neolithic jade disks are presented in a manner similar to the way that they are presented within the Penn Museum – that is, a brief mention of their opulent jade-like material, a slight acknowledgement of their supposed mystical properties, and nothing more. However, there is much more to these jade disks than meets the eye. When analyzing small, modest objects such as these, one question often leads to several other, many remaining unanswered within the process. On the contrary, the biggest questions of them all might be defined as the simplest, those are: what exactly were these disks used for and how do they relate to one another, if they have a relationship at all? These questions are arguably the most rudimentary of all questions that anthropologists have been
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pondering since the inception of the field. As anthropologists, we look back on the history of our respective schools of theory and praxis and often times, we find that our forebears have evolutionist ways of thinking, or rather subscribed to modes of antiquarianism. Today, when looking into the nature of these objects, one might find that the simplest of questions often lead to larger answers; those of which can help us understand the ways in which groups see themselves and the world around them. With the tools that we have today and the expansion of knowledge that has subsequently followed, we can now analyze how the production and usage of these objects were often influenced by an intersection of science, religion, politics, and societal structures. Here, within this thesis, follows a historical approach to analyzing the jade discs that sit unassuming in Penn’s Museum of Archaeology and Anthropology.

1.1. A brief description of Ornament (2) and Ring

Upon first glance, the xuánjī looks like a crude and ancient mock-up of a circular saw blade or perhaps, a rudimentary sculpture of a stylized figure of the sun. It is a small disk – often no larger than the size of an adult-sized hand – with angular, notched edges and a smooth finish. Within the Penn Museum, there are two of these types of objects, both of which remain on display in the China Gallery. The first disk, simply catalogued as Ornament (30-8-3) is milky-white in appearance with three, roughly-angled notches carved in a clockwise direction (Fig 1.1.1). Its sister disk, a second xuánjī – also catalogued as Ornament – numbered (72-22-1A), is juxtaposed in striking contrast, possessing a much more refined appearance (Fig. 1.1.2). This second xuánjī is a glowing amber color and its notches are chiseled with a smooth, careful precision, also pointing in a clockwise direction. Even more notable is the fact that this second disk has even more notches: three larger, angled points and eighteen smaller ones interspersed
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between the larger ones. If one were to look at each of the objects simultaneously, one would assume that they are from different time periods, and so it is surprising, considering their design, that both xuánjī are dated to the same time period – the Shang dynasty (ca. 1600-1046 BCE).

While the Shang dynasty certainly covers a broad enough stretch of temporality to account for the aesthetic differences in appearance of the disks, such a large span of time doesn’t answer the question as to why these disks are different in form and in material; why such choices in design and manufacture were made over the duration of this dynastical period. The curious nature of these disks does not end here. Rather, the puzzling design of these two disks becomes even more baffling when comparing them to another disk-like object displayed alongside it – the bì. Much like the xuánjī, the bì also comes with its own set of questions, much of them relating to the functionality of the object as well as the possibility of the artifact having some relation to other jade-like disks. A bì disk (Fig. 1.1.3) dating to the Han dynasty (ca. 206 BCE-220 CE) resides in the Penn Museum’s collections storage and is listed as Ring (30-8-1). When browsing the digital archive of the Penn Museum – which often conveniently lists biographical

Fig. 1.1.1 Xuánjī. Ornament (30-8-3), nephrite. Early Shang dynasty. University of Pennsylvania collections, on display.

Fig. 1.1.2 Xuánjī. Ornament (72-22-1A), amber jade. Shang dynasty. University of Pennsylvania collections, on display.
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information alongside photos and measurements – the bì is noticeably tied via its collections number to another object which also remains in storage: a marble cylinder block (30-8-2) described as cōng (琮). This rectangular stone object is no more than a foot in height and has a smooth, rounded, tube-like hollow running the entire vertical length of its body. The possibility of these three objects, the xuánjī, the bì, and the cōng somehow being related to one another is the primary question driving this paper, but in order to delve into the mystery that is the possible connection of these three objects and what this connection might reveal about related topics, it is of the utmost importance that the functionality and the history of these artifacts also be explored in great depth.

Most of the pertinent details about the object, such as its usage and the importance of its form remain unanswered within the details of the Penn Museum’s digital collections archive. However, the xuánjī and the bì, while retaining slight differences in form and in name, seem to have been auctioned and collected within the same hauls when being labelled in sale for auction houses or for acquisition in museum collections. Not only are these objects placed within the same category or class of stone artifacts, but they also remain nearly stagnant in form over long stretches of time, despite being found over a wide range of temporality and geographical location. The museum acquisition slips found documenting these artifacts are the easiest link we have in drawing a relationship between these items. However, this is merely a surface-level analysis of the possible history and provenience of these objects. The goal of this research is to better understand the underlying factors for the production and usage of these three, separate categories of objects.
2.1. The xuánjī

Within historical accounts, the presence of xuánjī disks is first detailed within the ancient texts of what is known as one of the Five Classics of pre-Imperial dynastical books (Wang, 2012). This chronicle known as the Shu-jing (書經), or the Book of Documents, formulates the basis of the earliest, traditional Confucian maxims. Within this historical text, a section known as the Canon of Shun (舜典) expounds upon the life of Shun, a mythological ruler in the time which occurred before the formation of the Xia dynasty (circa 2100 BCE). The description of xuánjī in this text is notable because it mentions the disks as being in use as early as the Late Neolithic. Wang (2012) cites the first usage of the xuánjī as stated within the Canon of Shun therein: “… by the xuánjī, he [Shun] verified the seven stars of the Northern Ladle” (p. 170). This is the earliest written indication of the disk being used to establish the points of specific astronomical zones – here, the stars of the constellation, Ursa Major. While no known record of Emperor Shun existing has ever been uncovered, leaving him a mere mythical character in the text of the Book
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of Documents, this text describing the usage of xuánjī is a reliable source of information on the object itself, especially when dating evidence places the point of origin within the Yangshao period (ca. 5000-3000 BCE), a time period where, amongst the findings of xuánjī, we can attribute many burials and tombs containing such objects (Yang, 2014). This corroboration of both the historical text and the dating of burials within which xuánjī disks were found, is an indication of the possibility of astronomical calculations being performed as early as the middle Neolithic. Unlike the existence of Emperor Shun, the usage of xuánjī disks is not an arguable source or something that remains only real between the pages of a religious text. The usage of the xuánjī can be verifiable by a thin margin of error with a series of mathematical calculations. Nevertheless, these calculations cannot be described as ancient and rudimentary mathematics. The application of xuánjī disks in an exact system of measurement is also tied into the religious practices of the early imperial period of China.

2.2. The xuánjī as astronomical tool

To understand the significance and usage of the xuánjī as a cosmological tool, one must understand the significant role of the Universe within the spiritual ideology of the Chinese Neolithic – that of which eventually influenced both Confucian and Daoist conceptions of the known Universe, both physically and spiritually. Before the influence of later iterations of Confucianism and Daoism, a practice known as “heaven worship” was prevalent in prehistoric China. In heaven worship, the idea of “heaven”, or the sky, acted as a deity in and of itself (Tseng, 2011). Rather than a pantheon of gods or a singular concept of an omnipotent higher power, the most glaring aspects of nature itself were interpreted as being a force for divination. From this worship of the sky came a cosmological concept known as gāitiān (蓋天), roughly
translated here as “Canopy Heaven”. This concept was based in the belief that the Earth was a square platform upon which a circular Universe was domed over, with religious texts illustrating it in such terms as if to describe the way that an umbrella hangs over the body of a chariot, or a male and female engaged in sexual intercourse (Andersen, 1989). People living within the Neolithic period held the understanding that firstly, if the Universe was spherical in shape and secondly, if the stars appeared to rotate around the Earth, that this indicated a fixed point that never moved. This point was identified as the “center” of the Universe, the utmost of sacred locations. This sacred location was a physical plane and one which could be calculated through an understanding of the stars and the planets within the solar system. Additionally, Wang (2012) suggests that this central location “plays the role of a vehicle which transports the faithful to the heavens” (p. 221). However, the sacred texts of the Five Classics are among the most basic information we can use to understand the role of the xuánjī in the Chinese Neolithic and beyond. The usage of the xuánjī as a tool to calculate this unmoving point – hereto referred to as a Celestial Pole – is something which can physically be viewed and practiced with by looking at the stars themselves and using the jade disks as tools of calculation and subsequently, of divination.

The xuánjī disks which are dated to periods occurring after the Shang dynasty tend to be relatively small in size. That is, those post-Shang xuánjī acquiesced to museums within the western hemisphere are usually no bigger than 12 to 16 centimeters in diameter. However, in order to calculate the position of this Celestial Pole – as seen by those who utilized the calculations given by the xuánjī – this might have not always been the case. According to York et al. (2016), during the height of its usage in the Longshan period (ca. 3000-2000 BCE), the disks had an average diameter of 2.4 meters and an average circumference of 7.6 meters.
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Through the middle of the circular, central hollow of the *xuánjī*, a long bamboo tube was placed and the 21 notches of the disk were then each individually aligned with specific stars within the nighttime sky (Fig 3.2.1). We currently know that the axis of Earth’s rotation causes a slow movement of the Celestial Pole within the sky. Today, this point would be calculated as being near α Ursa Major, or the North Pole star. However, when one readjusts for the specific millennia in which the *xuánjī* was first constructed and was being utilized with heavy frequency – the Neolithic and early dynastical periods, the Celestial Pole was about a fifth of a rotational cycle from this (Ho, 2002). Aligning the *xuánjī* so that the indentations of the two largest points occupy α Ursa Major and δ Ursa Major will cause the third indentation to align with the star α Ursa Minor and the stars of the Chinese constellation (*Zǐ wēi* 紫微) of the Purple Palace will line up along the row of smaller notches, cradled in the smaller, carved indentations of the disk (Fig 2.1.1).

![Illustrated diagram](image)

**Fig. 2.1.1** Illustrated diagram. Describes historian Henri Michel’s hypothesis about the use of notches on *xuánjī*. (Ho, 2000, p. 119)

Under these conditions, the three largest notches of the *xuánjī* would have matched directly with the three brightest stars in the sky, with the Celestial Pole resting closest to the star
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α Draco in the “cup” of the Little Dipper constellation. The conclusion supposed by this hypothesis is that the people of the Chinese Neolithic had constructed an astronomical device with a near-perfect accuracy of 0.013 degrees (York et al., 2016). Ultimately, the calculation of the Celestial Pole and its relation to the concept of gàitiān is the strongest link modern anthropologists have between the xuánjī and the bì. Eventually, this connection becomes less apparent as the Shang dynasty brings about a new type of xuánjī, one which has become miniaturized and sees less and less detail over time. These new disks become quasi-representational and historical objects, two of which can be found within the Penn Museum’s collection.

3.1. The bì

When one understands the concept of gàitiān, the functionality of the bì becomes apparent in its symbolism. Within the Penn Museum’s acquisition records of the còng and bì from noted Asian arts dealer, A.W. Bahr, the disk and the cylinder are simply listed as “#1 Large ritual disk of heaven” and “#2 Large symbol of earth”, giving a brief but knowing detail about the functionality of these artifacts (Bahr, 1929). While the details of acquisition records – especially those concerning artifacts acquired before the signing of the 1970 Pennsylvania Declaration – can be suspect, the wording of these descriptions matches much of what we now know about the usage of the disk and the cylinder as joint, ritual objects. Among burials attributed to the Liangzhu culture, thousands of jade bì disks have been found, strewn almost haphazardly within the chambers (Yang, 2014). Those disks manufactured from darker, nephrite material are often found placed near the head of the body and smoothed to a glossy polish. When looking at these objects, nary a trace of the grinding or sawing used to shape the hard stone into
rounded disks can be found on the macro-level. Bi disks made from lesser-quality stone are arranged in small stacks at the foot of the dead buried within the chamber. Additionally, surrounding the body of the deceased are cylindrical cóng tubes of varying size and typology, organized in a neat circle. On behalf of the Smithsonian Museum, noted collector Charles Freer acquiesced thousands of these bi and cóng objects solely for their aesthetic appeal. Some of these shorter cóng tubes resemble squared bangles, which much like the cóng itself, were found in multiple periods and across different cultures. It is inferred that these bangles are mimics of the cóng tubes found in Liangzhu, due to their plain decoration and rarity within the physical record. Some of these bangles, such as that which was found in the tomb of Marquis Yi in northern Hubei, was manufactured from a cóng tube itself, with the thicker “corner” walls of the interior indicating its earlier existence as a full tube (Yang, 2014). What we are witnessing when we look at the full span of usage of not just the xuánjī, but also the bi and the cóng, is a not an evolution of objects, but rather a shared system of artistic, cultural, and political inspiration.

3.2. The bi as symbolic representation

According to Teng (2000), following the concept of gàitiān, the cóng became a representation of square Earth while the bi held significance as the circular dome of Heaven. Much like the usage of the xuánjī being confirmed within the historical records of the Book of Documents, one of the most well-known written accounts of the symbolism of the bi and the cóng are found within another Five Classics document known as Zhōu lǐ (周禮), translated into English as the Zhou Rites, a six-chapter, first century CE text detailing the complex rites and rituals of Confucian religious practice (Watson, 2007). Despite the fact that early Chinese cosmological theory surrounding the idea of a domed Universe was ultimately disproved by the
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defense of heliocentric thought and the subsequent refutation of geocentrism by Nicolaus Copernicus in the 16th century, the use and mention of physical tools was a prevalent way of attempting to measure points in the Universe, based on the prevailing, gàitiān-influenced scientific and religious perception of the known Universe at the time. Tseng (2011) explains a passage within the Zhou Rites, which states:

To rotate a try square is to make a circle,
And to join two try squares is to make a square.
The square pertains to Earth,
And the circle pertains to Heaven.
Heaven is circle, and Earth is square. (p. 51)

This passage is making use of a carpenter’s square (“a try square”) and mathematical principles to explain the logical conclusion behind the idea of gàitiān. This points towards a need to utilize the logical function of objects in the explanation of spiritual and cosmological ideas, supporting the idea of objects such as xuánjī being in use around the same period of time. Ultimately, the lack of complete, scientific accuracy lead to the abandonment of the Canopy Heaven concept in the Han dynasty and the adoption of hantiān, or Spherical Heaven (Tseng, 2011).

Fig. 3.2.1 Illustrated diagram. Chinese physicist and Nobel laureate T.D. Lee has hypothesized based on ancient texts that the cong and the bi were utilized ritually in this manner.
Despite the fact that rituals surrounding the **cóng** and the **bì** were being written about well into the middle of the 2nd century BCE, the continuing use of the ritual objects are a testament to the importance of the Liangzhu culture – and therefore, the Late Neolithic – in constructing what ultimately came to be the prevailing Chinese ritual system, that of which is later seen in Daoism. Cultural sites producing both **cóng** and **bì** finds have been found in areas which eventually became the epicenters of cultural production from the time of the Liangzhu culture to the Shang dynasty. However, despite the indication of the objects being used in later ritual practice, no more than 30 **cóng** and 20 **bì** have been found in Neolithic sites outside of the Liangzhu cultural sphere (Huang, 1992). This indicates that the appearance of both **cóng** and **bì** artifacts outside of Liangzhu cultural areas was due to the gradual dispersal of this cultural technology during the following millennia that the **cóng** and **bì** were present in later burials and jade hoards. At the peak of its societal influence among other neighboring regions in China, the Liangzhu culture suddenly disappeared around 4,200 years ago, an event which has been concluded to be the result of extreme geological events such as flooding. However, the short period of time in which the Liangzhu culture remained still saw it being largely influential in the jade working of cultures which developed later within the region. The design patterns (Fig. 3.2.3) of the artifacts created by Liangzhu craftspeople were routinely copied by jade artisans living in the Qijia culture in Ganqing and the Longshan in Shandong (Yang, 2014). This is a pattern which could explain the replication of very similar jade disks and cylinders in much later cultures and the eventual use of the **cóng** and the **bì** as ritual items within traditional Confucian practice centuries afterwards.

Production of **bì** disks was focused in a particular area within the northeast of China. In the provenience records and dating of both **bì** disks and **cóng** cylinders, there is a clear pattern of origin of these objects pointing to creation within the Liangzhu culture (Childs-Johnson, 1988).
The Liangzhu culture was the last Neolithic culture centered around jade manufacturing within China; located around the Lake Tai region in Southeastern China, a large freshwater lake in the Yangtze Delta plain. This society was characterized by a strong and distinct social stratification, with luxurious artifacts made of jade, lacquer, and ivory found within the burial tombs of its elite (Brindley, 2015). A common feature of Liangzhu jades is a milky white color, a material aspect which is explained by the presence of a silicate rock called tremolite and the large concentration of water in burial sites. Today, approximately 90% of all bì disks and cónɡ cylinders residing in museums and art institutions in the western hemisphere are attributed to the Liangzhu culture (Teng, 2000). However, it must be mentioned that the popularity and enduring legacy of the jade works of the Liangzhu are not just the only reasons for the enduring legacy of the bì and cónɡ in Late Neolithic China. The form of these artifacts might also be attributed to another theory, that of which can possibly offer answers about the functioning of these jade pieces.

![Fig. 3.2.2 Cóng. Cylinder (30-8-2), serpentine. Qing dynasty. Height: 25.4 cm, inner diameter: 8.73 cm. University of Pennsylvania collections, Collections storage.](image1)

![Fig. 3.2.3 Cóng. Ritual object (JAD1012-007), jade. Late Neolithic, Liangzhu culture. Height: 5.25 cm, circumference: 8x8 cm, inner diameter: 6.2 cm. Galerie Zacke, Vienna.](image2)
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3.3. Cosmology as an apparatus of the state

The last written descriptions of jade disks as they were reaching the culmination of their usage and popularity is in the *Book of Jin* (晉書), an ancient Chinese historical text compiled by officials in the imperial court of the Tang dynasty in 648 CE. Detailing the workings of traditional Chinese astronomical practices, the *Book of Jin* analyses the huge importance of weather prediction and geological shift in the daily life and functioning of a largely agricultural economy (Morgan, 2013). One might remember that the epicenter of *bì* and *cóng* production was originally based within the Lake Tai region, a location marred by tremendous flooding – eventually causing the collapse of the Liangzhu culture itself. These cycles of flooding were well-known and thus, it was paramount that the Liangzhu people be forewarned of rising and falling water levels as well as the beginning and end of the rainy season via astronomical predictions (Childs-Johnson, 1988). As the people relied on astronomical predictions to successfully complete harvesting crops, the formulation of tools used to predict geological events became a state-sponsored activity (Ho, 2000). The *Zhou Rites* speak to the importance of bureaucratically-assigned astrologers, meteorologists and general space-watchers – including, but not limited to: imperial astronomers, meteorological officers, and office clerks who recorded the interpretations. Entire sections of the text are dedicated to explaining the intricacies of the imperial courts and their relationships vis-à-vis with the royal astronomers whose job it was to interpret the changing sky, winds, and seasons, offering auspicious news or warnings of terrible omens to their emperor.

According to Ho (2000), these positions were organized into a special court known as the Astronomical Bureau or Directorate, a group which was known by multiple names throughout the Chinese dynastical periods. The usage of jade disks and cylinders were thusly used as symbolic objects of the state and of the elite – those who literally controlled the fertility of the land. Due to
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close relationship between the state and those who made astrological predictions, rebellion could be tied into the promotion of the practices of independent astronomers and calendar-makers, whose predictions could be seen as a challenge to the imperial authority of the courts over the heavens and the Earth. These rogue interpretations could foretell the beginnings of new events which would drive contrary to the beliefs of the existing dynasty. It can be said that due to this, astronomy, despite its sponsorship by the state, was deliberately kept highly-guarded as it was essentially a form of state intelligence. Thusly, this would account for astronomical and cosmological texts being produced in much smaller frequencies over the course of the Chinese dynastical period, disappearing and disturbed by warring dynasties and rogue emperors. In conclusion, this explains the minuscule amount of history we have detailing the intricate workings of these objects in tandem with one another, leaving modern-day researchers to fit the pieces of the puzzle together independently.

While the smooth bì when used in conjunction with the cónɡ might have been nothing more than a symbolic representation of the heavens and the Earth, this is merely a theory espoused by the imperial courts of the Tang dynasty as at that point, the bì and the cónɡ would have been seen as ancient artifacts. At this point, we can deduce that the disk, while being used to make predictions – still based upon the concept of gài tān – came to be more representative of the power held by the person utilizing the object, more so than the object itself. In contrast, the xuán jī has more physical evidence supporting its use as an actual, working astronomical tool, as previously expounded upon in the detailing of its cosmological workings.
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4.1. Concerning the Penn Museum’s artifacts

When found in burial sites, xuánjī and bì disks are buried alongside cónɡ cylinders of similar size and dimension. While the xuánjī and bì acquiesced by the Penn Museum via A.W. Bahr are not accompanied by a full record of provenience, the smooth, nephrite bì disks credited to the Smithsonian’s Charles Freer Gallery by A.W. Bahr are dated to the Qijia culture (ca. 2250-1900 BCE) in Northwest China. What is interesting about this is that the cónɡ cylinders thought to be used in conjunction with the disks have also been found in southeastern China – specifically in the Lake Tai region, near modern-day Shanghai and attributed to artists living in the Liangzhu culture. Despite being dated to the Shang dynasty, the style of the cónɡ in the possession of the Penn Museum has a twelve-joint design, which more closely attributes it to the Liangzhu culture than to the Shang (Watson, 2007). This collective provenience information across time and location is indicative of these objects being a part of a long tradition of manufacturing.

In fact, each culture which took on the tradition of crafting cónɡ cylinders had their own design concepts and forms relating to the tubes, allowing us to see a clear typology in each cónɡ, allowing us to date it in relation to other cónɡ tubes. Within the Jinsha site (ca. 1250-650 BCE) in China’s Sichuan province, ten cónɡ cylinders were found, the design possibly from the Liangzhu culture themselves (Green, 1993). This is notable because most bì and cónɡ artifacts are only stylistically uniform within the Liangzhu culture, however, the Jinsha site finds are also uniform, which is uncommon. As mentioned previously, this all points to a larger presence of intercultural exchange across multiple temporalities and physical locations within central and southeastern China.
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Much like the bi and the cong, the xuánjī disks which are within the Penn Museum’s collection are also indicative of a larger pattern of cultural sharing across time. As told within the section detailing of the functionality of the xuánjī, it wasn’t until the Shang dynasty that the notched disks which were once said to be in excess of twenty feet in diameter, became the size of an adult human palm. As these specific xuánjī disks in the Museum have been dated to the Shang dynasty, it is in concurrence with what archaeologists know about this size disparity between the pre-Shang xuánjī and those which occurred after.

Conclusion

Today, symbolic jade disks remain an important artifact in the archaeological and cultural history of China. Both the xuánjī and the bi – while clearly different objects in both form and function – are connected via a Neolithic framework of cosmological theory and the birth of traditional Chinese religious and ritual practice. Despite their rich history and importance within the early dynastical periods of China, the details of these disks remain virtually unspoken about within museum displays and auction house catalogues for reasons which remain unknown. When looking at the cultural implications of these jade disks, each artifact has a specific story to tell. The use of the xuánjī disk points to a surprisingly adept Neolithic culture, one which utilized the basic astronomical frameworks of the solar system to not only locate specific points within the night sky, but to also attempt to predict the rise and fall of kingdoms. These xuánjī disks, while originally a large and cumbersome piece of metaphysical technology originating with the Liangzhu culture, eventually become scaled down and miniaturized during the Shang dynasty.

With this shrinkage of form also comes a shrinkage of function, with a near-erasing of the original meaning and purpose of the disk. This figurative representation of what then would
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already be considered ancient technology is an interesting look into how the history of an object can still be viewed as important enough to continue its production. Much like the use of vintage-looking, unusable armillary spheres as home décor objects within the Western world, the visual callback to history becomes a useful object in of itself as it ceases to be useful as a workable object, but lives on as a representation of what it once was capable of doing and even more so, what this capability represented as part of a wider, longer, and more celebrated tradition.

The bi is also an indication of a greater development of symbolic thinking, with jade disks becoming the very representation of the heavens and its relationship to the Earth below. Many of these ideas are supported by later Chinese historians, those of whom understood these disks as important relics of China’s history and thus documented their usage and even reproduced them, much like the xuánjī. Connecting the two objects is the proto-religious, cosmological and metaphysical idea of gàitiān – a way of viewing the Universe and our position therein through a lens of both reverence and early, quasi-scientific analysis. When examining the histories of these mystical jade disks, one cannot ignore the typological similarities in the two classes of objects, but a disservice is done when the objects are categorized as being the same or even more so when not enough information is given to accurately deduce their individual – yet related – importance within the early history of China. Thus, the xuánjī and the bi represent three different kinds of thought-provoking discussion happening within Chinese history – one of power, one of tradition, and the other of spirituality.
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